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**USAID/KENYA AGRIBUSINESS STRATEGY**

**Gender Analysis and Recommendations for Action**

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## ACRONYMS

ABEO	USAID/Kenya Agriculture, Business, and Environment Office
AFC	Agricultural Finance Corporation
AFWID	African Women in Development
ASAL	arid and semi arid zones
ASIP	Agricultural Sector Investment Programme
CARE	Cooperative for American Relief Everywhere
Chikola	Small scale rotating credit association
COBRA	Conservation of Biodiverse Resource Areas Project
FPEAK	Fresh Produce Exporters Association of Kenya
GOK	Government of Kenya
ICJ	International Commission of Jurists
IEC	information, education, communication
IPAR	Institute for Policy, Analysis, and Research
KAM	Kenya Association of Manufacturers
KARI	Kenya Agricultural Research Institute
KBL	Kenya Beverages Ltd.
KEPAWAE	Kenya Professional Association of Women in Agriculture and Environment
KESSFA	Kenya Small Scale Farmers Association
KFA	Kenya Farmers Association
KMAP	Kenya Management Assistance Programme
KREP	Kenya Rural Enterprise Program
KSC	Kenya Seed Company
Kshs	Kenya shillings
KTOA	Kenya Tea Development Authority
KWS	Kenya Wildlife Service
MOALDM	Ministry of Agriculture, Livestock Development and Marketing
MSE	micro-small enterprises
NRM	Natural Resource Management
PAM	Policy Analysis Matrix
PLI	Public Law Institute
REDSO	Regional Economic Development Support Office
SO	strategic objective
USAID	United States Agency for International Development

## **EXECUTIVE SUMMARY OF PRINCIPAL RECOMMENDATIONS**

USAID is operating in an environment of reduced and limited resources, both financial and technical. Given this reality, the Mission and the SO team must prioritize and focus their efforts on delimited areas, recognizing that there are enormous needs and that women are both disadvantaged in agriculture, natural resource management, and enterprise development sectors in the Kenyan economy, yet also capable of achieving enormous gains in income, food security, and socio-economic well-being, given the opportunity. By focusing on smallholder agriculture and microenterprise development, USAID/Kenya's SO 2.0 has identified those areas in which Kenyan women are most economically active and through which benefits can be delivered to them. SO 2.0 is an essential and indispensable element in the Mission's overall country development strategy. Without economic empowerment, women will not be able to take advantage of opportunities being provided to them through the other strategic objectives.

In order to make the most efficient use of the resources available, and at the same time ensure that women directly benefit from activities implemented under SO 2.0, it is recommended that the Mission focus efforts in the following areas. The team recognizes that some of these recommendations have already been implemented or are planned to be acted upon in the future. That they are reiterated here is a reflection of several things: that they are important to the achievement of the SO, that more attention needs to be given to them or their direction amended, and that additional effort will enhance the benefits that will accrue to women. The constraints to equitable gender participation in agriculture, natural resource management, and small scale enterprise are elaborated further in the following section of this report. The present section identifies the main recommendations under five headings, some of which overlap and cross-cut each other.

Policy. The policy arena is a key area in which SO 2.0 can build on expand its existing efforts. A move needs to be made away from the rather conventional and largely descriptive approach that has been taken thus far. The PAM studies that the team reviewed do not break new ground and the study group should be encouraged to look in new directions. USAID impact on policy development can be further enhanced if three additional steps are taken. The first is to bring the numerous other private and public institutions with which ABEO has been working more directly into formulating, disseminating, and lobbying for policy changes--including KARI, FPEAK, KREP, KAM, KESSFA, KMAP, and KWS. There will be more impact if they present a united front. Second, ABEO should coordinate closely with other policy organizations, such as IPAR and the Public Law Institute, that are being supported by the Mission. Thus far IPAR has focused solely on economic issues and economic policy; all of these organizations should be encouraged to go beyond the economic and identify other policy concerns, particularly in the legal sector, that are critical for development and reform and which would in particular enhance the position of women. The third element involves close cooperation with those development partners who have strong commitments to agriculture and private sector, some of them better-resourced than USAID, to increase the leverage. Gender-pertinent areas of policy concern include:

- **Prioritization of smallholder agriculture.** The team recognizes that this is an integral part of the strategy. What is not clear is how vigorously the MOALDM and other government institutions will focus their efforts on small farmers. USAID and partners should not assume that a smallholder focus is a fait accompli, but should continue vigorously to pursue the issue in a collaborative fashion. Since women make up the majority of small farmers policies to promote the sector will clearly benefit them.
- **Private sector enhancement.** The same statement made above applies. USAID and some development partners are committed, but it is not entirely clear that the GOK is equally convinced that privatization is the best strategy, and apparently still has no intention of liberalizing the marketing of the principal industrial export crops. Liberalization in this area would be of particular benefit to women, who still do most of the work of production of these crops but receive little of the proceeds.
- **Microenterprise promotion.** This means going beyond the policy reform already integrated into the strategy, which focuses on eliminating constraining rules and regulations. The next critical step is identification and promotion of policies which create a POSITIVE environment for enterprise development, and which recognize the disadvantaged situation of women in the MSE sector.
- **Land issues, especially legal protection of use-rights for women.** The team recognizes that this is a politically-sensitive area and that in the short run reform will not be possible. However, other powerful partners have already raised the issue of women's land rights and have proposed work in this area. By joining in this initiative, and bringing in partners such as the Public Law Institute, which has already brought a USAID-funded public interest land-rights case to the courts, critical issues can be addressed.
- **Labor and wage policy issues.** Key issues here include enforcement of already-existing minimum wage and equal pay for equal work provisions, and reform of terms of service for "casual" employment, a category in which women are disproportionately and disadvantageously employed.
- **Data collection.** The collection of gender-disaggregated data should be institutionalized in all partner institutions, both as a management tool and as a strategy for raising awareness of gender issues.

Training and skills development. As it stands, the strategy does not give much attention to the training, skill-building, and information needs of small farmers and microentrepreneurs. The team

understands that the non-financial services provided by NGO partners to entrepreneurs may include provision of business skills, and that training for input stockists is envisaged as part of the new agribusiness support activity. These efforts should, however, be expanded, in the following directions:

- Focused microentrepreneur business skills training. Many microenterprises fail each year, and most employment growth comes not from the creation of new enterprises but with the expansion of existing ones. Existing enterprises that are owned and operated by women should be targeted for training, as women have almost no access to business training. Enhancing management skills increases the viability and profits of a business. Since women's enterprises are smaller, less profitable, and more prone to failure than men's, they would benefit enormously from such training, as would the entire sector. This is a non-financial service which should be given top priority by KREP and other partners, and they should consider making such training a condition of receiving credit.
- Training for input stockists. This is likely to be a cost-effective strategy for dissemination of information on input use. However, the training should not be provided for stockists and dealers only. It should be recognized that the person who purchases the fertilizer or seed is not necessarily the one who applies it-- therefore women's group members, primary school teachers, "paraveterinarians", NGO members and staff, and community-based farmer organizations and others who live in the community should be provided with the same training, at the same time, to enhance the chances that the messages will be received.

Credit. USAID/Kenya already provides small business credit through KREP, and has adopted "MSEs receiving credit, all sources, disaggregated by gender of enterprise owner", as a performance indicator for IR 2.0. Even so, the GEMINI studies indicate that credit is available to fewer than ten percent of small businesses, much of this credit is informal rather than institutional, that women have virtually no access to formal credit, and that lack of capital is the key constraint to business development and expansion. Smallholder farmers are even more constrained than microentrepreneurs in their access to credit. To enhance credit availability, existing programs should be expanded to the extent resources permit, and new strategies should be developed.

- Contract farming as a source of credit. Some private companies, for example French bean exporters, already use contract farming as a vehicle for providing small farm credit. USAID should collaborate with FPEAK, KESSFA, other NGOs, and private sector actors to identify formal opportunities that link farmers, especially women farmers, regardless of the security of their access to land, both with a source of credit and a buyer for their produce without necessitating working through cooperative societies or other public institutions.

- Additional channels for the provision of MSE credit. Most such credit is provided through NGOs, and the programs are not necessarily sustainable. Although many institutions do not like to deal with small scale credit because of the management intensity, USAID should look for private sector institutions which have resources and encourage their participation, including banks and other formal financial institutions, as well as retailers and exporters who supply goods and services to and purchase the products of smallholders and microentrepreneurs.

Marketing and inputs. Lack of market information, degraded infrastructure, and lack of financial resources and credit are major impediments to the development and expansion of commercial enterprises by women farmers and microentrepreneurs in Kenya. The World Bank identifies infrastructural deficiencies as the single greatest bottleneck to improved agricultural performance. However, it seems that even with fairly substantial donor involvement, infrastructure constraints remain a major problem. With or without a more concerted effort at addressing infrastructure constraints, USAID will have to set its sights rather lower and consider the following options.

- Market research. KREP, PAM, and other NGO and institutional partners should be involved in carrying out market research as a non-financial service either for microentrepreneurs or more generally sector-based studies commissioned by individuals or organizations. This has to include reliable information on overseas markets in support of IR 3.0, Increased exports of NTAEs.
- Contract farming. Contract farming can be promoted not only for provision of credit but also marketing and direct supply of inputs. This is already happening in Murang'a and both FPEAK and KESSFA can be involved in the promotion of such strategies.
- Identification of new kinds of agriculturally-linked MSEs. KAM, KMAP, FPEAK and KESSFA, and even KARI and PAM, should be tasked with putting forward their ideas about new and innovative enterprises in this area. Innovations would be particularly beneficial to women, who are dominant in businesses with direct connections to agriculture.
- Social marketing. This has been commonplace in the health sector for many years, in order to create market demand for products that are new, poorly-understood, and/or expensive. Culturally-sensitive market research is carried out to establish the acceptability of the product(s), a lot of high-profile advertising is done, and the product or service is offered at less than cost. It is a strategy to consider in order to create demand for certain types of inputs, especially costly veterinary inputs, the use of which should be expanded. The objective would be to create a total cost-recovery program over a period of years.

Women's groups. An underappreciated strength and potential for development is the numerous women's groups found in both rural and urban areas of Kenya. There are about 24,000 such groups. Most of them are registered with the Ministry of Culture and Social Services and function as welfare societies. A significant proportion has gone beyond the welfare ideology and established income-generating activities and small enterprises. These organizations are truly grassroots organizations and do a much more effective job in reaching poor women than any of the national membership organizations. KREP has already reached some of these groups with its credit program. Further efforts should be made to involve these groups in SO 2.0 activities.

- Women's groups as cooperatives. Means should be found to empower capable women's groups to function as cooperatives, for buying and for selling, and they should be given that legal status.
- Women's groups for input supply. In addition to cash credit, women's groups can function as bulk purchasers of inputs for distribution to their members, using the KREP *chikola* model, and the groups should be assisted to package the inputs in quantities of greatest utility to their members.
- Women's groups as contract farming entities. KESSFA already works with farmers who are organized into groups in particular localities. They and other organizations should be encouraged to identify viable women's groups in their areas of operation and establish similar relationships of extension advice, input supply, and marketing assistance.

I

## **1.0 INTRODUCTION**

### **1.1 Problem Statement**

This report presents the findings of a three-person team commissioned by the USAID/Kenya Agriculture, Business and Environment Office (ABEO) to conduct a gender analysis in support of the Mission's Strategic Objective 2.0, Increased commercialization of smallholder agriculture and natural resource management. Consideration was also given to microenterprise development and food security issues, as these are an integral part of the Mission's strategic objective. The multidisciplinary team was given the task of preparing a report analyzing gender constraints and opportunities in the context of agricultural and natural resource commercialization. In addition, the assignment incorporated an analysis of the economic growth strategy, recommendations on gender sensitive performance indicators and strategies for the collection of gender-disaggregated baseline data, and input into the design of a new agribusiness activity/results package to support SO 2.0.

### **1.2 Methods and Data Sources**

The gender analysis team's task had four major components: to assess the feasibility and appropriateness of SO 2.0 in a gender context and make recommendations as appropriate, to present a detailed analysis of gender issues in the agriculture, microenterprise, and natural resource management sectors, to examine monitoring, evaluation, and impact measurement questions and advise on gender sensitive performance indicators, and provide input into the design of a new agribusiness activity. Given the breadth and complexity of the assignment, the team employed a number of methods and accessed numerous sources of data in order to achieve its objectives. The gender analysis team collaborated with the agribusiness design team in identifying mutually useful methods and approaches to data collection, particularly in the context of field visits. As a result, a questionnaire guide was developed and utilized in the field. Mission documents supplied by the ABEO office, individual project officers, the REDSO library, and the REDSO AFWID advisor provided the essential grounding in the Mission strategy and the activities that support it. Reports were also obtained from the Ministry of Agriculture, Livestock Development and Marketing (MOALDM), the Kenya Agricultural Research Institute (KARI), and other Kenya Government institutions. Team members also accessed written resources prepared by other donors known for their interests in gender issues and with strong presence in the agriculture sector, as well as project documents and reports from NGO partners. The extensive scholarly literature on gender and development issues in Kenya was also consulted. A full bibliography of the documents and reports reviewed in the course of the assessment is attached as Appendix A.

The team also made use of interview techniques, field and site visits, and rapid rural appraisal methods. Interviews were carried out in the USAID Mission, in Nairobi, and in the field with customers, partners, and stakeholders. Some or all of the team members also visited field sites in

Rift Valley, Western, and Nyanza Provinces (in partnership with the agribusiness design team); Machakos District; Murang'a District (again jointly with the agribusiness team); and Egerton University, Njoro. A site visit itinerary and contact list for Nairobi and the field are included as Appendix B. The revised intermediate results and performance indicators are presented in a tabular format as Appendix C, while tables illustrative of points raised in the main body of the report are attached as Appendix D.

### **1.3 Outline of This Report**

The gender analysis report is organized as follows:

- Executive Summary of Principal Recommendations
- Section 1.0: Introduction; organization of the report
- Section 2.0: Gender implications of SO 2.0 and recommendations for action
- Section 3.0: The context of agriculture and NRM in Kenya
- Section 4.0: Farmer and farm characteristics, production trends and delivery systems
- Section 5.0: MSEs and Associations
- Annexes

## **2.0 GENDER IMPLICATIONS OF USAID/KENYA'S SO 2.0, "INCREASED COMMERCIALIZATION OF SMALLHOLDER AGRICULTURE AND NATURAL RESOURCE MANAGEMENT" AND RECOMMENDATIONS FOR ACTION**

### **2.1 Background**

USAID has a long tradition of providing assistance to the agricultural sector in Kenya. A broad range of programs and activities has been supported, including commodity imports, institutional support to the national agricultural university and agricultural research institute, research and training, infrastructure rehabilitation, and technology transfer. Efforts in natural resource management have recently been added to the agriculture portfolio, and microenterprise development is also directly linked with agricultural development. USAID has over 30 years of experience in support of Kenyan agriculture and natural resource management programs, and has been active in private sector development for the past ten years or more.

The key to sustainable development in Kenya is agriculture, which employs 70 percent of the labor force and contributes 30 to 35 percent of GDP. Natural resource management is an integral part of agricultural development, and in addition generates 15 percent of foreign exchange earnings in the form of tourism revenues. Both agriculture and natural resource management are linked to microenterprise development in the Mission's strategy. Expanding off-farm activities that are directly linked to smallholder agriculture is seen as critical to increasing productivity and income for Kenya's small farmers. This will be accomplished by:

- Increasing the strength and competitiveness of agricultural markets, by working to create an improved policy environment and by transferring technology, thus enabling households to produce a surplus, and market that surplus without constraint;
- Increasing services and labor opportunities for smallholders and communities located adjacent to national parks and game reserves, by stimulating growth in microenterprise employment. This will be effected by the provision, through NGOs and community organizations, of cost-effective financial, non-financial, and policy support to agriculture and NRM-related enterprises.
- Continuing growth of non-traditional agricultural exports. Assistance will be provided to strengthen the ability of private sector associations to serve export producers and facilitate sales, and to ensure that producers also benefit directly from export growth.

## **2.2 The Gender Environment in Kenya**

Traditional beliefs about and stereotypes of male and female gender roles are pervasive in Kenya. A gender assessment commissioned by the Embassy of the Netherlands notes that "traditional female-male roles are deeply ingrained and glorified in all Kenyan languages, in education, mass media, advertising and the arts" (Royal Netherlands Embassy 1994:14-16). These traditional values are also given legitimacy by the Kenyan Constitution, which does not outlaw gender discrimination and which explicitly states that provisions against discrimination are not applicable with respect to adoption, marriage, divorce, burial, inheritance, and other matters of personal law. Further, customary law, which is substantially male-biased, frequently takes precedence over statutory law. Women are still subject to the residual of gender-biased practices enshrined in customary law, and to the beliefs and values underlying such law. These still limit women's ability to own land, make decisions, get an education, earn and control income, and participate fully in civil society.

Information on the social construction of gender from a 1995 training workshop reveals the tenacity of cultural values and expectations. Expectations for boys and girls under ten years, and those aged ten to 20, were elicited for low- and high-income Kikuyu communities. Girls under 10 are seen as bridewealth generators and "nothing materially is allocated to the girls." Boys are "taken as an asset" and a plot of land, some livestock, and resources for rituals are earmarked. Boys are given priority for schooling. In high income families, boys receive toys and gifts. They have more leisure, and are given proper advice on their adult roles. Girls get more attention on dressing, are given dolls, but are still left out in terms of land and livestock allocations. Between 10 and 16 years of age, boys and girls in low income households are expected to be in school, although girls are also expected to marry and give birth, while boys undergo circumcision and "enjoy more independence than before". Boys receive "more exposure to the outside world by way of the media" and those who marry can do independent farming and income earning (Bureau for Research in Gender and Economic Development 1995:17).

These gender-differentiated role concepts are reinforced by religious beliefs, elements of the imposed British legal code, male-dominated institutions of government, and primary and secondary school curricula and teaching materials that are profoundly gender-biased. Although many of these traditional concepts are beginning to fade, the context is still significant to our understanding of gender constraints. It will be difficult to address some of the other more specific constraints so long as this framework of values remains in place.

## **2.3 Gender Constraints to the Achievement of SO 2.0**

In Kenya, neither smallholder households, women household heads, nor men or women farmers constitutes a homogeneous group. Households and individuals will respond differentially to changing circumstances, opportunities, and incentives, depending on their socio-economic and socio-cultural situation. Nor are the socio-economic conditions of people and households

unchanging; if they can be reached, given the opportunity, even the seriously disadvantaged can improve their circumstances. It remains, however, that there are groups in the Kenyan population who need assistance, who are largely female, and who are limited in their ability to respond to new economic opportunities. They lack the time, financial resources, and networks of contacts necessary to be informed about and take advantage of such opportunities. Identifying strategies to reach this large population which is in substantial measure excluded from participation in and benefit from development opportunities is a major concern to Kenyan policy makers and project managers, and should be a major concern of SO 2.0.

In this section, specific constraints to women's equitable participation in and benefit from increasing commercialization of smallholder agriculture and natural resource management are identified, and recommendations on actions to ease these constraints are put forward. It is recognized that the ability of USAID/Kenya to address these constraints and implement the recommendations put forward is hampered for a number of reasons--inadequate resources, personnel shortages, and an environment both in Kenya and in the US that is reluctant or unable to provide lasting solutions to many of the overwhelming problems that confront the Kenyan economy. Those actions that will provide best results given the local and international environment and the capabilities and strengths of the USAID Mission have been summarized under a set of consolidated headings in the initial section of this report.

**Policy.** The policy environment for Kenyan agriculture and enterprise is not fully supportive of the private sector and does not sufficiently target the smallholder farmer or microentrepreneur. Historically, Kenya's agricultural policy has promoted those crops with the greatest economic potential; directed financial support, credit, and advanced technology towards large landholders; established marketing infrastructure and pricing policies which work to the disadvantage of the small farmer; and created parastatal organizations which channel inputs to their members and which functioned as the sole authorized purchasers of crops. In addition, the policy environment governing the establishment and regulation of small enterprises has been more prohibitive than conducive. It has been characterized by a plethora of petty and contradictory requirements and stipulations, imposed by various authorities (municipal, regional, national), and administered haphazardly and arbitrarily. Since women are not large landowners, do not belong in any meaningful numbers to formal farmer organizations such as cooperatives, and do not produce primarily or exclusively for market sale, policies targeted along these lines exclude them. They have been discouraged from enterprise development because their lower levels of education and training have made it doubly difficult for them to comply with all of the requirements.

**Recommendations.** With its emphasis on smallholder commercialization through the private sector, breaking parastatal monopolies, opening up both input and output markets, reducing restrictive regulation of small enterprises, and facilitating the development of export markets, the ABEO strategy should effect a positive influence in the policy arena. The draft GOK ASIP paper also gives some justification for optimism on the policy front and suggests that the MOALDM more clearly recognizes the potential benefit to the government and to the society at large of

increasing the socioeconomic well being of those farmers who constitute three-quarters of the population. In policy dialogue with the Kenyan government, and in conjunction with its development partners, ABEO should:

- Continue to emphasize the prioritization of smallholder rather than large scale production;
- Develop explicit policies to promote microenterprise, rather than simply doing away with constraining rules and regulations; that is, work to create a positive policy environment instead of simply doing away with a negative one;
- Institutionalize gender-disaggregated data collection and analysis by Ministries and other institutions (e.g., KARI, lending institutions) both as a management tool and as a strategy to raise awareness of gender issues.

Poverty. The strategy does not address the needs of the "very poor", who make up one-quarter of Kenyan households and who are disproportionately female. They live at very low resource levels, on total incomes of less than a dollar per person per day, and have little or nothing left after their most basic needs are met (if, indeed, they are met; malnutrition is not uncommon among the impoverished) to invest in agricultural innovations, natural resource management, or enterprise development. The very poor typically have weak social networks and therefore, limited social support, and lack access to information. Poor young women who would benefit most from membership in women's groups are least able to join, because they lack time, skills, and social connections. This cuts them off from a major source of credit for setting up a microenterprise, and their lack of skills limits their employment prospects. And since they own few or no assets, the very poor cannot get access to credit through formal channels, for any purpose. Without credit, information, and/or assets, the very poor will not be able to purchase the improved seeds and fertilizers on which increasing commercialization and intensification depend, they will not be able to establish viable microenterprises, and they will not learn about organizations that might be able to assist them. Their best option is employment in small enterprise, at wage levels that will not lift them out of poverty.

Recommendations. Effective strategies for addressing the needs of very poor people are both time, management, and resource-intensive, and thus difficult to implement. The most economical approach is to build on existing programs and/or replicate activities that have been undertaken elsewhere.

- Policy focus on smallholder rather than large scale production;
- Expansion of microcredit programs on the *chikola* and *watano* models;
- Community-based distribution of inputs and information;

- Development of alternative information and input dissemination channels which are more accessible to the poor, for example women's groups, churches, health centers, adult education centers, community schools, retail outlets;
- Micro-packaging of agricultural inputs and provision of small-scale credit by suppliers of inputs;
- Formation of women's groups and other community-based organizations (welfare societies, primary cooperatives) which defer or suspend dues and fees for hardship cases;
- Further promotion of very small-scale contract farming, which generates higher yields and net incomes than non-contract horticultural production.

**Landlessness.** The strategy does not address the needs of the landless, who make up an unknown but growing share of the Kenyan population and who are disproportionately female. In the late 1970s the landless were estimated to be about five percent of the population and this percentage has undoubtedly increased since then. Most Kenyan women are *de jure* landless because they do not own the title deeds to the land that they work; there is no basis for estimating the number of *de facto* landless women. Increasing smallholder commercialization will increasingly marginalize the rural landless. It will provide only a fraction of them with permanent employment opportunities or regular sources of income. The use of paid agricultural labor by small farmers is intermittent and seasonal. Even in the large farm sector agricultural wage employment does not compensate male workers even at the minimum wage level and they remain below the poverty line--and women laborers earn considerably less than men. And indications are that most of the jobs that will be created in enterprises as a result of commercialization will be unskilled, seasonal, and low-paying, and that women will continued to be hired on disadvantageous and discriminatory "casual" terms.

Intermittent employment for landless women household heads and members of their families in the short run helps them to survive but in the long run cripples their potential to improve their situation, because it harnesses their scarce labor resources to the improvement of other farmers' enterprises. They can rarely accumulate the money that would permit them to purchase land or start a small business and thus benefit from commercialization, because most of their income has to be used to purchase food. Even land-owning households with plots of half a hectare, producing for consumption and for sale, spend up to 80 percent of their income on food. There is nothing left over to improve household well-being. The evidence suggests that even if the landless can establish or obtain employment in MSEs, it is not going to lift them out of their poverty. For most enterprise owners, their business is not their sole source of income, because the returns from entrepreneurial activity alone are not sufficient to sustain the household.

Recommendations. It has to be recognized that there is no solution to the problem of landlessness, because there simply is not enough land to go around. Kenya has one of the lowest ratios of cropland per agricultural worker in Africa. The landless have to look to formal or informal employment to earn a living, but this is also not promising--at current rates of population growth 500,000 people enter the job market each year, but at most 150,000 jobs are created--including those in the MSE sector. USAID can intervene at the policy level in the following ways.

- Work with PAM and other institutions (IPAR, Public Law Institute) to create awareness of, and ultimately to enforce, minimum wage legislation and equal pay for equal work provisions;
- Again working with policy formulation institutions which already receive USAID funds, develop strategies to strengthen and expand existing microenterprises, which are the source of most MSE employment growth.

ASALs. The strategy does not address the needs of people living in Kenya's arid and semi-arid (ASAL) zones. Perhaps twenty percent of the national population, including nomadic pastoralists with minimal involvement in agriculture, lives in these areas, and the majority are women. The various crops that have been discussed in the context of the commercialization strategy cannot be produced in ASALs without irrigation, and irrigation is an unrealistic option because of its high capital costs and limited applications. Dairy-oriented livestock activities, a major area of agricultural growth, are also not feasible in ASALs. These areas are net exporters of adult men to places with employment opportunities, delegating to women the responsibility of attempting to sustain agricultural and livestock activities in marginal areas, on poverty-level incomes. Microenterprise development in these areas is also constrained because of the lack of available resources both to establish enterprises in the first place, or to purchase their goods and services. It is possible that some people living in ASALs might benefit from the increased commercialization of natural resource management, since many ASALs are adjacent to national parks and reserves. But given the drop in tourist numbers and increasing problems in the tourist industry, only a very few people will benefit. And the kinds of "ecotourism investments" that have been identified will ensure the concentration of those benefits in male hands. As if the preceding is not enough, existing problems in ASAL areas have been exacerbated in recent years by downslope migration, introduction of inappropriate farming technologies, conflicts between pastoral, agricultural, and wildlife uses of resources, and recurrent drought.

Recommendations. While at first glance the problems of ASAL areas may appear intractable without the input of massive resources, there are possibilities for action, in areas where USAID is already active or has been involved in the past.

- Work with KARI on research and development of new crop varieties suited for ASALs; possibilities include sorghum and millet, which although they are no

longer preferred as food by most Kenyans, are used in the brewing industry and may have export potential in the GHA; and non-traditional crops such as jojoba, melons, carob, chilis, and fodder plants;

- Develop and disseminate appropriate technologies for sustainable cultivation on marginal lands; considerable progress has been made in soil conservation, for example, with USAID and other donor support;
- Diversify the range of natural resource-related enterprises beyond "ecotourism" to include such activities as, for example, the collection, processing and sale of economically-significant wild products like gum arabic and aloe, or silkworm farming implemented under COBRA.

Access to and control of resources: land. Access to and control over land is crucial to the momentum of smallholder commercialization. In Kenya, land is owned by men but worked by women. Women do have the right to own land, and in some cases have achieved this, but over 90 percent of land titles are held by men and inherited by their sons. Control of titles permits men to engage in transactions independently of other household members, Presidential protections notwithstanding. Women obtain their rights to the use of land through husbands and fathers, and these rights are not secure, especially for women who are widowed or divorced, or who have never married. Although the strategy notes that women "own or operate" a large proportion of smallholder farms, their role is much more prominent on the "operation" than the "ownership" side, and these farm operations are undertaken in the absence of security of land-use rights.

Increasing agricultural commercialization has potential impacts on the value of land, which also has implications for women. As real household earnings from agriculture grow it is highly likely that land will increase in value. And as land increases in value, men's grip on it will tighten; titles will remain in male hands, land prices will escalate, and women will be less able to buy or rent land in their own right with their meager financial resources. They will remain in the role of users and managers of land and producers of most of the crops, but without secure or permanent access to the land. In fact, it is hard to see why women have any incentive to commercialize at all, except to feed their families, without land security and equitable access to agricultural earnings.

Recommendations. Land issues are highly political in Kenya and in the short to medium term existing policy will not change. The Mission should collaborate with other donors to present a united front on these issues. Possible directions that are being explored by the World Bank, among others, and that are not incendiary to the point where they cannot be brought into open debate, might include the following; these are all areas in which PAM can be involved, and it is also possible to involve institutions supported under other USAID SOs, such as IPAR, PLI and the ICJ:

- Explore the possibility of establishing legal protections of land use rights for widows, divorcees and unmarried women that override customary law;
- Advocate the wider recognition of joint title to land by husbands and wives, so that men are less free to engage in non-consultative transactions;
- Develop standardized agreements and/or regulations governing rental, sharecropping, and other economically-based and temporary transfers of land use rights.

Access to and control over resources: labor. Women's work burdens are already much greater than those of men. Kenyan women provide 70 percent of agricultural labor, own and operate 45 percent of microenterprises, and carry out 90 percent or more of domestic duties. Increased commercialization will assign to women an ever-increasing load of responsibilities. Studies in Kenya and elsewhere have demonstrated this unequivocally; there is a direct relationship between adopting new commercial ventures (French bean or dairy production, for example) and an increase in women's overall work burdens. Income may also increase, but the money that comes in as a result of women's additional work does not necessarily either get paid to them, or benefit them directly. The dairy sector studies concluded that the additional labor provided by women was available because they reduced their rest and leisure time. What will happen in a household if some kind of labor threshold is reached depends to a great degree on the woman's socio-economic situation. If a woman is well to do and has money, she will hire someone else, usually a poor woman or a "youth"--"kijana"--to do the work that is less rewarding, such as hauling water or cutting fodder grass. The poorest women will not be faced with a choice between allocating their labor to commercial agriculture or other activities. They will not be able to commercialize at all because they do not have the resources. Instead, they will supply the labor that better-resourced women can afford to buy. Women "in between"--neither rich nor poor--who want to commercialize will cope with the additional labor and resource requirements by selling their labor on occasion, hiring labor on occasion, sacrificing their leisure time, and exploiting their (female) children.

Although the poor and landless will not be able to attain direct benefits from increased commercial production, indirectly such commercialization may provide more labor employment opportunities to them. Much of the job creation will be for casual agricultural laborers paid a daily rate (Kshs. 70 in Murang'a) but opportunities should also be created in agro-processing, handling and distribution. How many jobs, what skill levels, and on what employment and compensation terms, cannot be predicted. But for the poorest landowning households, the need to sell labor to meet daily needs may conflict with the need for household labor for food and crop production.

It is possible that increasing commercialization of smallholder agriculture and natural resource management will increase the demand for child labor, with detrimental impacts on school

attendance, performance, and completion rates. A private sector extensionist, for example, noted that the quality of the French bean harvest improves when children are out of school and able to do the picking. Children are already extensively involved in tea plucking and coffee harvesting, and collection of wild products for sale. It is likely that these labor demands will fall disproportionately on girls, since the ideology of the gender-based division of labor in Kenya associates females with harvesting.

**Recommendations.** There are many labor bottlenecks in Kenyan agriculture, due primarily to seasonal and gender constraints. Smallholder farming is also an undesirable occupation as far as the younger generation is concerned, and it seems that many young people would rather be unemployed than work on the farm. Some strategies that USAID and its partners can promote to overcome labor supply constraints might include:

- Provide incentives, such as training opportunities and small enterprise credit to encourage the youthful labor force to seek employment, particularly self-employment, in the agricultural sector;
- Develop and disseminate low-cost and labor-saving agricultural technologies (oilseed presses, maize hullers); some of this was done in the 1980s under the on-farm grain storage project, and KARI should also be involved here;
- Foster women's groups to provide group labor resources and to establish community based child care which will give women greater flexibility in time and task allocation;

**Enterprise development.** The strategy does not address the very real problems that women face in establishing viable and profitable small enterprises. The bottom line is that women's enterprises are smaller, less remunerative, more dependent on unpaid labor, and more likely to fail than men's. The reasons that women's enterprises are so unsuccessful are numerous: they are disadvantaged in education, have virtually no technical training, do not receive business skills training, can access little or no credit, and are concentrated in less financially rewarding kinds of business activity, specifically those directly linked to agriculture. Although agriculturally-linked MSEs such as brewing, small scale agro-processing, food processing, and agricultural marketing are viable, they are not highly remunerative, yielding per-worker returns at about the minimum wage level. Hence they do not permit sufficient accumulation of profits to underwrite expansion. Women enterprise owners are excessively dependent on unpaid labor; women as MSE employees are routinely under-compensated.

Although there is mention in the strategy of "cost-effective delivery of services" to MSEs, the cost-recovery element disadvantages women enterprise owners in getting access to these services, since their per-worker earnings of their businesses are one quarter those of men, at less than Kshs 16,000 per year; women are simply less able to pay. The non-financial services identified include

technology, marketing, and association development, and thus do not address the primary constraints faced by women entrepreneurs, that is, their lack of capital, skills, training, and time, and the onus of additional responsibilities such as child care and domestic maintenance.

Recommendations. The performance of the MSE sector and in particular job creation in the sector have been crucial to economic growth in Kenya. It is unclear, however, how long this impressive performance can be sustained, and there are indications that in some areas or for some products there are already too many firms. To build on existing strength and momentum:

- Promote the development of new agriculturally-linked MSE opportunities, both for new firms and for existing enterprises, working jointly with KAM, KMAP, FPEAK, KESSFA, KREP and other institutions as appropriate to identify such opportunities;
- Educate employees on their rights, and employers on their responsibilities, as part of a larger business skills training initiative;
- Promote an enabling environment for the microenterprise sector, rather than settling for the elimination of niggling requirements;
- Provide non-financial services, such as training, which address the expressed needs of microentrepreneurs;
- Provide additional support, primarily non-financial, to established MSEs, as the source of most job creation in the sector.

Credit. Scarcity of financial resources and lack of access to credit are major constraints facing smallholder farmers and small scale entrepreneurs, both male and female. The agriculture sector receives ten to 12 percent of total credit. In 1994/95, the demand for agricultural credit was Ksh. 75 billion but the supply was only Ksh. 22 billion. Only one-third of rural lending was allocated to medium and small scale farmers. Similarly, small scale entrepreneurs obtain less than 8 percent of their start-up capital from credit sources.

Empirical evidence and casual observations made in the field show that women are more disadvantaged and have less access to formal sources of finance, although they seem to have better access to informal credit. For example, the KARI study of maize-technology dissemination showed that male smallholders were twice as likely to have obtained credit than female farmers: 7.3 percent of men had received credit as compared with three percent of women. For both men and women this is a tiny fraction of those who need it. Unavailability of credit is a major barrier to the timely purchase and application of inputs. People buy what they can afford with the resources they have on hand; use is suboptimal and yields are affected. Women, being poorer and having less access to cash and control over income, are less able to purchase inputs than men.

Lack of credit also hampers the expansion of microenterprises, which is the major source of increased employment in the MSE sector. Also, credit seems to be more readily available for the very small and very large enterprise, but not for those in the middle of the spectrum which have the potential to generate employment and income in relatively large measure.

Women's access to formal sources of credit such as the AFC and commercial banks is limited by lending requirements. These include land titles and evidence of a regular, non-farming source of income that most rural women do not possess. On the other hand, rural titles are no longer considered good collateral by many banks, so even titleholders may find credit unavailable. Although several NGO-managed schemes such as CARE and SISDO have mounted a number of small scale lending programs targeting women, the amounts involved are very small compared to what could be productively absorbed by the women agriculturalists and entrepreneurs. The lack of capital greatly limits the scale of their economic activities in farming and agribusiness.

Recommendations. Credit programs clearly need to be expanded, as the supply of credit in Kenya is grossly inadequate to meet the needs of even a fraction of smallholders and microentrepreneurs. In order to reach the poor, unconventional strategies will need to be employed:

- Expand the use of alternative channels for providing and accessing credit, such as through NGOs and non-bank financial institutions, but do not overlook the potential for the role of formal private sector institutions in the provision of small-scale credit to be expanded; this is an area in which policy issues can be raised in the private sector context;
- In addition to formal financial institutions, encourage private sector facilitation of credit through enterprises that supply farmers and microentrepreneurs, or purchase their products;
- Encourage the expansion of small-scale contract farming, especially in export horticulture, as a mechanism for extending input credit to individual farmers and to women's groups.

Information, education and training. Gender differences in education, training, and information dissemination begin in primary school. As pupils advance through the primary system the gender gap widens. By the last year of secondary school, the female proportion has gone down to about 45 percent of enrollment, and at diploma and degree level 26 to 28 percent. In the older generation, illiteracy is substantially greater among women than among men. Old or young, women are disadvantaged so far as literacy, educational opportunity, and access to technical training are concerned. These disparities affect women's capacity to adopt innovations, act on information, and operate viable small enterprises.

There is also considerable evidence of differential access to technical information for female and male farmers and entrepreneurs. In one study of maize-technology dissemination, 64 percent of male farmers had extension contact compared with 55 percent of women, yet about 80 percent of maize production is done by women. Data from the zero-grazing technology dissemination study done in five districts in Kenya showed that in about 70 percent of the cases, husbands were the first to be informed about the technology while for wives, it was 19 percent.

Training is another area where there are male/female imbalances and where women's needs in particular are not being addressed. For example, 25 percent of male dairy farmers have attended FTC courses as compared with only four percent of the women farmers with zero-grazing enterprises, yet women contribute more labor in most aspects of dairy husbandry such as feeding the cow, heat detection, cutting Napier grass, and milking. Similarly, only a tiny fraction of both male and female entrepreneurs have had business skills training. This constraint has serious implications for the viability of their businesses.

**Recommendations.** There is not a great deal that can be done in the short term to overcome women's disadvantaged position with respect to education, training, and skill-building opportunities. Some possibilities that might be developed under the SO 2.0 strategy include:

- Develop and utilize alternative channels for the dissemination of information, using input stockists, "paravets", schools, NGOs, community-based farmer organizations and women's groups;
- Provide low cost, targeted business skills training to microentrepreneurs, especially women; consider making such training a condition of receiving credit.

**Markets.** Women smallholder farmers in Kenya have utilized numerous strategies and channels for marketing their agricultural output. Most of these channels, however, are limited by various constraints. Wholesalers may come to the farm gate with a vehicle to purchase in bulk. This saves a lot of hassle, but the farmers do not have much negotiating power. Much of the profit in agriculture, particularly for horticultural crops for the domestic market such as potatoes and bananas, accrues not to the farmer but to the various categories of intermediaries who handle the goods after they leave the farm. The same bag of potatoes for which the farmer in Nyandarua is paid Kshs. 200 can bring the middleman Kshs. 1,000 in Nairobi. The low prices, coupled with the knowledge that these prices are not fair, are disincentives to commercialization. Marketing is also impeded by the poor state of infrastructure and lack of transport. If buyers do not come to the farm, producers must physically carry their produce to the nearest transportation point, and if necessary accompany it to more distant sales points, at great time and expense.

Marketing is also a major problem for microentrepreneurs, and an area in which they frequently ask for assistance. Their marketing problems seem to emanate primarily from a lack of customers, or, putting it another way, too much competition. The idea that there might be too

much competition in some microenterprise sectors is a sobering thought, suggesting as it does that there is a rapidly-approaching limit to further MSE expansion.

Women are also restricted in access to some markets, particularly for coffee and tea, because they do not own title deeds and therefore do not qualify for membership in the cooperatives and parastatals that purchase these crops. They are also disadvantaged in access to market information, because of lower literacy, limited access to the radio, and fewer opportunities to visit market centers.

Recommendations. Market constraints of numerous sorts are major barriers to both men's and women's participation in commercial agriculture and microenterprise development. Many of the remedies go beyond the scope of the strategy. The solution to the major problem, degraded infrastructure, is financially completely out of reach. Some low cost, policy-oriented actions which could be developed include:

- Extend cooperative membership to women without title deeds, to facilitate their marketing of certain crops;
- Empower women's groups to function as cooperatives, for buying and for selling, and give them that legal status;
- Expand the number of rural buying points for export crops and for horticultural produce for domestic consumption, and improve market infrastructure;
- Disseminate market information through multiple channels, including women's groups, schools, retail outlets, and community institutions, and provide such information on a regular basis (at least weekly);
- Encourage contractual arrangements between producers and buyers of agricultural produce and processed items;
- Do some market research on the MSE sectors where the competition is stiff, to identify the problems, and provide targeted marketing technical assistance to microentrepreneurs.

Inputs. The use of purchased agricultural inputs in Kenyan agriculture is very responsive to availability of credit, changes in prices (both of inputs and agricultural produce), institutional support, and gender. Women are thought to be generally less able to purchase fertilizer, improved seeds, veterinary requirements, and other inputs, because they lack the financial resources. They also lack knowledge of which inputs to use, when, and in what quantities. However, there is little reliable real and up to date data on gender differentials in knowledge and use of inputs, including improved seed and fertilizer. Some studies have found that women maize

farmers use more fertilizer than men, but the quantities applied are still inadequate. Other researchers have found the reverse--women use less than men, but again neither group adheres to recommended amounts. It is unclear why these differentials exist, and more needs to be learned; but shortages of both money and information are certain to play a role.

Farmers are well aware of the value of improved seed, and the majority of Kenyan farmers, men and women, plant at least some hybrid maize seed, up to 85 percent of women farmers in one study. Many seed varieties were developed and tested and are multiplied within Kenya. Women are actively involved in maize and barley multiplication. Although they have smaller holdings than men they produce higher quality seed, but their income potential is lower because their farms are smaller. On the side of animal husbandry, several studies have shown that women have less access than men to veterinary inputs and information about them. These requirements are also becoming increasingly costly.

**Recommendations.** The costs of inputs are continuing to rise more quickly than agricultural income is growing, and that is the fundamental problem--affordability. Following on that is the need for dissemination of information about recommended levels of use. But that knowledge will not do much good if the farmer cannot afford to buy the items in the first place. To increase the possibility that at least some inputs are acquired, and used in the appropriate ways, the following suggestions might be adopted:

- Promote women as commercial seed multipliers, especially for crops in which they have high levels of interest--specifically potatoes and dry beans;
- Foster women microentrepreneurs involved in input supply;
- Use women's groups, church groups, and other community-based organizations as channels of information on input use (in addition to stockists etc.), and as bulk purchasers of inputs on the *chikola* model;
- Encourage micropackaging of inputs, especially fertilizer;
- Experiment with community based distribution approaches which have been pioneered in the health sector for IEC and commodities; they could be tried on a pilot basis for agricultural information and services;
- Pilot the social marketing of veterinary and selected other inputs; this would have the objective of becoming a full cost-recovery program by the end of the planning period.

### **3.0 THE CONTEXT OF AGRICULTURE AND NATURAL RESOURCE MANAGEMENT IN KENYA**

#### **3.1 Brief Historical Description of Agriculture in Kenya**

Agriculture, including both crop and livestock production, has always been the mainstay of Kenya's economy. Since Independence, the agricultural sector's contribution to GDP has stood at 30 to 35 percent. Over 50 percent of export earnings and 70 percent of employment come from the agricultural sector and two-thirds of the industrial output is agriculturally based (MOALDM 1996b).

The structure of production has, for the most part, been dualistic, encompassing both large scale farms on the one end and smallholders on the other. In recent years, an intermediate category of farm unit, the medium scale or "gap" farm, has emerged as a result of subdivision of some of the large scale farms. By far the majority of farms--some 3.5 million holdings--average under 2 hectares<sup>1</sup> in size and have been considered smallholder farms, while those over 50 ha are large scale. Over 60 percent of the marketed agricultural output during the pre-Independence period and through the early post-Independence years was produced on the large scale farms. However, as a result of Kenya's efforts to promote smallholder commercial agriculture, these farmers currently account for over 60 percent of the marketed output (GOK 1995). Overall, it is estimated that 75 percent of the total agricultural production comes from smallholder farmers, with women providing about 75 percent of the labor force (MOALDM 1996b; see Table 1, Appendix D).

Kenya's emphasis on smallholder commercialization started with the Swynnerton Plan of 1954, which gave priority to helping smallholders increase their production of tea and coffee that had been previously grown by large scale farmers. The establishment of support institutions such as the Kenya Tea Development Authority (KTDA), for example, led to a surge in smallholder output. By 1994, the area under tea in the small scale sector was about 74,000 ha compared with only about 32,000 ha in the large scale (estate) sector.

In terms of overall sectoral performance, agriculture exhibited remarkable growth rates in output and productivity from the late 1960s through the mid-1980s. Since 1989, agricultural sector performance has deteriorated, mainly in response to weak incentives for producers and a consequent fall in input use.

Much of the growth in agriculture recorded in the early post-Independence years resulted from an expansion of the farmed area. Most of this expansion in area occurred in the smallholder sector through land redistribution and settlement programs. From the 1970s, most of the growth in

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<sup>1</sup>Both hectares and acres are employed as units of measure throughout this report, reflecting the usage of our sources and informants, who use them both, sometimes interchangeably.

agricultural output was due to increased productivity. This resulted from agricultural intensification and increased use of improved crop varieties developed and released from government research centers, combined with the use of fertilizers. The intensification of production occurred on both large and small farms and was most apparent in maize (using the newly released hybrids), tea (the new clones), coffee, and dairy (improved breeds of cattle using artificial insemination). More recently, growth in the value of agricultural output has come from a shift in the use of cultivated land towards higher value crops such as horticultural export crops.

The recently prepared Agricultural Sector Development Strategy paper (MOALDM 1996b) singles out increased commercialization of the smallholder farm subsector as the key to the revival and accelerated growth of agriculture. Export crops such as horticulture, tea, and coffee, along with maize and dairy for the internal market, offer the greatest prospects for growth. A few industrial crops such as oilseeds and sugar offer medium potential for growth.

### **3.2 Current Trends in Commercialization at Smallholder Level**

Currently, horticulture, tea, and coffee account for 35 percent of the value of agricultural output. Fresh horticultural exports have grown tremendously from about 22,000 tons in 1980 to 71,000 tons in 1995 and currently account for over 10 percent of GDP (MOALDM 1996). Cut flowers, French beans and Asian vegetables (okra, eggplant, karela or bitter melon, and chillies) dominate the fresh horticultural export mix. Canned French beans processed prior to export have gained prominence in recent years. There are about twenty major horticultural processors, who rely on smallholder outgrowers for the supply of raw materials.

It is estimated that 1.8 million smallholder farms produce a variety of horticultural crops for export. The majority of the smallholders cultivate French beans on very small plots (often less than one-tenth ha). The beans are sold either to exporters or to processors. In the early 1990s, smallholders were introduced to a new crop, snow peas; its output and export has been increasing rapidly. In 1995, for example, the export of snow peas went up by 542 percent over the 1994 figure to reach 1,819 metric tons. Smallholders also cultivate Asian vegetables for the export market, but the importance of these vegetables in the export mix (in both volume and value) has been surpassed by French beans since the late 1980s. In most cases, men are registered as the owners of the land but women usually are the "growers," and they are both in charge of production and carry out the planting, weeding and harvesting, especially in the bean sector. In the production of Asian vegetables, more men are involved and share a fifty-fifty role with the women (Swanberg 1995; see Table 2, Appendix D).

Cut flowers are mostly grown by large, capital intensive farms, that are vertically integrated through the export stage. Several smallholders in Nyandarua and Kiambu districts also grow several varieties of flowers using less capital intensive outdoor technologies. Some of these are bought by medium scale growers to supplement their exports. Several of the smallholders have formed producer associations (e.g., the Kinangop Flower Growers Association). Smallholders are

severely constrained by a lack of access to appropriate planting materials, technology, and credit, and weak linkages with the market. Consequently, they realize less than half the net income obtained by the larger growers (Kimenye 1994a). Although the number of female flower growers is negligible, the total number of women engaged in wage labor aspects of cut flower farming is quite high because they are preferred for tasks such as sorting, grading, and arranging the flowers into their packages. Much of this employment is casual rather than permanent work.

Tea production has exhibited an upward trend over the years mainly due to increase in average national yields rather than an expansion in area. Smallholders account for over 70 percent of the total area under tea (about 74,000 ha compared with 32,000 ha for estates) (GOK 1995). However, the yields are still quite low among smallholders, averaging 60 percent lower than the estates.

Smallholders account for about 65 percent of the total coffee production, the balance coming from the estate (large scale) sector. Smallholder coffee production is organized through the coffee cooperative societies which handle the processing. Coffee production has declined almost each year since the late 1980s. The production fell from 125,000 tons in 1988/89 to 90,000 tons in 1994/95. The main problems facing smallholder coffee production include low yields, low quality of output due to processing inefficiencies and poor management at various stages of marketing. The average yield level for smallholders is 343 kg/ha compared with 1,013 kg/ha for estates. Recent policy changes in the coffee industry, notably auctioning in hard currencies and opening of milling to the private sector, are expected to increase the incentives to growers.

Maize, milk, meat, and potatoes account for 40 percent of the value of agricultural output. Maize is the most important followed by dairy. The bulk of the maize crop--70 percent of the area cultivated in maize--is grown by smallholders. However, much of the marketed maize is produced by large scale farmers. Though most smallholders cultivate maize for their food, it is an important cash crop for those located in surplus areas such as Trans Nzoia, Uasin Gishu, and Nandi districts. Since the 1980s, the area planted under maize has stagnated around 1.4 million ha, while average yields have declined and stagnated around 20 bags/ha (2 tons/ha). The decline in yields have been more pronounced in the small scale system, whose average is less than a ton per hectare (Nyoro 1992). The difference in yield between small and large scale farmers is attributed to the reduction or total withdrawal of some intermediate inputs such as fertilizers and use of unimproved seed by the small scale farmers. A yield gap also exists between men and women farmers, with male farmers achieving yields about 17 percent higher than women (Hassan and Salasya 1993).

Farm size and technology vary among smallholders. In densely populated areas such as Kisii, the average area is less than an acre while in Trans Nzoia and Uasin Gishu, "gap" farms are found. Maize may be intercropped with beans in most small scale farms.

The dairy sector uses about 30 percent of the agricultural land and contributes about 13 percent of the total value of agricultural production. It is the single most important source of regular cash income for about 40 percent of the smallholder population (World Bank 1994). According to the Dairy Sector Policy Paper, the total milk production was 1.3 billion liters in 1990, with between 60 to 70 percent of this amount coming from 300,000 to 400,000 smallholdings.

Smallholder dairying is based on about 3 million improved cattle zero grazed on Napier grass and housed in simple but effective structures. The zero grazing technology was launched in 1980 under the National Dairy Development Project. A recent study done by the NDDP showed that the amount of milk for home consumption had increased according to both male and female farmers and that two-thirds of these respondents indicated an increase in income (Maarse 1995). Women, however, reported an increase in their work time commitments and a decrease in rest and leisure.

Potatoes are grown mostly by small scale farmers. Potatoes are an important source of income for farmers in high altitude areas such as Meru, Nyandarua, Nyeri, Kiambu, Nakuru, and Narok. Currently, there are about 100,000 hectares, that produce about 800,000 tons (MOALDM 1996b). However, potato production is constrained by poor road and marketing infrastructure and unavailability of quality seed (cf. Crissman et al. 1993).

Although dry bean research is among KARI's top ten priorities, very little in the way of resources has been allocated to the crop and it is not mentioned in the NARP. This is unfortunate, because dry beans are a particularly important crop. In combination with maize, beans provide the bulk of the protein consumed by Kenyans. The production trend has been upwards for the past 25 years and in 1995 an estimated 453,000 tons were produced. Beans are an important cash crop and women dominate bean trading in Kenya, which is almost exclusively to local markets. As with potatoes, the state of infrastructure is a conspicuous production and marketing constraint. Bean production is also greatly affected by drought.

Kenya lost self-sufficiency in sugar in 1980. The production of sugar cane and sugar has declined consistently since then. In 1989/90, the total production of sugar was 400,000 tons while in 1995, it was 384,200 tons (60 percent of the demand). Seventy percent of the cane is produced by small scale outgrowers, but low prices, delayed payments, and incapacity of factories to absorb all of the cane produced are disincentives.

Oil crops (sunflower, sesame, ground nut, rapeseed, and soya bean) are potential cash crops for smallholders located in marginal areas. However, production of oil crops has declined after reaching a peak in 1987 at about 112,600 ha that produced 70,000 tons. The fall in oil crop production is due to unprofitable prices offered to growers by the processing firms. In 1993, there were only 59,500 ha under oil crops. The possibility of generating increased production through the dissemination of appropriate technology such as ram oil presses should not be overlooked.

#### **4.0 FARM AND FARMER CHARACTERISTICS, PRODUCTION TRENDS, AND DELIVERY SYSTEMS**

##### **4.1 Agro-Ecological Zones, Production Strategies, and Socio-Economic Groups**

Who is the smallholder farmer whose increased commercialization will be addressed by SO 2.0? This question is not easy to answer, for several reasons. First of all, there is no agreement among those who use the term as to its definition. This is equally true of those who provide services to farmers and those who conduct research and sector analyses. Second, many of the criteria used to distinguish groups of farmers lack any real analytical power, being fundamentally descriptive or quantitative. Examples of these include agro-ecological zones and farm sizes. Third, most frameworks do not take socio-economic characteristics of farmers into account and may conceal more than they reveal.

It is not only in the technical literature that there is no agreement on the definition of significant categories for agricultural sector analysis. The definition and categorization of farmers differs in common usage as well. According to the Kenya Seed Company, a small farmer has one to two acres, while an average farmer has ten or more acres. Large scale farms have hundreds of acres. KSC seed contract farmers must have 30 acres or more, although some, especially women, have less. One commercial French bean company requires that a farmer have a 20 x 20 meter piece of land minimum to plant one kg of seed, and be able to leave it fallow or rotate it every three or four months. For the MOALDM extension agent, small is less than five acres and large is over five acres. The Adaptive Research Unit at KARI notes that the definition of smallholder varies with location. KARI uses ten acres or less to define a smallholder. In some locations, all farmers except for very large land holders are smallholders. KARI staff agree that this is major area in which research is needed.

Of typologies based on agro-ecological zones, an oft-cited framework comes from the Farm Management Handbook of Kenya (Jaetzold and Schmidt 1974). This classificatory system is highly detailed but ultimately descriptive rather than analytical. Much simpler is that used in the 1980s by the Ministry of National Planning and Economic Development, that identifies three categories of land--high, medium, and low potential--on the basis of average annual rainfall. This scheme too lacks analytical power, but does make the point that high potential agricultural land is in short supply in Kenya.

A widely used land classification typology employed by the Kenya Agricultural Research Institute (KARI) and other research organizations and Ministries is found as Table 3, Appendix D. This scheme is of very little analytical value, but paints an even more stark picture of the small proportion of the land area that is of agricultural value.

Typologies based on farm size are numerous and by no means do they agree with one another. For example, both Fleuret and Greeley (1982) and McCarthy (1982) and Mwangi (1982) suggest

similar categories, but are not in consonance with one another on the criteria that ultimately distinguish the categories (Table 4, Appendix D). Both agree there is no clear or absolute dividing line on one side of which farmers are small, while on the other they are large.

Fleuret and Greeley take their analysis further, noting that a classification of smallholders, defined on the basis of farm size, even when combined with a high/medium/low potential criterion, still does not give an accurate view of either the situation of or the prospects for agricultural development. These authors take another look at agro-ecological zones in terms of locality and crop regime (Table 5, Appendix D). This schema can be further refined by examining the distribution of income generation by income group across agro-ecological zones (Table 6, Appendix D). Three key facts stand out in this analysis: (1) at the household level, the diversification of income sources is accompanied by greater socio-economic well-being; (2) the poorest farmers in different agroecological zones have more in common than richer and poorer farmers in the same zone; and (3) agriculture is not the only, or even the most important, source of smallholder income. This points to the analytical utility of socio-economic variables in any discussion of smallholder farming.

From a broad socio-economic perspective, the significance of income diversification in household well-being lends credence and support to the Mission's SO 2.0, "Increased commercialization of smallholder agriculture and natural resources"--so long as Jaffee and Binstein's (1995) caveat that such new and diverse income sources should supplement rather than monopolize farmers' lives is observed. If the degree of dependence on any single income source remains modest, farmers can retain their flexibility in pursuing household food security and income generating objectives.

A final classificatory scheme is presented by the World Bank (1994) and is based on a national sample household survey. The results provide a grim picture of the socio-economic condition of the Kenyan population, and also portray the extent of variation in household well-being on the basis of gender, specifically comparing male-headed and female-headed households (Table 7, Appendix D). The first fact that stands out is that on the basis of the findings of this survey, over 60 percent of Kenyan households live in poverty. Second, living in a household headed by a woman poses a substantially greater chance of being impoverished than living in a household headed by a man.

Households headed by women comprise one-fourth to one-third of all Kenyan households. Although they are disproportionately represented among the very poorest Kenyans, this should not be taken to mean that all women-headed units are in the worst of economic circumstances. Some of these households--about 20 percent, according to the World Bank 1994 poverty assessment--are classified as middle income or above. Another important point is that at all income levels, women household heads do a better job than men at managing available resources for the benefit of all members, as measured by the nutritional status of young children (Hitchings 1979, P. and A. Fleuret 1991). And not all women-headed household remain woman-headed permanently, and vice versa. Absent husbands return, present ones depart, marriages take place

or are dissolved. The identity of the household head thus changes, and the unit's fortunes may rise or fall in consequence.

Consideration must also be given to the plight of pastoral people, who as a group are among the very poorest people in Kenya. They make up perhaps five percent of the total population of Kenya but earn as little as one percent of national income (Fleuret and Greeley 1982).

Pastoralists are both migratory and sedentary, but both lifestyles are under increasing threat from population growth, pasture degradation, drought, and pressure from farmers migrating into marginal agricultural lands. Continuing encroachment on pastoral zones is a key contributing cause of environmental degradation and a potential source of internal conflict.

For this study, we are taking the following as the key characteristics of the smallholder farmer and microentrepreneur who is the ultimate customer for SO 2.0:

- The smallholder is land-constrained, with an average holding of about 1.6 ha; 25 percent of all smallholder households possess under one ha of land.
- The smallholder is poor; 60 percent of all smallholder households live in poverty.
- The smallholder is not necessarily totally or even primarily dependent on agriculture; half or more of total household income is obtained from off- and non-farm sources.
- The smallholder farmer is more likely to be female than to be male.

#### **4.2 Factors Affecting Access to and Control over Productive Resources**

Agricultural production depends on both access to and some element of control over critical resources, including land, labor, inputs, and investment resources. The success of any agricultural enterprise will be constrained if access to any or all of these is impaired. A number of factors have been identified that affect the ability of the individual to acquire and manage the ingredients necessary for successful agricultural production. Age, gender, socio-economic status, and level of education, among others, are all important determinants of individual resource access and control.

It has already been shown that medium to high potential agricultural land in Kenya is in short supply and that the majority of farmers are severely land-constrained. At the national level, mean household landholding in the smallholder sector is 1.6 ha. In areas of Central and Western Province, with population densities of over 1,000 persons per sq km, household holding size is less than half a hectare. Here, high population density is also part of the access/control problem.

In present-day Kenya, land resources are essentially all owned or controlled by men. Traditional systems of land tenure and inheritance, although in theory communal in nature, were with only a

few exceptions (and still are) based on principles of patrilineal descent and inheritance. While women have rights to the use of land, it is still achieved almost exclusively through a relationship (as wife or daughter, for example) with a man. Although a Presidential decree of the mid-1980s ostensibly protects women's rights by requiring consent of all family members to a proposed sale, the male bias of the traditional systems has become even more exclusive and rigid in the course of its transformation, beginning in the 1950s, into a system of individual ownership with title deeds. More than three-quarters of medium to high potential land has now been surveyed, titled and registered. Over 90 percent of such titles are held by men (World Bank 1994; Royal Netherlands Embassy 1994; ASIP 1996b).

Many observers feel that the privatization of land title has been a positive force in agricultural development, contributing to diversification, investment, and land availability. It is noted, however, that women's rights to land (at least for use, if not ownership) may have been stronger prior to the initiation of the reform process. Registration has also led to overwhelming number of land disputes--the Sunday Nation of 9/29/96 reports on a 26-year court battle to resolve such a dispute--and concerns over continuing encroachment into ASAL and pastoral areas.

The extent to which women's lack of ownership rights is a constraint to increasing agricultural production and smallholder commercialization is not clear. Numerous policy documents (World Bank 1994 and MOALDM 1996b, for example) identify it as such, and generalize that "improving women's rights to land...will stimulate growth." How this will happen--the cause and effect relationship--is not clear; and the argument is not universally accepted. The ASIP gender paper (ASIP 1996b), for example, point out that regardless of tenure/ownership, women manage land and make agricultural decisions. The issue of land ownership is separate from that of actual production and management. And Mwale (1996a and b) accords land tenure a low priority as a constraint to women's participation in agriculture and contributions to food security. For the majority of women, it seems, access to land is not the issue--but ultimately control over the land they work on does not rest with them. In response to this, women have implemented multiple strategies for ensuring access, including purchase, rental, borrowing, joining land-buying companies, and squatting (Davison 1988, Fleuret 1988, 1991; Khasiani 1995). Increasingly, land is being bought and sold by both men and women.

Mention must be made, however, of the situation of divorced women and never-married women with children, who do have significant problems of land access. They are often reduced to "begging" for rights to land use from male relatives, a strategy that may or may not be successful. Such women are over-represented among the ranks of the rural and urban landless and among casual agricultural laborers. Widows also may not be protected by either customary or statutory law and are frequent victims of expropriation of assets by the family of the deceased husband.

There is considerable discussion (cf. Davison 1988 for just one example) of men's control of title to land giving them access to credit facilities that are not available to women, this credit in turn being a major resource for agricultural production. Lack of credit, however, is something that

severely constrains both men and women farmers, and fewer than five percent of all smallholders have ever received credit (World Bank 1995). And increasingly, land titles are not being accepted as effective collateral for agricultural loans by commercial banks (World Bank 1995:28; Z. Ratemo, personal communication).

Control over other natural resources apart from land is a different issue, and varies considerably from place to place in the country. Women are often seen as the "front line" when it comes to managing non-agricultural resources such as forest products. Women, for example, are responsible for household firewood provisioning and also utilize wild plant products for a range of household and income generating activities. It is when these resources assume substantial commercial value that men start to take an active role: for example, in charcoal and timber production. It is under such conditions that women's access to and control of these resources is challenged.

Labor is another key resource for agricultural production. Access to and control over labor and, more critically, the returns to it, are conditioned by age, gender, and educational level. Children's labor is controlled by their parents and they are very rarely compensated for the work that they do. The employment of child labor on the farm and in non-agricultural activities is widespread in Kenya, and in the poorest households, children are often truant from school, or drop out altogether, in order to perform household or wage-earning employment.

Women generally have control over their own labor and that of their female children. But they may be forced to make choices between different activities not on the basis of preference or relative economic return, but household necessity. Small enterprise production, for example, might have to be sacrificed in favor of household water supply. And most women have less command over the labor of others than do men, especially hired labor, because they may lack the money needed to pay for it. This is especially true of very poor female headed households, who often are in greatest need of additional labor, and who may have to hire themselves out.

The issue with regard to labor is not so much the allocation of it as the returns to it. As one of Njiro's respondents notes, men know that tea production depends on women's labor. "If the women declined to pluck tea, there will be chaos" (Njiro 1990:206). The issue is that most family labor, regardless of who performs it, is not in fact directly compensated, and men may be more likely than women to receive and manage cash income generated through the labor of other household members. Such income may not necessarily be used for the benefit of those who contributed to it. The solution to this is to recognize that ownership/allocation aspects are separate from the production/management aspects, and organize the payment of compensation accordingly.

The bulk of the credit available for agriculture is provided to the large farm sector--over 80 percent of AFC lending and virtually 100 percent of commercial bank lending go to large farms (World Bank 1995). Although there is little in the way of statistical information, findings of the

1995 microenterprise survey (Daniels et al. 1995) suggest that women may even have an edge in accessing small scale rural credit because of donor support for women's group programs and their participation in rotating credit groups. Although some stockists and suppliers do provide credit for input purchases, this credit is more available to men than to women. Men also have better access to inputs through co-operative societies, although these are used on crops worked by both men and women. Due to financial constraints in the MOALDM, it seems that extension services are equally unavailable to all at the present (World Bank 1995).

There is an advantage to men in accumulating investment resources from non-agricultural activity that can be used for the purchase of land, labor, and inputs. They are more highly educated and claim the majority of public sector and formal private sector employment, that is the major source of funds for rural investments. Men's micro- and small enterprises also generate overall returns about four times greater than those owned by women, so that here too the possibility of generating cash resources to be put to agricultural ends is greater for men (cf. Daniels et al. 1995).

### **4.3 Contract Production**

Contract farming is defined as agricultural production carried out according to an agreement between farmers and buyers that specifies production and marketing conditions of the commodity. It is a proven effective institutional arrangement for promoting agribusiness, raising farmer productivity, raising smallholder incomes, and generating raw supplies for processors and traders. It provides farmers with the specialized services they often require such as inputs and information, as well as market assurance. Processors and traders can derive significant benefits in terms of greater security in raw material supplies and of improved quality. In Kenya, contract farming is being used extensively to mobilize smallholders to produce high value vegetables for fresh export and for processing. Contract farming is also used in the traditional agro-industries such as tea, sugar, tobacco, barley, and in seed multiplication. Many of the contract farmers are women, and often there is a stated preference for them among private sector firms.

In horticulture, contract production is more prevalent in French bean processing than in bean or Asian vegetable production for fresh export. For example, in 1992, about 35 percent of the smallholder bean growers in Mwea had contracts (Kimenyi 1994), while 24 percent of Asian vegetable growers in Kibwezi had contracts with exporters in 1995 (Kimenyi 1996). Because of a greater access to inputs (usually provided on credit through the contract), information, and reliable market outlet, contract growers realize higher yields and net income than non-contract farmers. Bean growers in Mwea who had contracts obtained about 37 percent higher yield and 80 percent higher net margins than those without contracts (Kimenyi 1994).

A majority of the fresh produce exporters have reduced or suspended contracts with outgrowers because of contract enforcement problems whereby farmers break the contracts and sell the produce to other exporters who may offer a higher price. Recently, the Kenya Small Scale

Farmers Association (KESSFA) began to arrange production contracts between small scale farmers and exporters. KESSFA provides production input credit, extension services, and collects the produce three times a week at a 10 percent commission. It has covered about 400 farmers who are organized into groups in Meru, Muranga, Kirinyaga, Makueni, Nyeri, and Kiambu districts. Both men and women farmers are members (interview with P. Kimunya, KESSFA).

There are about seven main French bean processors who procure the beans from smallholders under contracts. Frigoken is a processing firm that targets very small scale growers in Muranga district. The company contracts 5,000 farmers and plans to expand to 8,000. Each farmer manages a plot with a maximum size of 20 m by 40 m that is planted with 2 kg of seed. The company provides seed and fertilizer, does the spraying, and gives extension advice all at a total cost of Ksh. 1260 to the farmers, over 40 percent of whom are women. This amount is deducted from the gross proceeds (interview with P. Irungu, Frigoken).

Smallholder tea is an example of a parastatal-managed contract production system, that until recently was well-managed and one of the best smallholder contract schemes for agro-processing in Africa. The Kenya Tea Development Authority (KTDA) scheme coordinates all smallholder tea production through a contractual system that involves provision of inputs (fertilizers) on credit, processing of the tea leaves and marketing. KTDA has also made substantial investments in road infrastructure and processing factories in the tea growing areas. However, the introduction of tea growing has affected pre-existing patterns of labor allocation in the Kericho area, to the disadvantage of women (Sorenson 1990).

All sugar factories obtain substantial amount of their cane (70 percent) from outgrowers, usually through contractual arrangements. Both large and small scale farmers are contracted, although the production from small scale growers is higher by more than 150 percent. However, the cane outgrowers have become discouraged by the low remuneration and inadequate provision of credit.

Seed companies also use contractual arrangements for seed production. The Kenya Seed Company (KSC), contracts both "gap" and large farmers (20 to 30 acres) to produce seed. About 30 percent of the seed growers contracted by KSC are female and the company considers them to be their best growers. However, KSC does not provide credit to the seed growers, and those who need loans are forced to seek credit from commercial banks. Substantial numbers of women are also contracted to produce barley and barley seed for the beer industry, as discussed below.

The KTDA contract scheme for tea production is the largest in terms of the number and widespread coverage of farmers. The contracts cover only smallholders. Bean processors also contract smallholders of varying farm sizes. Some bean processors prefer the bean to be grown on very small plots to ensure that the farmer can do all the required field operations without encountering labor bottlenecks. The plots are rotated throughout the year. Frigoken insists on plot

sizes not exceeding 20 meters by 40 meters. In barley and seed maize production both small and large scale growers are contracted with minimum farm sizes of 20 to 25 acres for maize seed and 30 acres for barley seed. In barley seed production, farmers with less than 30 acres have to ensure KBL that they can finance the production without the company's credit arrangement.

Small scale and to some extent female growers are found to be better contract farmers, according to private sector management, in terms of their adherence to the production instructions and in the quality of their produce. The marketing managers of both KSC and KBL stated that the female growers produce higher quality seed than do the men. It was observed that several large scale seed maize growers were subdividing their farms and putting smaller plots to seed production than they did previously. The experience of Frigoken with its very small scale growers is that the farmers have quickly adapted the technology and are able to meet the high quality standards with almost zero rejection rates at produce collection center level. School children on vacation contribute to picking of French beans, which the firms note increases the quality of the product.

A major constraint for contracts, particularly in horticulture, is the difficulty of enforcing the agreements especially for the fresh produce for export (Monel variety of beans and the Asian vegetables). Often farmers break the contracts and sell the produce to other exporters who may offer a price higher than the contracted price. Many exporters cannot sustain the losses they incur in unrecovered credit and have reduced or stopped contracting farmers. Kenya Horticultural Exporters (KHE), one of the largest fresh produce exporters, now relies on produce from leased land and its own farms (Jaffee 1994).

#### **4.4 Farm Labor**

The bulk of the labor employed by far on Kenyan smallholder farms is unpaid or undercompensated family labor. This is consistent with agricultural development policy in Kenya, which is based on a model of family owned, managed, and operated small farms. Although there are no reliable measures or statistics, it is estimated in study after study (Ayot 1993; Muthee and Karuga 1996; ASIP Gender Paper 1996) that overall, 70 to 75 percent of agricultural labor in Kenya is supplied by women, and that their contributions are the cornerstone of both the commercial and the household consumption components of agricultural production. The sources of these estimates are not clear. They are a "magic number" repeated in a number of reports, but there is little in the way of time allocation data to support them. The limited data available suggest that the following issues need to be taken into consideration:

- Variations in male and female farm labor inputs are affected by the crop regime, the geographical region, household resource availability, and the extent of adult male labor migration;

- Other things being controlled for, in a number of areas, male and female labor contributions to agriculture are approximately equal, but women work a longer day than men--according to the World Bank, two hours longer--because of their large share of non-agricultural responsibilities;
- Increased commercialization of smallholder agriculture requires greater labor contributions. The burden of providing this additional labor falls disproportionately on women, particularly in horticulture and dairy, and emanates from both the introduction of completely new activities added on to an existing pattern of labor allocation, as well as to a reallocation of responsibilities within that pattern.
- Regardless of the actual percentage of labor provided by women, there seems little doubt that the income they receive from their agricultural labor is not commensurate with their work contributions.

It is important to recognize the significance of labor contributions by men, as well as by women, on the small farm. Nor can the role of children, whether direct or indirect, be overlooked. For the latter, in labor-constrained households, school attendance is often affected by agricultural labor requirements; children may miss school or drop out altogether either to work on the farm or to assume other responsibilities so that parent(s) may increase their labor contributions or pursue other income-generating activities. Available information concentrates on dropout rates. But it is equally pertinent to ask how school performance is affected by attendance rates and the extent of gender difference in regular attendance. Also of relevance is the extent to which household labor demands fall unduly on either girls or boys, so that one group is less able to attend supplementary classes, complete homework, or study for exams.

Often, available family labor is insufficient to satisfy smallholder labor demand, either because of household structure, as a result of seasonal demands, or due to the requirements of particular crops, especially horticultural crops and dairy enterprises. Several strategies exist to alleviate such shortages, including work groups, seasonal agricultural labor migration, exchange and festive cooperative labor institutions, sharecropping, and permanent or casual agricultural wage labor. Such wage labor is at the same time poorly-compensated for those who perform it (maximum earnings of Kshs. 70 to 80 per day), and expensive for those who must purchase it. It is clear that in all areas of the country, traditional cooperative labor strategies are being or already have been replaced by cash-compensated strategies.

As a general rule, female-headed households are more seriously constrained by inadequate supply of family labor. These households are smaller than male-headed units and have a higher dependency ratio. They are also substantially poorer than male headed households, which puts them in a double bind: they do not have the resources to hire the additional labor that they need, and at the same time are more likely to have to send one or more of their members out to seek

casual work simply in order to make ends meet, further reducing the availability of labor for their own farming enterprise. Wealthier women commercial farmers, on the other hand, hire both male and female laborers, the former often as permanent laborers and the latter as day laborers for cultivating, weeding and harvesting.

The plight of the landless or near-landless permanent or casual agricultural laborer also requires examination. The size and the extent of poverty of this group, concentrated in the large farm areas of Western Kenya, is growing. In general, the higher a household's dependency on agricultural wage labor, the lower the income. In Trans Nzoia District, more women than men are engaged in casual agricultural labor, but they are paid less for the same type of work. For both men and women compensation is less than the minimum wage for either permanent or casual employment. Available data on total employment in this sector are underestimates. The figures reported are for formal sector estate and plantation employees and do not include small farm or intermittent workers.

The entire issue of farm labor is attended by a paradox: The labor force in Kenya is estimated to be growing at a rate of 4 percent per year, yet labor for agriculture is constrained. This is because most labor force entrants are not seeking employment in the agricultural sector; smallholder farming is not viewed as a desirable occupation, and many who could be working on the farm view themselves as unemployed. What can be done to change the image of farming and the attitude of the young worker? Evidence accumulated in the course of this study suggests that improved income-generating prospects through the increased commercialization of smallholder agriculture holds the key.

#### **4.5 Input Supply and Use**

The use of purchased inputs in Kenyan agriculture is situational and very responsive to changes in prices, cropping decisions, agro-ecological zone, crop regime, input packaging, institutional support, availability of credit, and gender. The key purchased inputs include fertilizers, improved seeds, agrochemicals such as pesticides and fungicides, animal feeds, veterinary medicines, and artificial insemination services. All of these are becoming more expensive, but at the same time more widely available due to market liberalization.

Information on fertilizers and recommendations about their use were previously communicated to farmers primarily through the extension system and in farmer training institutions. Since the extension service is essentially non-functional and few farmers are able to attend FTC courses, stockists and distributors have begun to fill in the extension void. Stockists are the bottom link in the supply chain and the main point of contact with farmers. These stockists and distributors vary in size, the longevity of their business, and gender; also, their level of knowledge varies. Many do not know the level of nutrients, let alone the appropriate amounts of fertilizer to use. The stockists mainly provide a product, whether in the private sector or in the quasi-public sector such as KFA. Their access to and provision of credit is limited.

Farmers' knowledge and use of fertilizer also varies. Most large scale maize producers have current information on usage and amounts of basal and top dressings, and have the necessary resources to purchase their requirements. Smallholder maize producers, both women and men, are less consistent. Some have correct usage, while others use what they can depending on their financial situation, as well as on their knowledge. As a result, farmers may use suboptimal amounts, basal but not top dressing, livestock manure as a basal and perhaps CAN as top dressing, or no fertilizer at all. Some may substitute cheaper but nutrient deficient products, with negative impact on yields.

There are some data that show the impact of gender on fertilizer knowledge and use. Hassan and Salasya (1993) found that women maize farmers in their sample use more fertilizer than their male counterparts, but both use suboptimum quantities). Mwangi (1989:64) shows similar patterns of usage. According to Lucas (1987), women farmers in the Taita Hills use small amounts of fertilizer on hybrid maize while men target larger quantities to horticultural crops for the local market.

Fertilizer packaging is managed by importers and distributors. Retailers are not expected to open or repackage products. However, a great many stockists do so to please their customers, the smallholders and women in particular. Customers often ask for small bags of one to two kg for their horticultural plots or kitchen gardens. Some farmers have only enough cash to purchase these small amounts, and the market has responded to their needs.

Improved seed varieties are most often used for maize production, but horticultural seeds are also available and widely used. There are serious shortages of some other seed materials, especially certified potato seed and bean seeds. The Kenya Seed Company estimates that the adoption rate for hybrid maize seed is 66 to 72 percent of farmers; therefore approximately one-third do not use hybrid maize seed. Khasiani (1995:62) found that 85 percent of her sample of women farmers used hybrids. Both men and women farmers have considerable knowledge on the value of improved seed. Local institutions, particularly KARI and KSC, have played crucial roles in developing, testing, disseminating, and marketing improved maize varieties.

There is little credit available for the purchase of seed. Smallholders respond to this by buying reduced quantities and either planting a smaller area or reducing the plant population density, with clear implications for yields. Others may save seed from the most recent harvest, which for maize brings about a 20 to 25 percent yield reduction in the first generation. A commonly-used strategy, especially in areas where rainfall is marginal and drought stress a recurrent risk, is to plant both hybrids and indigenous maize varieties, usually in separate plots and using different cultural methods.

Unlike fertilizers, which must be imported, hybrid maize and other seeds have been developed and are commercially multiplied within Kenya. Both parastatal and private sector institutions have a positive assessment of women farmers who participate in their seed multiplication programs. As

noted elsewhere in this paper, about 30 percent of KSC contract farmers are women, and KSC senior management noted that their women farmers are among the best farmers, producing better quality seed from their smaller plots. Kenya Breweries Limited employs a similar percentage of women farmers to multiply barley seed and to produce barley crops.

On their own, men and women farmers are a variable lot in terms of proper and consistent use of the myriad of agrochemicals (fungicides, pesticides, and herbicides) for cereal and horticultural crops. Some use the products regularly with proper handling for human safety in application and for consumption. For others, agrochemicals are used sporadically, with or without proper attention to safety. Finances, knowledge, and crop problems influence usage. For those growing horticultural crops for export, the situation is more critical. Technically, export produce can be rejected if pesticide residues exceed limits.

Farmers growing for both internal and export markets will try to take action if they have particular problems such as pests or diseases. In the production of French beans and Asian vegetables that is heavily dominated by women, it depends on whether or not the producer is a contract farmer or sells to brokers. Contract farmers are given advice and inputs, although some firms prefer to carry out the spraying themselves. Here again, distributors and stockists, in particular, need more information on agrochemical types, handling, and application. Some were observed handling and repackaging insecticides without protection. Obviously, they cannot pass on safety instructions to the farmer-consumer without further training themselves.

The main veterinary inputs include curative and preventive livestock drugs, improved dairy breeds, artificial insemination services, and commercial animal feeds, concentrates, salts, and minerals. These inputs are crucial to improve dairy production. Given that dairy is one of the key growth enterprises, smallholder farmers' access to these inputs and their associated costs are major determinants of the capacity for these farmers to commercialize their dairy activities.

Animal feeds can be purchased by farmers directly from retailers, although there is a large shortfall. High cost and low quality of these products are key constraints. The high cost prevents resource-poor smallholders, especially women, from using these inputs. As an alternative, fodder production (most often of perennial grasses) is widespread and has the added advantage of contributing to soil conservation. Improved dairy animals, either for direct purchase or through artificial insemination, are less readily and widely available and are very expensive. Both public sector institutions and NGOs have assisted women's groups to obtain in-calf heifers and to access artificial insemination services, although the demand far exceeds the supply. The organizations involved cannot meet the needs all over the country, and innovative approaches, such as social marketing, are possible interventions.

#### **4.6 Markets and Marketing**

With the exception of the traditional export and industrial crops (tea, coffee, sugar, and pyrethrum), and two of the most important products for the internal market (maize and dairy), the marketing of most agricultural produce has little or no government involvement. Farmers can choose to sell their produce to traders, exporters, processors, consumers, or to existing public marketing boards. The marketing of traditional export commodities produced by smallholders, such as tea, coffee, and pyrethrum, is handled through the KTDA, the cooperative system, and the Pyrethrum Board of Kenya, respectively.

Given that the majority of the agricultural produce is highly perishable, the condition of roads in the producing areas and other marketing infrastructure such as markets, collection points, and cooling facilities, where needed, is crucial. Most of the feeder and some of the main roads in the production areas are in a very poor condition and often become impassable during the rain season, effectively cutting off farmers from outside markets and preventing access of traders into the produce areas. The World Bank regards the poor state of infrastructure as "...the single most important bottleneck to agricultural development" in Kenya, a conclusion reiterated by Mwale (1996a).

Most of the marketplaces in the urban and rural trading centers where smallholders and small scale traders, the majority of whom are women, sell their produce lack appropriate structures upon which the produce can be displayed and stored. The women place their produce on the ground which becomes muddy and messy when it rains. Produce collection centers such as those used to assemble vegetables for exporters and processors, lack the necessary handling facilities such as clean sorting and grading tables. Often the farmers carry out these activities on the ground or under some trees at the road side. This exposes the produce to dust, mud, and/or damage from sunlight. And virtually all such selling points lack cooling facilities, so that any produce not marketed soon after harvest runs a high risk of spoilage.

Market intermediaries are most common in the marketing of horticultural produce. With the exception of onions, these crops have had no history of government pricing or marketing controls, and the private sector has been free to enter the market. The presence and unethical conduct of market intermediaries, also called middlemen or "brokers", is a major factor undermining smallholders' ability to realize fair prices and decent incomes from horticulture (MOALDM 1995). Because of lack of or limited access to the markets in large urban areas such as Nairobi, due to poor marketing arrangements and lack of finance, most smallholders, are often left at the mercy of middlemen who offer very low prices for their produce. For example, although bananas enjoy a very strong market demand in all major urban markets, the farm-gate price is barely 50 percent of the wholesale price, whereas the market margin obtained by the intermediaries who transport the produce to these markets is about 70 percent of the wholesale price (MOALDM 1995). In pineapple production in Kilifi District, the farm-gate price is often as low one-quarter of the wholesale price in Mombasa. Also, by insisting that the produce be packed into bags which carry

almost double the standard amount of a normal bag, the market intermediaries effectively pay even less and receive more produce.

The poor condition of rural roads, the absence of simple cooling/storage facilities, lack of reliable market information and ignorance of smallholders about how they can best target urban markets, and the relatively small quantities they produce, especially the women farmers, worsens their chances of obtaining profitable prices.

#### **4.7 Natural Resource Management and Food Security**

A recent USAID assessment of Kenya's natural resources (Gilbert et al. 1995) raises the alarm about serious threats to every component of the natural resources sector: forests, soils, biodiversity, wildlife, water, and aquatic and coastal resources. Forest losses stand at 20,000 ha per year and current management practices are not sustainable; biodiversity resources are threatened by habitat shrinkage, human encroachment, and pollution; erosion and declining soil fertility are problematic even in high potential areas. Most significantly, population increases and declining agricultural productivity are leading to population movements into marginal areas: "This process is the root cause of widespread actual or threatened degradation and unsustainable use of natural resources...." (p. iii).

Four key issues are of particular current interest and concern in the Kenyan NRM sector. The first of these is encroachment: of farmers on pastoralist lands, of pastoralists and farmers on wildlife and wildlife habitats, and of wildlife intrusions into farmers' and herders' domains. Second is the question of unsustainable forest use, that has major implications for, among other things, domestic energy consumption and long-term water and soil moisture conservation. Third is that of soil erosion and declining soil fertility. Finally, ensuring sustainable management of natural resources for income generation is emerging as an extremely important issue.

The encroachment and soil fertility issues have particular implications for household food security in Kenya. Food security is a function of numerous variables, some of which can be predicted and controlled for, others of which cannot. By and large, household food security in Kenya is precarious, and the situation seems to be getting worse. Over the past 15 years, per-capita calorie availability has declined, and the number and proportion of people living in absolute poverty has increased (UNICEF 1992; Royal Netherlands Embassy 1994; World Bank 1994). The small proportion of the total resource base that is suitable for sustained agricultural and livestock production is of course a key factor in the food security situation, but it is compounded by other problems. Continued high population growth rates also threaten food security and sustainable use of the natural resource base over the longer term. Downslope migration has resulted in the transplantation of medium and high potential farming practices to arid and semi-arid lands, conditions for which they are not suitable. This transplantation contributes to environmental degradation and low levels of production. Simultaneously, pressures on pastoral people are increasing as seasonal grazing grounds and watering points are being converted to agricultural

use, restricting people and their livestock to smaller and more resource-stressed areas and also putting farmers and herders into direct competition with the needs of wildlife.

Some areas of the country are routinely more vulnerable to food insecurity than others, due to agro-ecological conditions. Eastern, Northeastern, and parts of Rift Valley Provinces are often drought-affected, and rainfall failures over the past several years have led to critical situations of food shortage at the present. Yet even high potential areas are not immune. According to the USAID NRM assessment (Gilbert et al. 1995), declining soil fertility in the high potential areas of Western Kenya is a serious problem in the food security equation that has not been adequately addressed. It is compounded by soil erosion in ASAL areas that has been exacerbated by inappropriate agricultural practices.

Developments during the 1990s in the agricultural sector have serious implications for long-term food security. Although growth was registered in 1995 and is anticipated for 1996, agricultural GDP growth between 1990 and 1993 was negative, adoption of improved technology by smallholders has stagnated or declined, and production of the dominant food crop, maize, has stagnated as well. Although the potential for productivity increases exists, realizing such potential depends on rectifying a number of supply, institutional, marketing, infrastructural, and educational constraints, that cannot take place in the shorter term.

Apart from the areas already described, that are food insecure primarily (although not exclusively) as a result of biophysical factors, there are particular categories of the population which are at greatest risk of food insecurity, including the poor, the landless and near-landless, and the unemployed. A study conducted in Vihiga District, Western Province, amongst poor households with average landholdings of less than one acre, shows the following (Aritho 1994):

- Significant effects of seasonal price fluctuations on household food expenditure patterns;
- Food substitutions and changes in dietary patterns on a seasonal basis, to the detriment of calorie availability;
- Stress sales and increasing consumption of livestock assets during the "lean season" as coping mechanisms;
- Food expenditures comprising as much as 79 percent of total household expenditure, when a level of over 60 percent compromises access to other services and inputs important to overall household welfare.

As already noted, women are disproportionately represented among the poor, landless, and unemployed. Particularly in the ASAL areas, the past several years of poor rainfall have exacerbated the difficulty of their situation. Among pastoralists, for example, out-of-season

movements of adult men and livestock to distant pastures even outside of Kenya, coupled with excess livestock mortality, declining stock prices, rising cereal prices, and crop failure, have left women, children, and the elderly in desperate circumstances, without food reserves or purchasing power.

Corollary to this, the critical roles of Kenyan women in maintaining household food security cannot be overlooked. Women have always been responsible for the bulk of food production. They continue to manage the distribution, marketing, storage, processing, and preparation of food. A consistent finding of national nutrition surveys in Kenya is that young girls are better nourished than boys. Girls enjoy more direct access to food because of their mothers' (and eventually their own) role in the sector. Household food security is, however, increasingly affected by the work burdens and time constraints experienced by women. The increased labor requirements imposed by small-scale dairying or French bean production have their implications for on-farm food production and food security (Maarse 1995). An important point to note is that there is no necessary cause and effect relationship between increased household income and greater household food security, especially in situations where such income might be disproportionately controlled by men (Kennedy and Cogill 1987; UNICEF 1992).

It is generally agreed that a critical, perhaps key, variable in household food security is diversification: of assets, resources, and income-generating activities and strategies. Pastoralists around Isiolo, for example, have added agricultural production, migratory wage labor, collection and sale of gum arabic and wild aloe, and increased sales of livestock and their products to their traditional array of survival strategies (interview with N. Maunder, FEWS). Similarly, Turkana herders near Lokori have begun to engage in irrigated agricultural production for household consumption and for sale in addition to livestock activities, which have been seriously threatened by drought conditions (interview with J. Wagana, World Vision). Many earlier studies of agricultural people in Kenya and elsewhere have come to a similar conclusion about the importance of diversifying income sources and productive activities to enhancing food security (cf. A. Fleuret 1989). A recent study by Scherr (1993) comments in detail about the increasing use of trees to enhance household food security in Siaya and South Nyanza Districts, both in the form of direct consumption (fruit, for example) and agricultural enhancement. Market opportunities for tree products also improve food security and reduce the pressure on rapidly-disappearing forest resources.

Natural resource management and wildlife conservation in Kenya have attempted to focus on community-based, sustainable management as their goals (Gilbert et al. 1995; Hall et al. 1996:9). For women, sustainable management involves issues of fuelwood collection, fodder production, and the use of multi-purpose tree species, particularly for on-farm production. Issues of access, control, and labor allocation are particularly important when looking at sustainable forest resource management and agroforestry interventions. Especially when the economic value of the resources increases, there is increasing competition between men and women over forest products, with women often coming out the losers (Kabutha et al. 1991; Thomas-Slater et al. 1991, 1993).

There are also labor issues, both in women's contributions to the maintenance of tree seedling nurseries whose products they do not control, and rural-urban differentials in labor time requirements for energy provisioning.

Opportunities for income generation in the natural resources management sector are limited by a number of factors: declining resources, inaccessible resources, degraded infrastructure, government controls, and poor purchasing power. Many organizations are now experimenting with community-based natural resource management approaches to give the local community an economic stake in the implementation of strategies geared towards the sustainability of the natural resource base. Care, however, must be taken to ensure the equitable participation of women and men in these activities and their benefits. To date, the ecotourism-related activities implemented in Kenya have continued to deliver most of the direct proceeds to men.

## 5.0 MICROENTERPRISES AND ASSOCIATIONS

### 5.1 Participation and Constraints

Whatever it is called--informal sector, microenterprise sector, MSEs, "second economy"--this part of the Kenyan economy is growing. At a time when opportunities in the public sector are shrinking and the formal sector is growing at more modest rates, the 1.1 million MSEs employ over two million people and account for over 58 percent of total employment outside of agriculture (GOK 1996). MSE employment continues to grow at over ten percent per year. This compares with an overall growth rate for the manufacturing sector of 3.9 percent during 1995. The contribution of MSEs to the national economy is estimated to be on the order of 13 percent, which is equivalent to the share held by the entire manufacturing sector. The picture is not unblemished--many MSEs fail and, although 250,000 jobs were created in the sector in 1994, 150,000 were lost through business closure. Still, prospects for microenterprises continue to be very encouraging, and considerable effort is being devoted to assisting the sector.

Two surveys conducted under the GEMINI Project (Parker and Torres 1994; Daniels et al. 1995) have provided excellent data about the number, size, composition, ownership and management, employment generation, and profitability of MSEs. The 1995 study (Daniels et al.) categorize MSEs into four groupings: manufacturing, trade, restaurants/hotels/bars, and other. For both MSE share of GDP and the number of jobs generated, the category of trade is the most important. This study also revealed that women comprise 43 percent of microenterprise owners and 45 percent of the total workforce. There are significant differences between enterprises owned by men and those owned by women. Women's enterprises are smaller, many of them employing only the proprietor and being managed from the home. Women owners are more likely to rely on unpaid family labor to assist them with the enterprise; only six percent of the total workforce of women's SMEs in the 1993 study were paid workers, while 24 percent were unpaid family members (Daniels et al. 1995).

Data on the number of enterprises and employment by subsector from the 1993 survey show a strong concentration of women-owned enterprises in particular activities. Retail sales of agricultural produce and food and drink, and preparation of ready to eat foods, are dominated by women. A detailed breakdown is available in the USAID-funded GEMINI studies of Kenyan microenterprise. The 1995 study notes that there is negligible female ownership in the kinds of enterprises (such as vehicle and bicycle repair, wholesaling, bar/hotel business) that generate the highest returns. In both surveys, women's enterprises generated net returns per worker only one-fourth those of men's. Daniels et al. are actually very pessimistic: "The overall picture of enterprises owned and operated by women is not one that can generate much pride and enthusiasm" (1995:51).

Very few MSE owners have ever received any type of credit: for men the figure is 5.2 percent, while for women it is 15.4 percent, almost three times higher. Such credit is, however, not

obtained through formal sources: only three to four percent of all operators have ever received formal credit. Rotating savings and credit associations, family, and friends are the principal sources. The greater access of microentrepreneur women to credit is a function of their membership in women's groups, which are often initiated for the purpose of raising funds for individual members through a rotating credit strategy. Several NGOs, including K-REP, have successfully built on this model to establish individual loan/group guarantee microenterprise loan programs. Since one-third of all the MSE owners sampled in the survey identified access to capital (working, fixed, or other) as their biggest constraint, the issue of credit is an important one for men and women alike.

Apart from capital, the principal constraints faced by microentrepreneurs include inadequate markets or customers for their products or services, shortages of inputs and raw materials, lack of reliable transport, and interference from government officials. The market issue is particularly important because it suggests that for some types or categories of enterprises there is too much supply and not enough demand. Shortage of capital and too few customers (or too much competition) are also the principal reasons for business failure. In the later survey, child care and household responsibilities were cited as the reason for business closure by 12 percent of the respondents, almost all women.

Education and training are also important considerations in microenterprise development. Close to one-third of female owners have had no formal education and only 17 percent have received any technical education. The lack of technical education for women is not as serious an issue as it may sound at first, given that the types of enterprises in which they tend to concentrate; but on the other hand, more opportunities for technical education might enable women to participate in those types of enterprises that generate higher returns.

Only a very few entrepreneurs, whether men or women, have had any business education or management training. There is considerable evidence that getting training in basic business skills makes a real difference to the successful management of an enterprise. Findings from a 1988 study of the Kenya Women's Finance Trust show that after receiving the business training prerequisite to loan disbursement, many applicants no longer needed to receive credit because the training enabled them to manage their resources more efficiently. Lack of skills or training, however, was not mentioned by entrepreneurs in either of the surveys as a constraint to the operation of their business. Regardless, there is a real need for greater access to business skills training for microentrepreneurs, as well as basic numeracy and literacy for the large proportion of women owners who have not received any formal education.

For three-quarters of entrepreneurs, the enterprise is not the sole source of income: it is, rather, one part of an overall strategy that combines multiple income sources and streams. The majority of enterprises, particularly those in the rural areas, generate net per worker incomes that are below the minimum wage for the locality, and the household could not survive economically if it had no other income-producing activities. Those that generate relatively high incomes, apart from

being concentrated in the areas described earlier, are predominantly owned by men, the better educated, and those employing paid workers rather than uncompensated family members. Women's enterprises stand out as being comparatively disadvantaged.

## **5.2 Forward and Backward Linkages of Enterprises and Smallholder Agribusiness**

Most smallholders earn half of their income from non-agricultural sources, usually off-farm wage employment or by operating a micro-enterprise. Some of the smallholders use part of the off-farm income to finance farming activities.

Agroprocessing consists of both industrial and artisanal (informal) processing. In both cases, agroprocessing provides vital linkages with farm households in terms of employment and market outlets for farm produce. Important industrial agroprocessing in Kenya includes fish, fruit, and vegetable canning; beer brewing; milk pasteurization; and sugar and tea processing. Informal processing enterprises include fish processing, small-scale milk cooling, cheese making, fermented milk (mala), and backyard making of fruit juices and jams. In many areas where these enterprises are found, they tend to be mainly female activities. These activities have gained importance because they serve the needs of the women and those of society at large by preserving and providing low cost high value food. Often the women operate individually, or in groups with the support of a NGO. For example, Heifer Project International (HPI), provides milk coolers to the women's groups involved in their dairy project to cool and process their milk.

Micro-enterprises engaged in the retailing of agricultural produce and inputs provide crucial linkages downstream and upstream from smallholder agriculture. The retailing of agricultural produce is by far the most widespread activity group (37 percent of all MSEs) for women in Kenya and earns about average returns (Ksh.19,410) per person per year (Daniels et al. 1995). Women dominate the dry bean trade and have a significant share in sales of many other types of produce. The provisioning of Nairobi's two million residents with produce and grain is mainly in the hands of small scale traders, with men traders having more resources and generating higher profits than women (Robertson n.d.). There are also many stockists who retail in agricultural inputs. They are the main point of contact with the smallholders in the input distribution chain. Both men and women (jointly or separately) are involved in the retailing of agricultural inputs either as owners or employees.

The informal food processing sector is one of the vital linkages between smallholder commercial agriculture and the off-farm economic activities. Beside providing income to those engaged in the food preparation and sale, these activities offer market outlets for smallholder farm products that are used as raw materials. It has been shown that informal urban food systems in many parts of Africa, mostly owned and operated by women, have a huge market potential (Jaffee 1994). In Kenya, there are many urban, as well as rurally oriented micro-enterprises that specialize in the preparation and supply of processed and ready-to-eat foods to consumers particularly in towns. Two-thirds of the food processing and streetside restaurant micro-enterprises in Kenya in 1995

were owned by women and on average earned incomes equal to or somewhat above minimum wage (about Ksh. 20,000 per person per year). Also, the income earned per person was higher for women than for men (Daniels et al. 1995).

Women's activities in food processing/preparation vary according to the commodities available and cultural patterns, but several types of processed food stand up. For example, salting, sun-drying, smoking, and frying fish, is common around Lake Victoria. The fish may have been caught by family members or the women may have bought the fish from fishermen. In most trading centers and especially on market days, women sell various kinds of snack foods prepared in their homes.

### **5.3 Women's Associations and Groups**

The most important and numerous kind of women's association in Kenya is the women's group, also known under a number of traditional names such as mweithya or kikundi. Such groups were originally impermanent, situational, and created primarily as a mechanism for the recruitment of cooperative labor. In recent times, they have become transformed into more permanent associations, formally registered with the Ministry of Culture and Social Services and often with income-generating or fund-raising objectives. Close to 24,000 such groups are now registered, although it is not known how many of them are still active.

As development vehicles, the groups offer both advantages and disadvantages. Strictly speaking they are not legal entities and are ineligible for some forms of credit, although many do operate bank accounts and receive grants and loans. Committed leadership and self-formation and definition of goals are important to group cohesion and continuity. If these conditions are met, groups can be very successful. The call for extension or other government workers to go out and organize groups for credit or input supply should be viewed with caution: if the group is not self-interested and has its *raison d'etre* imposed upon it by outside forces, it is likely to collapse. Groups that receive assistance may be infiltrated by men, who divert the resources to their own ends. And generally speaking, those who would benefit most from group participation--younger and poorer women--are least likely to join because they have too many other responsibilities.

The advantages of these groups are that they already exist and have defined themselves and their goals. They understand their members' needs at the grassroots level and have greater potential than any other kind of organization to reach the very poorest and most disadvantaged. Thus these organizations, at village level, offer an opportunity to reach and involve women in agricultural commercialization and enterprise development which have not been adequately explored. Such groups are potential targets--and outlets--for training, credit, and input supply.

More formal organizations and associations represent the interests of urban and elite women, and women professionals. Examples of such organizations include the National Council of Women of Kenya, the League of Kenya Women Voters, and the Maendeleo ya Wanawake Organization. All

of these groups are making efforts to reach out to rural women, mainly as sources of information on legal rights and civic participation, although Maendeleo has a long-standing interest in the promotion of income-generating opportunities. More specialized still are groups such as Kenya Professional Women in Agriculture and Environment (KEPAWAE), whose membership is open to Kenyan women trained in agriculture and environment from certificate to Ph.D. level. Special categories of membership also exists for students, women's groups, and other related institutions. As part of its efforts to impart more professional and leadership skills to its members, KEPAWAE aims to establish linkages with national and international institutions, as well as to start a fellowship program for training that includes a trust fund to pay school fees for promising girls from poor households. Owing to the fact that the organization is newly-established, none of these activities has as yet made much progress.

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**Annex B: Persons and Organizations Contacted**

<u>Name</u>	<u>Organization</u>
<b>MOALDM</b>	
Mr. S. Karuga	Planning Division, Nairobi
Mrs. T. Muthui, Head, Home Economics Divisional Extension Officers	Nairobi Kericho, Keringet
<b>Kenya Agricultural Research Institute</b>	
Dr. C. G. Ndiritu, Director	Nairobi
Mr. F. Kiliswa	Njoro Plant Breeding Station, Njoro
Mr. Dixon	National Research Centre, Kitale
Dr. A.N. Mbabu, Head, Socioeconomics	Nairobi
Dr. John Curry, ODA Technical Advisor	Nairobi
Dr. Anni Mcleod, ODA Technical Advisor	Nairobi
Ms. M. Kooijman, Netherlands Liaison	Machakos
Dr. David Rees, ODA Advisor, Adaptive Research Support Project	Kitale
<b>USAID</b>	
Mr. George Mugo	Agriculture Business & Environment Office
Mr. Zack Ratemo	ABEO
Dr. Dennis Weller	ABEO
Dr. Maria Mulei	ABEO
Dr. Tom Hobgood	ABEO
Mr. Migwe Kimemia	ABEO
Mr. James Ndirangu	ABEO
Ms. Nancy Mutunga	Famine Early Warning System (FEWS)
Mr. Nick Maunder	FEWS
Ms. Teresa Muraya	WID co-ordinator, OSPP
Ms. Wanjiku Muhato	Regional WID Advisor, REDSO
Mr. Sam Mwale	Agribusiness Team
Mr. Julius Kilungu	Agribusiness Team
Dr. Adriel Garay	Agribusiness Team
Dr. John Allgood	Agribusiness Team
Mr. Bernard Kagira, Consultant	Monitoring, Evaluation and Impact Indicators

### **Other Donors and Agencies**

Ms. Charity Kabutha	Winrock International (AWLAE Program)
Ms. Akinyi Nzioki	Royal Netherlands Embassy
Mr. Christopher Aleke-Dondo	KREP
Dr. Steven Franzel, Senior Scientist	ICRAF, Nairobi
Dr. Ester Zulberti, Director, Training and Information	ICRAF, Nairobi
Mr. Alex Kirui	Heifer International Project/Technoserve, Nairobi
Dr. Nathaniel Makori	American Breeders' Service. c/o Technoserve, Nairobi.
Mr. Gerald Wagana	World Vision, Nairobi
Mr. Cris Munya	World Vision, Nairobi
Ms. Evelyn Njoroge	World Vision, Nairobi

### **Associations and Firms**

Mr. W.N. Kundu, Head, Marketing Division	Kenya Seed Company Ltd, Kitale
Mr. Alfred N. Karanja, Marketing officer	Kenya Farmers Association (KFA), Nakuru
Mr. J.K. Kimutei, Agricultural Services Manager	Kenya Farmers Association (KFA), Nakuru
Mr. P. M. Kimunya, Marketing Manager	Kenya Small Scale Farmers Association, (KESSFA), Nairobi
KFA Branches	Kisumu, Kabarnet and Molo
Mr. C. Mburu	Fresh Produce Exporters Association of Kenya (FPEAK), Nairobi
Mr. B. H. Nathan, Managing Director	Agri. Centre Ltd., Nakuru
Mr. Patrick Irungu	Frigoken Company, Murang'a
Mr. Peter K. Kosgei, Marketing Officer	KFA, Nakuru
Mr. J.K. Rono	Brooke Bond, Kericho
Mr. Saleem Esmail, Managing Director	Western Seed & Grain Co.Ltd, Kitale.
Mr. Samuel N. Gitonga, Agricultural Manager	Kenya Breweries Ltd, Nakuru

### **Educational Institutions**

Dr. Agnes Mwang'ombe, KEPAWAE Interim Chair	Faculty of Agriculture, University of Nairobi
Dr. Rose Mwonya, Director	Centre for Women Studies and Gender Analysis, Egerton University
Mrs. Grace Magu, Librarian	Centre for Women Studies and Gender Analysis, Egerton University

### **Distributors and Stockists**

Mr. Charles Mwaura	Mwaka Farm Inputs & General Ltd., Nakuru
Mr. James J. Kariuki	Mwaka Farm Inputs & General Ltd, Nakuru
Mr. Bernard Maingi, Branch Manager	Farmers' Partners Ltd., Nakuru
Mr. Daniel M. Ngunia	Mea Ltd., Nakuru
Mr. Dick Kamau	Farming Agricultural & General Sales (FAGS), Nakuru
Mr. Eric Ouma	Kenya Nut Company, Thika
Mr. Francis Kaptich	Brooke Bond, Kericho
Mr. Humphrey W'opindi	Mea Ltd., Nakuru
Mr. Joshua Rotich	K.K. Farmers, Kabarnet, Baringo
K.K. Farmers, Nakuru	Kapkonga stores, Baringo
Other stockists Nakuru	Mukira-Bristol; Agro-Vet Ltd. Molo; Farmers' World

### **Farmers**

Men and women large and smallholder farmers	on their farms Murang'a, Matuu; buying inputs from various stockists selling produce on the roadside near Timboroa
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**Annex C: Revised Performance Monitoring Indicators, SO 2.0 Results Framework**

**SO 2.0, Increased commercialization of smallholder agriculture and natural resource management**

Indicator	Definition
1. Percentage of smallholder production marketed, non-industrial crops	Includes all crops with the exception of coffee, tea, sugar and pyrethrum.
2. Growth in selected NRM-related investments in COBRA project areas	Dollar equivalent amounts invested in "ecotourism" and other NRM-related activities such as silkworm farming and others to be identified by COBRA.

**IR 1.0, Agricultural markets strengthened and more competitive**

Indicator	Definition
1. Ratio of farmgate price to wholesale price, selected commodities	The selected commodities will be maize, and dairy products (fresh milk).
2. Policies facilitating development of a competitive seeds market developed	These may include: multiplication and marketing of seed liberalized, foundation seed provided by Kenya Agricultural Research Institute to NGOs for multiplication, more efficient seed certification services.

**IR 1.1, Increased private sector participation in agricultural markets**

Indicator	Definition
1. Sales of selected agricultural commodities to state corporations as a percent of total production	The selected agricultural commodities will be maize and dairy products.
2. Annual percentage change in the quantity of commercial seed produced by the private sector, selected commodities	The selected commodities are maize, beans, and potatoes.

**IR 1.2, Yield-enhancing technology developed and transferred**

Indicator	Definition
1. Smallholder area planted in improved varieties, as a percent of total smallholder areas, disaggregated by gender of farmer	This is to include all improved varieties: Maize, other cereals and legumes, horticultural crops.
2. Ratio of fertilizer applied by smallholders per hectare to recommended levels, disaggregated by gender of farmer	Measurement of the actual amounts of fertilizers applied, compared to the amount that should be applied according to extension recommendations.
3. Growth in the number of horticultural varieties released and adopted through USAID support	New varieties developed and disseminated through Kenya Agricultural Research Institute.

**IR 1.3, Increased potential of selected marginal communities to make the transition from relief to development**

Indicator	Definition
1. Proportion of household income provided from humanitarian relief in assisted communities	Total amount of household resources derived from food aid and other relief, which is expected to decline on a yearly basis.
2. Increased diversification in household income-generating activities in selected areas	New and more varied income-generating strategies including agriculture (for food and sale), animal husbandry, microenterprise, and NRM activities.

**IR 2.0, Increased services and labor opportunities for smallholders and communities adjacent to parks and reserves**

Indicator	Definition
1. Growth in total MSE employment, disaggregated by gender	Simply the numbers of people employed in MSEs.
2. Employment growth in selected NRM-related MSEs in COBRA project areas, disaggregated by gender	Ecotourism and selected other enterprises identified by COBRA.
3. MSEs receiving credit, all sources, disaggregated by gender of enterprise owner	Source of credit not limited to USAID partners, but all programs modeled after KREP.

IR 2.1, Increased growth of MSEs

Indicator	Definition
1. Growth in number of MSEs, disaggregated by gender of enterprise owner --all MSEs --selected NRM-related MSEs in COBRA project areas	Increase in the absolute number of enterprises on an annual basis.
2. Increase in mean number of workers in assisted MSEs, disaggregated by gender of employee and gender of enterprise owner --all MSEs --selected NRM-related MSEs in COBRA project areas	

IR 2.1.1, Increased cost-effective delivery of services to MSEs

Indicator	Definition
1. Percent of cost recovery of non-financial services provided to MSEs by selected institutions	The proportion of actual costs that are recovered from clients (individuals or firms) receiving non-financial business-related services such as training, market research, or management services.
2. Cost per shilling lent, lending NGOs	Actual mean overhead costs incurred by lenders.

IR 2.1.2 Policy and regulatory constraints to MSEs reduced

Indicator	Definition
1. Legal and regulatory policies constraining development of MSEs changed	Explicit policies have been identified and assigned a point value; when fully achieved the index will be reduced to zero.
2. Annual increase in the proportion of MSEs that are legally registered with the pertinent authorities, selected localities, disaggregated by gender of owner	In areas which will be identified later, those MSEs which have succeeded in meeting all of the simplified requirements for registration and licensing.

### IR 3.0 Increased growth of NTAEs

Indicator	Definition
1. Annual increase in real export earnings from NTAEs	Dollar amount in constant 1995 dollars.
2. Increase in real forex export earnings from EDF assisted firms	Total export revenues of firms assisted through the Export Development Facility, in constant 1995 dollars.

### IR 3.1 Improved policy and regulatory environment

Indicator	Definition
1. Policies facilitating export development implemented	The policies include a reduction in the fuel tax, reduced aircraft freight charges, and removal of VAT remission procedural delays.
2. Growth in the number of active, licensed agricultural export firms	Increased number of firms legally engaged in the export of NTAEs.

### IR 3.2 Increased capacity of selected associations to provide export services

Indicator	Definition
1. Proportion KAM and FPEAK revenues generated from fees for services	The share of these associations' budgets that are derived from earned revenues rather than donor support.
2. Growth in number of fully-paid up agribusiness members of FPEAK and KAM	Full dues-paying members of these organizations that have direct linkages with agriculture.

Table 1. Percentage share of smallholder output in total sales to marketing boards, 1990-1994

Year	Smallholder share, %	Large scale share, %
1990	56.17	43.83
1991	59.88	40.12
1992	62.34	37.66
1993	64.16	35.84
1994*	66.15	33.85

\*Provisional

Source: GOK Economic Survey, 1995

Table 2. Horticultural Exports, 1994 and 1995

Category	Kg, 1994	Kg, 1995	% change
Cut flowers	25,121,131	29,373,539	17
French beans	13,678,100	12,605,175	(8)
E/beans	1,066,010	686,314	(36)
R/beans	429,175	1,818,613	924
Prepack	*	886,033	-
Snow peas	1,722,938	2,074,317	20
Snap peas	**	555,567	
Frozen top tail beans	*	535,299	
Okra	2,296,848	1,898,055	(17)
Asian vegetables	5,567,218	5,516,799	(1)
Avocadoes	7,323,099	9,859,430	24
Mangoes	2,903,122	2,277,174	(22)
Passionfruit	947,679	901,011	(5)
Pineapples	595,588	510,666	(14)
Others	2,915,663	1,592,741	(45)
Subtotal	65,177,883	71,090,937	9
Canned beans	*	3,607,731	
Grand total	65,177,883	74,698,668	15

\* not recorded separately in 1994

\*\* new product

Source: Fresh Produce Exporter, FPEAK, April/May 1996

Table 3. Classification of Agricultural Land in Kenya

Agroecological Zone	Land Use	Area sq km	% of land area
I. Afro-Alpine	Water catchment and tourism	800	0.1
II. High Potential	Coffee, tea, pyrethrum, cotton, livestock	53,000	9.3
III. Medium Potential	Maize, wheat, barley, cotton, groundnuts, pulses, oilseeds, and livestock	53,000	9.3
IV. Semi-Arid	Subsistence crop farming, livestock, sisal, wildlife	48,200	8.5
V. Arid	Wildlife and livestock	300,000	52.9
VI. Very Arid	Livestock	112,000	19.8

(cited in Gilbert et al. 1995; also in McCarthy and Mwangi 1982).

Table 4. Farm size typology

Category	Fleuret and Greeley		McCarthy and Mwangi	
	Farm size (ha)	% of pop.	Farm size (ha)	% of emp.
Smallholder	0.1-8.0	72.3	0.1-20	74.6
Gap farm	8.1-20.0	1.9	20.1-50.0	2.5
Large farm	over 20.0	0.1	over 50.0	7.0
Landless		4.6	n/a	n/a
Squatters		4.2	n/a	3.7
Pastoralists		5.1	n/a	12.0*
Irrigation schemes	n/a	n/a	n/a	0.1

\*includes landless

Table 5. Smallholder Population and Mean Value of Household Consumption by Agro-ecological Zone

Ecological Zone	Percent of population.	Consumption index*
Coffee east of Rift Valley	22	117
Coffee west of Rift Valley	20	100
Tea east of Rift Valley	12	172
Tea west of Rift Valley	10	79
Upper cotton east of Rift Valley	8	81
Lower cotton west of Rift Valley	20	64
Coast composite	6	98
High altitude grass	2	n/a

\* Kenya= 100

Source: Fleuret and Greeley, 1982

Table 6. Percentage composition of household income by income group and agro-ecological zone

Zone	Income Group		
	Lower	Middle	Upper
Coffee East of Rift			
Farm	40	55	55
Wage	19	19	22
Other	42	26	23
Coffee West of Rift			
Farm	46	74	87
Wage	8	11	6
Other	45	14	8
Tea East of Rift			
Farm	29	85	46
Wage	8	4	10
Other	62	11	45
Tea West of Rift			
Farm	76	68	50
Wage	7	14	35
Other	17	18	16
Lower Cotton East of Rift			
Farm	9	39	15
Wage	23	9	21
Other	68	53	63
Upper Cotton West of Rift			
Farm	48	62	39
Wage	4	11	38
Other	49	28	23
Coast Composite			
Farm	16	31	49
Wage	7	12	26
Other	78	57	24

Farm means farming income; wage means regular wage employment; other is all other off-farm income, including remittances.

Table 7. Poverty classification of Kenyan Households

Household Category	Male head		Female head		Total	
	N	%	N	%	N	%
Very poor	594	20.8	293	44.1	887	25.2
Poor	1083	37.9	235	35.4	1318	37.4
Medium	899	31.4	118	17.8	1017	28.9
Rich	283	9.9	18	2.7	301	8.5
Total	2859		663		3523	

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