

**Malawi Rural
Sector
Assessment**



Malawi Rural Sector Assessment

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Rural and Agricultural Incomes with a Sustainable Environment (RAISE)

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PREFACE

This rural sector assessment is to be utilized by USAID in preparing its rural sector development strategy for the five-year period beginning in 2001. The report was prepared by a seven person team over a six week period in April and May 1999 under the Rural and Agricultural Incomes with a Sustainable Environment (RAISE) IQC. The content and analysis are based primarily on existing data, surveys and studies of the rural sector in Malawi, supplemented by information gathered by the team on field trips and in interviews with individuals in government, the private sector, NGOs, the USAID Mission, USAID contractors, and other donors. At the end of the fourth week the team conducted a workshop of stakeholders from government, the private sector, NGOs and the donor community for the purpose of presenting our preliminary findings and identifying areas requiring further study before finalizing the report.

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The team wishes to express its sincere appreciation to all those who shared their time and knowledge during the course of this consultancy. Their information and insights were invaluable in the preparation of the report.

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EXECUTIVE SUMMARY

BACKGROUND

USAID is approaching the final year of its current five-year strategy and is now beginning the planning process for the 2001-2005 period. The main feature of the current five-year period has been the liberalization of the Malawian economy, in particular agriculture. The private sector response to liberalization has highlighted its inexperience with competitive markets, but the important first steps have been taken. The transition to a market based economy is well underway. Liberalization has also highlighted the many distortions in the Malawian economy. With the removal of subsidies, price controls, and government-created monopolies, much of the agribusiness sector, from estates, to agro-processors, to exporters, are proving to be non-competitive on world markets. Finally, liberalization has highlighted the Government's inexperience in managing a market-led economy. During this transition period, rural sector growth has been relatively slow. What is needed now is to continue the market-based restructuring of the Malawian economy that is now underway. This will lead to sustainable economic growth based on the country's international comparative advantages. It is in this context that USAID is preparing its next five-year rural development strategy.

Rural Sector Assessment

Agriculture in Malawi is divided into two production systems: a relatively small modern estate sector, and the smallholder sector which accounts for most of the agricultural production. The estates, which accounted for most of the agricultural growth in the 1970s and 1980s, are now experiencing declining production and profits as a result of their inability to compete in international markets. The smallholder sector produces two major cash crops, hybrid maize and burley tobacco. Burley tobacco, which is produced by about 20 percent of households, is highly profitable for the time being. However, now that input subsidies have been removed, hybrid maize has become unprofitable for most smallholders. Smallholders produce small quantities of other cash crops, including cotton, pulses, oilseeds, spices and coffee, but incomes are very low because, in general, the use of modern inputs on these crops is not profitable.

Productivity in the smallholder sector is extremely low. The larger smallholders, the 10 to 15 percent who have holdings of over one hectare, are able to use modern inputs profitably and are relatively well off. These are the farmers who are growing hybrid maize and burley tobacco. At the other extreme are the 20 percent or more of rural households who have little or no access to land and who earn most of their incomes off-farm. In the middle are the large majority of households who cultivate between .2 and one hectare using hand and hoe and no modern inputs. These households are living at the margin of subsistence. They are caught in a vicious circle that will be very difficult to break. With population growth, their land holdings are getting smaller and fallow periods are getting shorter. Because most smallholder households cannot meet their basic needs from their on-farm incomes they must find off-

farm employment, often just at the times of peak labor requirements on their own lands. As holdings get smaller and yields continue to decline, the demand for off-farm employment will grow faster than the supply of jobs. Unless something is done to change the situation, these households can expect to experience steady declines in both on-farm and off-farm incomes.

To reverse this downward spiral smallholders must use productivity-increasing modern inputs, but unless they grow cash crops they will not have the means to purchase the inputs. At present there are very few cash crops where the use of modern inputs is profitable. This is due to another vicious circle. Because smallholder capacity to produce marketable surpluses is so low, the agribusiness sector is small and markets are undeveloped. And, in the absence of reliable markets, smallholders do not find it profitable to produce cash crops using modern inputs. The first step in breaking this vicious circle is to increase the international competitiveness of Malawi's agribusiness sector. At the present time, the agribusiness sector is negatively affected by unstable macro-economic policies, inadequate physical infrastructure, excessive and inappropriate government involvement in agricultural marketing, and the lack of key supporting services, especially financial services. Even with these improvements, agribusiness growth will be slow and difficult. World markets for agricultural products are extremely competitive and the agribusiness sector, which has been moribund for so long, would take some time to respond to an improved environment.

At best, by the end of the period covered by the USAID strategy, some of the larger smallholders will be producing cash crops in response to new markets developed by the agribusiness sector. Most smallholders will still be living at the margin of subsistence. These farmers will not have access to lucrative markets for cash crops and therefore will not be able to adopt productivity increasing new technologies. However, there is a significant untapped potential for increasing productivity using improved land management practices. At present, traditional farming systems are based almost exclusively on crop production during the rainy season, with maize being the main crop. A combination of improved land management practices would halt the decline in soil fertility, increase on-farm incomes throughout the year, reduce the need to work off-farm at critical periods in the growing season, and help smallholders living at the margin of subsistence to accumulate assets.

Off-farm employment is a very important source of income for rural households, accounting for 26 percent of rural incomes, nationwide, and reaching 60 percent of rural incomes in the Southern region. Furthermore, as household incomes decline, their dependence on off-farm income increases. The poorest 20 percent of rural households obtain virtually all of their income off-farm, while the wealthiest 20 percent earn only 18 percent. Most of this is distress labor. Rural households are working for whatever they can earn, no matter how little, just to help meet their basic needs. For this to change the off-farm sector must become a growth pole instead of an absorber of surplus labor. This will not be an easy task. First, there are no obvious large markets for goods and services that can be produced in rural areas. Second, the rural areas have almost no business capacity. Third, the undeveloped physical infrastructure and lack of supporting services greatly increase the cost of doing business.

For most rural households, the likelihood of significant increases in income over the period covered by the USAID strategy is not great. As the agribusiness sector becomes stronger and begins to identify new markets for Malawian products, some of the larger smallholders will benefit. Beyond that, most households will remain at or below subsistence. For these households it will be necessary to increase on-farm productivity in ways that don't require cash outlays for modern inputs and create new opportunities for off-farm employment so that the supply of jobs grows in line with demand.

Rural Development Strategy

The need is for a two-pronged strategy: create the base for market-led increases in agricultural production in the long-term and alleviate the widespread poverty in rural areas in the short and medium term. It is important that the next five years be seen as one phase in a transition to a long-term sustained growth path. The goal over the next five years should be to complete the transition to a market-based economy and put the rural sector on a sustainable growth path.

Market-led Growth

The major requirement for market-led growth is international competitiveness. The actions necessary for Malawi to become more internationally competitive are well known: macro-economic stability, a well-developed physical infrastructure, a policy environment that supports private sector-led growth, and a full range of public and private sector supporting services. For the private sector to have confidence that these conditions will not only be created but also maintained over time, the Government must take the lead. The creation of an enabling environment will sometimes involve making choices in the context of competing social needs and political considerations. These are choices that must be made by Government, not donors. Therefore, over the next five years, the Government's goal should be to increase its capacity to analyze market forces and manage a market-based economy. The donors can help by providing technical assistance and also by providing non-project assistance when the necessary policy reforms have short- and medium-term budgetary or balance of payments implications.

The improved environment needs to be accompanied by agribusiness development across the entire sector, including estates, agro-processors, traders, exporters, and smallholder associations. It is important that assistance to agribusinesses be carefully targeted on specific markets, crops, and locations that show the most potential and face the fewest constraints. The private sector should take the lead and the Government and donors should be poised to help break constraints as needed.

Smallholder Productivity

While markets for increased agricultural production are being created through agribusiness development, supply side constraints will have to be addressed at the farm level. There needs to be a market-based shift in production out of tobacco and maize into other agricultural products, including field crops, horticulture, agro-forestry and livestock. Here, there is a large base of knowledge and experience to build on. Government research and extension programs have identified many promising new technologies that are appropriate for Malawian growing conditions. Some of these require modern inputs and others require only improved resource management practices. The focus must now shift from technology generation to dissemination. A strong emphasis is needed on increasing the capabilities of field extension agents as both technical and business consultants to smallholders. They will have to develop more of a marketing orientation, since most of the constraints to the adoption of modern technologies are market-related. As a whole, the extension service must become smaller and better trained, not only working directly with smallholders but also working through NGOs and private businesses. This institution building objective should receive top priority in the next plan period.

Off-Farm Employment

There is an urgent need to develop the off-farm sector in rural areas, especially in the Southern Region where both the needs and the chances of success are greatest. Efforts in this sector are starting at almost ground zero. The strategy, therefore, will have to consist of identifying promising markets, identifying promising production areas, and systematically addressing the constraints to supplying those markets. These constraints will include high transport costs, lack of public sector institutions and private sector supporting services, lack of capital, lack of business expertise, and lack of skilled labor. Addressing these constraints will require a combination of public sector investments, policy reforms, and institution building, as well as direct technical and financial assistance to small and micro businesses. Progress is certain to be slow. There is considerable donor interest but what is lacking is an overall market driven strategy for achieving significant results over the next five years.

Safety Nets for Resource-Poor Households

A significant percentage of rural households, perhaps as high as 20 percent, are unable to meet their basic needs and will not benefit from a private-sector led development strategy over the next five-year period. These households are chronically food insecure and survive primarily through traditional safety net mechanisms and secondarily through government and donor safety net programs. Existing safety net programs should be continued but should be better targeted to assure that they do not disrupt the all-important traditional safety nets. They should also be accompanied by livelihood improvement programs that will enable the targeted households to transition out of the need for these programs.

End-of-Period Impact

The strategy should have the following end-of-period national-level impact targets:

- The Government will have a better understanding of and be better able to manage a market-based economy.
- The agribusiness sector, including smallholder production systems, will be more internationally competitive.
- A significant number of larger smallholders will be earning increased incomes by using modern inputs on crops other than burley tobacco and hybrid maize.
- A substantial number of smallholders will be meeting more of their basic needs and accumulating assets from having adopted improved resource management practices.
- A small number of new rural businesses will be supplying new markets thereby providing gainful employment for rural households.
- Resource poor households will have increased food security as a result of better designed safety net programs and increased income earning opportunities.

USAID Strategy

USAID's existing strategic objective for rural sector development in Malawi is *to raise incomes and enhance the food security of rural households*. As a relatively small donor in Malawi, USAID should maintain its focus at the household level rather than try to have a measurable impact at the national level. For this reason, its strategic objective for the next five years should remain essentially unchanged. USAID's strategy should be to design and implement activities that have measurable people-level impact. The end-of-period targets should be measurable, should result directly from USAID-funded activities, and should be commensurate with the resources likely to be available over the five-year period of the strategy. The program should reflect USAID's comparative advantages, while supporting the Government program and complementing the programs of other donors.

The strategic objective "raise incomes and enhance food security" implies a focus on those households that are poor enough to be food insecure. Applying the criteria listed above, the USAID strategy should have three elements (intermediate results):

- Agribusiness development. The IMF, World Bank and other large donors will take the lead on helping the Government create the enabling environment. USAID would concentrate on providing direct assistance to agribusinesses in market development, financial management, technology development, developing strategic alliances with foreign businesses, and establishing production and marketing linkages with smallholder associations. The strategy will be to work with specific agribusinesses to address all constraints from market identification to the supplying of those markets. At times, agro-processors or exporters will link with smallholder associations who will produce the agricultural products. At other times, the smallholder associations could be responsible for the entire marketing chain from crop production to agro-processing to delivery to the final market. The objective will be to increase smallholder incomes through the increased

production of non-traditional cash crops. It will not be possible to predict where the successes will be. The markets for Malawi's agricultural products are extremely competitive, but *a priori* there is nothing that would prevent individual agribusinesses from successfully tapping new markets. It is at this level that USAID activities will have their impact.

- Improved resource management by smallholders. The objective would be to increase smallholder incomes and asset accumulation by introducing resource management practices that will reverse the decline in soil fertility and increase year round agricultural production. This element of the strategy is aimed at the large majority of smallholder households who will not benefit directly from programs to increase the use of modern inputs. Most of these households are experiencing declining yields because of continuous cultivation. Furthermore, they are not able to meet their basic needs from their on-farm activities and are forced to work off-farm often during times of peak labor requirements on their own fields. USAID will introduce improved resource management practices that will conserve their resources and provide them with year round income. These practices include crop diversification, agro-forestry, livestock production, and small-scale irrigation. Other donors are funding interventions in each of these areas. USAID's approach would be to organize individual communities for the purpose of adopting those elements of the package that are appropriate for that community. This would create a measurable impact in terms of resource conservation, increased year round incomes for smallholders and increased asset accumulation.
- Improved livelihoods for food insecure households. This element would concentrate on the needs of the poorest households who have little or no access to agricultural land. These households would not be helped by programs to increase smallholder productivity. They depend almost entirely on off-farm employment, traditional safety nets and government programs to meet their minimum needs. Most suffer some degree of malnutrition and many of their other basic needs are chronically unmet. Government and other donors provide direct feeding and other assistance to these households. USAID would fund livelihood-enhancing programs, implemented mostly through NGOs, in close coordination with the direct assistance activities of other donors. The objective would be to develop income-generating activities, mostly in the off-farm sector, that would increase the ability of these households to meet their own needs. USAID interventions would consist of market identification, skills training, business training, and micro financing. USAID is currently funding a pilot activity in the Central Region. This would be expanded into the Southern Region where the needs are greatest.

In addition to these three areas of intervention, USAID would have two cross cutting activities. The first would be a policy analysis and advocacy activity focusing on policy issues directly affecting one or more of USAID's areas of intervention. The second would be a project to multiply and distribute improved plant materials needed for the agribusiness development and improved resource management interventions.

The key end-of-period impact targets would be:

- At the strategic objective level, the key indicator of success would be increased household income and increased food security in those areas where USAID-funded activities will be implemented. To the extent that USAID successes are replicated in other areas, there will be an indirect impact as well.
- Individual agribusinesses will have identified new markets for specific agricultural products grown by smallholders, and will be successfully supplying those markets.
- Specific communities will have organized a critical mass of smallholders for the purpose of improved resource management. As a result the depletion of resources in those localities will have been halted and year round on-farm incomes of subsistence smallholders will have increased.
- In specific communities, safety net programs to improve food security will have become better targeted, and livelihood enhancement programs will have helped increase the incomes of resource poor households thereby enabling them to better meet their basic needs.

With this strategy, the development impact of USAID activities would be at the community and household levels. This is commensurate with the resources that are likely to be available over the next five years. In addition, and potentially more important at the national level, USAID would carry out its programs in close coordination with Government and other donors. This would facilitate the replication of USAID's successes and lessons learned in other parts of the country.



CHAPTER ONE INTRODUCTION

USAID's current five-year strategy has had a strong focus on policy analysis and reform in support of the Government's economic liberalization program. These efforts contributed significantly to improving the environment for market-led increases in agricultural incomes. In 1998, the Mission revised its rural development strategic objective (S.O. 1) from "increased agricultural incomes on a per capita basis" to "increased rural incomes and enhanced food security" to reflect more accurately the importance it places on achieving broad-based improvements in livelihood at the household level.

Under S.O. 1, there are four Intermediate Results (I.R.) packages that were identified as necessary for the achievement of the S.O.-level targets. These are: the development of rural businesses; the increased efficiency of agricultural markets; increased crop productivity and diversification; and an enabling environment for market-led agricultural growth. The main thrust over the period of the existing strategy has been on policy reform. This was supported by non-project assistance (NPA) tied to conditionalities, and two project activities, the Economic Policy Support Unit in the Ministry of Agriculture and Irrigation (MOAI), and the Agricultural Policy Research Unit at Bunda College. USAID is now winding down three projects of long standing, the Small Agribusiness Development Project (SADP), the Malawi Union of Savings and Credit Cooperatives (MUSCCO), and the Famine Early Warning System (FEWS). More recently, the Mission has initiated projects aimed at crop diversification and rural livelihood improvements. These are the South Africa Root Crop Research Network (SARRNET), the Land O' Lakes Dairy Business Development Program, the CARE Central Region Livelihood Security Project, and a project with ICRISAT to increase groundnut and pigeon pea productivity. In addition, the Mission has two activities under its improved natural resources management strategic objective (S.O. 2) that are closely linked to agricultural production, the Malawi Agro-Forestry Extension Project (MAFE) and the Community Based Natural Resources Management Project (COMPASS).

At this juncture, the Mission is beginning to prepare its next five-year country development strategy. This report, which consists of an assessment of the rural sector and a recommended rural sector development strategy, represents the first step in the process. The report is divided into four sections:

- The rural sector assessment;
- A recommended strategy for achieving sustained and broad-based rural growth over the next five years;
- A review of Government of Malawi and other donor programs; and
- A recommended USAID strategy for contributing to rural growth and development in Malawi.



CHAPTER TWO RURAL SECTOR ASSESSMENT

INTRODUCTION

The predominant economic activity in Malawi is smallholder agricultural production. Most of the production is for home consumption, but small quantities are also produced for sale. In addition, most rural households earn additional income either by working for larger farmers, being self-employed in small-scale trading or village-level processing activities, or finding casual employment in towns and cities. Cash incomes from agriculture are dependent on the agribusiness system -- traders, agro-processors, input suppliers, and exporters. The linkages between the smallholder sector and the agribusiness sector are quite weak, mainly because marketable surpluses are so low. Because marketable surplus production is low, the agribusiness sector as it relates to smallholders is both small and weak. As a result, the market conditions are not in place for smallholders to adopt improved technologies and in turn provide the basis for a larger and stronger agribusiness sector.¹

The situation is somewhat unique in Malawi because of the previous Government's focus on developing a modern estate sector. Rapid growth was achieved in the 1970s and 1980s by providing the estates with cheap land and labor, and subsidized inputs and loans. During this period, smallholders were limited to producing subsistence crops for themselves and maize for the estate workers and urban consumers at artificially low farm-gate prices. The estates have proven to be non-competitive on world markets or even within the SADC region. At present, estate production is stagnating and profits are declining, and the smallholder sector remains largely undeveloped. The country is now at the point of virtually having to start over with a new development strategy that is both more market-based and more broad-based in its impact. This means that, in many respects, the task of breaking the vicious circle of low smallholder productivity and undeveloped agricultural markets that is keeping the rural sector in poverty is just beginning. The key will be to identify in a realistic manner the strengths and weaknesses of the rural sector, and the opportunities and threats facing the sector in the foreseeable future.

The analysis is divided into five parts: on-farm production systems; off-farm economic activities; poverty and food insecurity problems of rural households; the agribusiness system; and the enabling environment for agribusiness-led growth.

¹ An important exception to this general situation is the recent growth in smallholder burley tobacco production. There is a large and well established market for this crop, its production is profitable to smallholders, and many estates have established out-grower linkages with neighboring smallholders. Although burley tobacco is a unique exception, it does provide evidence that smallholders are willing and able to produce cash crops when there are reliable and profitable markets.

THE PRODUCTION SYSTEM

The agricultural sector in Malawi has two distinct and largely separate production systems: estate and smallholder. Within the estate sector there are very large corporate estates, medium sized privately held estates and small estates, typically under 30 hectares, that are family owned and operated. Excluding the large and medium sized estates, the most useful way to view the agriculture sector is to focus on the large majority of farm households, perhaps 70 percent, that have holdings ranging from .2 to 1 hectare. With the important exception of burley tobacco, and to a lesser extent hybrid maize, most of these smallholders utilize hardly any modern inputs or equipment and consequently have extremely low returns on land and labor. The trends for these households are ominous. Because of increasing population, the average size holding is declining, and because of continuous cultivation with minimal conservation measures, soil fertility is also declining. Agricultural production on these lands is largely limited to the rainy season. There is relatively little livestock production and even less agro-forestry, and irrigated production under small-scale irrigation during the dry season is well below potential.

Most of the production on these farms is for household consumption. Maize is the main food crop, but depending on the region of the country, significant quantities of other foods are grown, including cassava, sweet potatoes, pulses, groundnuts, rice, sorghum and millet.² With the removal of subsidies on inputs, hybrid maize production has stagnated and many subsistence farmers are beginning to diversify out of maize into other food crops. The majority of these smallholders produce small quantities of cash crops, mainly burley tobacco and maize. Since liberalization, burley tobacco production, which is profitable, has increased, while maize production as a cash crop, which in the absence of subsidies is only marginally profitable, has stagnated. Other cash crops, which are grown in very small quantities, include pulses, rice, groundnuts, soybeans, oilseeds, spices, coffee and cotton. Most of these farmers are living at the margin of subsistence and have virtually no accumulated assets to invest in improved technologies.

In terms of their livelihoods, their main choices are how to utilize their small plots of land, and how to allocate family labor. They have several options. First, they can adopt more intensive farming practices during the rainy season, including the increased use of modern inputs. This would require working capital obtained either from the sale of cash crops or from off-farm employment. Second, also during the rainy season, they can diversify their production into crops that increase the food supply, are more drought-tolerant, provide nutrients to the soil, or generate cash incomes with minimal dependence on modern inputs. Third, they can increase productive activities on their lands during the dry season, including livestock production, agro-forestry and small-scale irrigation. Selecting among these options involves two key decisions. The first is how to allocate family labor. Some of the activities listed above require allocating labor away from off-farm livelihood activities back to the farm. Whether farm households choose to do this depends on the opportunity costs of their labor. If the household can earn more by working off-farm, it will not allocate more of its labor to the farm. The second is whether to invest in modern inputs. This will depend on

² See Annex A for statistics on smallholder production of major crops.

profitability and risk. If there are reliable markets and the benefits to the use of modern inputs under rain-fed conditions exceed the costs, smallholders are more likely to adopt modern technologies.³

Regardless of their decision, for most of these households the family plots are too small to meet all of their needs. The scope for change is in fact quite limited. Given the small size of the holdings, the increased incomes that can be obtained from either more intensive use of the land or the introduction of year-round productive activities are extremely small. Even after all of the economically feasible changes are put into effect, most of these households will still be living at the margin of subsistence. Furthermore, with reduced or non-existent fallow periods and the use of increasingly marginal lands, yields are declining. Studies are consistently showing declining maize yields over the past decade, both for local varieties grown without fertilizer and hybrid maize grown with fertilizer.⁴

Although the farmers described above make up the large majority of the rural population, there are two other population groups that need to be included in any rural development strategy. At one end, the bottom 20 percent of households with limited access to land are unable to meet their basic human needs, especially food, during all or part of the year. At the other end are the 10 to 20 percent of smallholders who have enough land to produce marketed surpluses. These stand to benefit directly and immediately from programs to strengthen market demand for Malawi's agricultural products and increase smallholder use of modern inputs.

OFF-FARM ECONOMIC ACTIVITY

Because of the small land holdings in many parts of the country and the long dry season, a considerable portion of rural household income is derived from off-farm economic activities. On average, these off-farm activities account for about 26 percent of their annual incomes, but there are wide variations by region and income group.⁵ In the north and center, off-farm economic activity accounts for less than 20 percent of total income compared to 60 percent in the south. The differences by income group are even more striking. The poorest 20 percent of households earn almost no income from on-farm production, whereas the second poorest group earns 29 percent and the wealthiest 20 percent earn 82 percent. Not surprisingly, the Southern Region has by far the lowest household incomes.

³ The discussion of smallholder crop production in Annex A shows that a wide range of crops can be grown in Malawi. However, the crop profiles in Annex B make it clear that the markets for these crops, both domestic and foreign, are extremely competitive and there are in fact few obvious opportunities for increased production and increased use of modern inputs. Whatever Malawi can grow other countries in the region can also grow, and for most crops, these countries are already better established in the regional and world markets.

⁴ See Annex E for a detailed discussion of declining soil fertility in Malawi and long-term implications for agricultural productivity if the problem is not addressed.

⁵ See Annex F for a detailed discussion and analysis of the rural off-farm sector in Malawi.

The negative correlation between income level and dependence on off-farm income indicates that most off-farm economic activity is distress labor carried out by households with land holdings that are inadequate for them to meet their basic needs. Casual agricultural labor (*ganyu*) accounts for 62 percent of total off-farm employment - 75 percent in the north, 60 percent in the center, and 56 percent in the south. Most of the demand for *ganyu* comes from estates and larger smallholders who grow burley tobacco and hybrid maize. *Ganyu* makes up 27 percent of total estate labor, with tenants and regular estate employees accounting for 52 percent and 21 percent respectively.

In contrast to *ganyu*, micro-enterprises account for less than 10 percent of total off-farm employment. Most of this is self-employment, since the average number of employees per enterprise, including the owner, is only 1.8. Furthermore, very small low profit trading businesses make up over half of the micro-enterprise sector. Manufacturing, mostly brewing, accounts for another 43 percent of micro-enterprises. This traditional activity is more highly paid than most trading activities and is carried out mostly by middle income rural households. The main constraint being faced by rural micro-enterprises is the lack of effective demand. When effective demand grows, as it did when smallholders started growing burley tobacco, the number and scale of micro-enterprises grew as well. The main constraint to increased production for markets outside of the local area is the poor road system and the lack of transportation services. In addition, all micro-enterprises are constrained by a lack of assets to invest in their businesses. All of their net incomes are needed to meet basic household needs, and credit is not an option because the cost is so high and, from a lender's perspective, the weak financial condition of most of these businesses makes them uncreditworthy.

In general, there is a greater supply of labor for off-farm employment in rural areas than demand. This surplus labor at certain times of the year can be a resource for more rapid rural growth but this requires that off-farm employment become a growth pole instead of an absorber of surplus labor. For most businesses, rural areas have serious disadvantages relative to urban areas, especially the lack of infrastructure and supporting services. This implies that the development strategy for the rural off-farm sector should be based mostly on increasing agricultural productivity. This will increase the availability of agricultural commodities for processing and trading, and also increase incomes and effective demand for non-agricultural goods and services. At the same time, two other constraints need to be addressed. First, rural infrastructure and supporting services must be improved. Second, local entrepreneurial capacity needs to be developed. Growth in the rural off-farm sector is more likely to come from the increased capacity of indigenous businesses than from outside businesses deciding to invest in rural areas instead of cities.

POVERTY AND FOOD SECURITY

As noted in the previous sections, most rural households are living at the margin of subsistence. Maize is the main food crop, grown on over a million hectares nationwide, but there are other important food crops, including sorghum, millet, rice, sweet potatoes, cassava and pulses. Many households also produce small quantities of poultry, small ruminants, pigs,

fish or beef for home consumption or for sale in local markets. At the present time, in Malawi, there are two ways of defining food security. The first is to equate food security with access to maize. By this measure, certain parts of the country and certain segments of the population are chronically food insecure even in years of above average production. Because the Government uses this measure as a matter of policy, it spends considerable resources in what is an unsustainable, and in fact frequently unsuccessful, attempt to assure that maize is available at an affordable price in all areas of the country at all times of the year. The second is to equate food security with household income levels: the lower the income, the higher the food insecurity. At the lowest incomes, households are considered to be chronically food insecure. At higher levels, households are considered to be food insecure during the “hungry season”, ranging from one to four months a year. And at the upper end of rural incomes, households are considered to face periodic food insecurity when there are adverse developments such as droughts, floods, or economic shocks such as a currency devaluation or an abrupt change in terms of trade. This approach to measuring food insecurity is appropriate in principle and is certainly superior to equating food security with access to maize, but it fails to take account of highly significant coping mechanisms at the household and village levels.

There is no doubt that people at the lowest income levels are not getting enough to eat. When total household income is inadequate to meet their basic needs, the decision is sometimes made to buy essential non-food items, even when it means that there will not be enough food to feed the family. This means that the only real solution to the food insecurity problem over the long term is to increase the incomes of the poorest households. How low incomes translate into food insecurity, however, has not been well documented and in fact varies by region of the country and even by village and individual household. Food consumption studies consistently show that rural households have more dependable access to food than would be indicated by per capita income levels. Many rural households with little or no apparent source of income certainly experience varying degrees of malnutrition, but have demonstrated that they can avoid starvation or even serious malnutrition using long established village-level coping traditions.⁶

In recent years, these traditional coping mechanisms have been supplemented by, some would say subverted, government and donor safety net programs. There is evidence that poorly conceived safety net programs are seriously disrupting well-established traditional methods of meeting minimum food needs. The most critical needs at this time are to accurately measure the existing situation and recent trends with respect to food security, and identify the most effective, least disruptive ways of alleviating the problem as it exists in different regions of the country. There is clearly a high priority need for safety net programs aimed at the poorest rural households. However, unless they are well designed and carefully targeted they can result in more food insecurity, not less.

⁶ See Annex C, for details and analysis of rural poverty, causes of food insecurity and food security coping mechanisms in Malawi.

THE AGRIBUSINESS SECTOR

If agriculture is to provide increased cash incomes for rural households, the agribusiness sector will have to provide the markets. As noted above, this will be a difficult process. Because smallholder productivity and capacity to produce marketable surpluses is so low, the agribusiness sector as it relates to smallholders is small and underdeveloped. And, in the absence of a strong agribusiness sector, the potential for smallholders to increase yields and grow more cash crops is not being developed. At the present time, the two main smallholder cash crops are tobacco and maize, both of which have large well developed markets. Tobacco is sold to intermediate buyers or directly on the auction floors. Maize is sold mostly to ADMARC, which has markets throughout the country. In addition to these two crops there are a number of low volume, low profit crops where production is concentrated in different parts of the country. These include cotton, groundnuts, soybeans, pulses, oilseeds, rice, sorghum, and various foods consumed by the urban population. These crops are purchased at the farm gate either by the larger agribusinesses or by small traders. The markets are very thin, except for urban demand for staple foods such as cassava, beans and sweet potatoes. Farmgate prices can fluctuate greatly and in some cases there is no assurance that the crop can be sold at all. Changes in this situation will have to be market-driven and will have to occur crop by crop and location by location. The private agribusiness sector, including farmer-owned marketing associations, will have to take the lead.

The existing agribusiness sector in Malawi is made up mostly of relatively large corporations created by the Government in the late 1960s and 1970s. Estates make up a large part of the sector. The large corporate estates produce Malawi's major export crops, tobacco, tea and sugar; small and medium sized private estates are producing mainly tobacco; and a number of small family owned and operated farms, most of them under 30 hectares, produce tobacco and other cash crops. None of the estates have very close ties to the smallholder sector although, in recent years, some estates have started buying burley tobacco from out-growers instead of growing it themselves. In general, the estate sector is experiencing a downward trend in productivity and profits, mostly because of adverse macro-economic conditions, which are discussed later in this section, but also because of weak management and lack of interest by absentee owners. For this sector to become an engine of economic growth, the under-performing estates should be sold to domestic or foreign investors who are motivated to turn them into profitable businesses.

Outside of the estates, the agribusiness sector consists mostly of a small number of large companies that dominate their respective markets. These companies are in turn owned by three holding companies, Press Corporation, Malawi Development Corporation (MDC) and ADMARC. In addition, there are a number of medium-sized processing, trading and exporting companies that make up a small portion of the total agribusiness sector but have managed to survive alongside the large corporations. With liberalization and privatization have come some gradual changes. Parts of these large companies have been sold to private investors, mostly from South Africa and Zimbabwe. The ownership of these companies is now divided between the three holding companies, private investors and Government. These companies and the smaller privately-owned firms have thus far not shown the initiative necessary to create markets for non-traditional smallholder cash crops, and there is no reason

to expect them to change without new competitors forcing them in that direction. Creating that competition will not be easy. Business expertise, managerial and technical, in Malawi outside of the large established businesses is seriously lacking. Strengthening the agribusiness sector will require a combination of private foreign investment and capacity building at the small business level. It will be up to these new businesses to identify profitable markets for Malawi's agricultural products and match these markets with sources of supply, and eventually prompt the large established agribusinesses to follow suit.

THE POLICY ENVIRONMENT

By far the most important factor affecting agribusiness-led growth is the policy environment. Although the only way to achieve sustainable growth is to have free and open markets, from the standpoint of individual businesses, it is more important to have stable economic policies and a pro-private sector business climate. Within this setting, businesses can make medium-term investment decisions with confidence, adjusting for the inevitable imperfections in the overall policy framework.

For agribusiness, there are three elements to the policy environment: macro-economic stabilization policies, structural adjustment reforms, and agricultural policy. Currently, the stabilization policies are most in need of attention. Last year's devaluation, the subsequent high inflation rate, and the large budget deficits need to be brought under control. Under present conditions, factor prices are distorted and the stability investors need to make long-term decisions is absent.

After a spurt of liberalization measures in the 1994-1996 period, the pace of structural adjustment has slowed considerably. Among the most urgently needed reforms are:

- Accelerate the privatization of statutory corporations and parastatals;
- Facilitate and actively promote private investment in telecommunications;
- Deregulate the electrical industry;
- Deregulate the transport sector;
- Restructure and privatize the banking sector; and
- Decentralize the public finance system to help address the high recurrent costs of social services and rural road maintenance.

These reforms will go far to remove the market distortions that are seriously reducing Malawi's international competitiveness and slowing the rate of economic growth.

In the agricultural policy arena, the privatization of agribusiness parastatals and statutory corporations must be accelerated and market-based changes in land tenure laws that are currently at the proposal stage must be implemented. However, the most important need is to discontinue government interventions in agricultural markets. As long as ADMARC continues to dominate the maize market, the private sector will not build up the capability to market maize efficiently around the country and throughout the year. Similarly, if the newly formed National Food Reserve Agency is managed in the same way as the former Strategic

Grain Reserve, the private maize market will continue to be seriously disrupted. A second issue concerns the agricultural input supply market. The roles of the Small Farmer Fertilizer Revolving Fund and the Fertilizer Buffer Stock need to be carefully reviewed to assure that they do not disrupt the growth and development of the private agricultural input industry. With the liberalization of agricultural markets there has been a proliferation of small traders. In general, however, the highly subsidized government involvement in the marketing of agricultural products and inputs, especially the large ADMARC presence throughout the country, is a tremendous obstacle to the growth of efficient private marketing channels. Finally, the government's poverty alleviation and food security programs risk disrupting private markets if they are not carefully designed and targeted.

As has been observed many times, there will be permanent improvements in the policy environment only when the policy dialogue takes place among Malawians, not between the Government and donors, or, even worse, among donors. There is an urgent need for the Government to build up its capacity to formulate a Malawian policy framework for private-sector led growth and build political support for those policies. There will inevitably be differences of opinion regarding what is appropriate, but the key is to have the tools necessary to measure the impact of policy decisions on national interests, including the economic costs and benefits of those decisions.

CONCLUSION

The large majority of rural households are living at the margin of subsistence. In addition, at one extreme, a small percentage of households are extremely poor and chronically unable to meet their basic needs and, at the other extreme, a small percentage are relatively well off. The challenge is to alleviate the widespread poverty and get the rural sector onto a self-sustaining growth path by building on the strengths of the rural sector and overcoming the weaknesses.

The sector's major strengths are:

- The untapped production potential, including the opportunity for higher returns to land and labor during the rainy season, the underutilized dry season, the large but still undeveloped livestock sub-sector, and underutilized estate lands;
- Long-term trade opportunities within SADC;
- Niche export markets outside of SADC;
- Minor import substitution possibilities;
- The liberalization progress that has been achieved thus far; and
- The availability of low cost labor.

The sector's major weaknesses are:

- The lack of government commitment to and lack of expertise in managing a private sector-led economy;
- Inadequate physical infrastructure;

- The low education and technical skill levels of the rural population;
- The yet to be completed liberalization process which is hurting the business climate and the country's international competitiveness;
- A culture of dependency started during the Banda era and strengthened under the present multi-party system;
- High population density, small holdings, and declining soil fertility;
- The extreme poverty in rural areas and lack of asset accumulation;
- The small agribusiness sector with weak links to smallholders;
- The law and order situation;
- HIV/AIDS; and
- The country's landlocked location.

Although the list of weaknesses is extensive, from a long-term perspective, the strengths outweigh the weaknesses. There is no doubt that Malawi has the natural and human resources to be an important agricultural producer within an integrated and growing SADC regional economy. In the medium term, however, due to the lack of infrastructure and the low level of agribusiness development outside of the Press/MDC/ADMARC group, agricultural growth can be expected to proceed at a very slow pace, in fact, too slow to have much measurable impact on rural poverty at the national level.

CHAPTER THREE

A RURAL SECTOR DEVELOPMENT STRATEGY FOR MALAWI

INTRODUCTION

There are very few opportunities for significantly increasing the rate of economic growth in the rural sector over the time frame covered by this strategy. Using existing practices, smallholders do not have the land or labor to grow more crops. In order to increase smallholder production, markets would have to be developed that would make the use of modern inputs profitable. Thus far, the agribusiness sector has not demonstrated the capacity or inclination to aggressively seek out these markets. Many smallholders are growing small quantities of cash crops to supplement what they consume on-farm, but modern inputs are being used mostly on tobacco and hybrid maize. Yields and the size of land holdings are both declining, and the typical rural household is relying more and more on off-farm income to meet basic needs. Growth in rural off-farm employment is driven by the need to survive, not by increases in off-farm employment opportunities. Increasing numbers are pursuing any type of off-farm employment that helps meet household food needs no matter how little it pays.

Finding a way to reverse this downward spiral will require a strong dose of realism. It is not useful to set as a strategic objective: the increased use of fertilizer and high yielding seeds by smallholders. Over the next five years, nothing can be done to make the use of these inputs financially feasible for the majority of smallholders. It is also not useful to say that the solution lies in finding new markets for Malawi's agricultural products. These markets are known to be extremely competitive, difficult to find and slow to develop. Nor will rural incomes be increased measurably through off-farm employment. Once again, rural businesses cannot create jobs unless they have profitable markets for their products. These are the realities. They do not mean that nothing can be done, but they do mean that a strategy that assumes that all of the well-known constraints to rural growth can be overcome over the next five years will not work. The strategy must identify the real opportunities, no matter how small they are, and build on them. It should focus on the ambitious but achievable objective of stopping the downward spiral in the rural areas and building a solid base for long-term growth.

Existing side by side with the vicious circle of small markets, low productivity and low asset accumulation described above, is a virtuous circle consisting of diversification out of tobacco and maize, a developing private sector marketing system, a developing private sector input supply system, and growth in informal sector micro- and small enterprises. This virtuous circle is still very small, but its value lies in that it is market-driven, made possible by the liberalization measures of the early and mid-90s. Whereas the vicious circle is causing a downward spiral in the living conditions of many rural households, the virtuous circle is too small to create a discernable upward spiral. Further, it is still embryonic and can be easily halted by deterioration in the enabling environment for private sector-led growth.

DEVELOPMENT GOAL

Given the widespread poverty in rural areas, the appropriate development goal for the rural development strategy is, *to raise the incomes and increase the capacity of the large majority of rural households to meet their basic needs*. The objective over the next five years should be to achieve broad-based sustainable increases in smallholder production and increased opportunities for off-farm employment.

Indicators of goal achievement will include:

- Increased per capita incomes of rural households;
- Increased value of smallholder production;
- Increased household cash income from marketed surpluses;
- Increased off-farm rural incomes;
- Increased purchasing power by rural households for basic necessities;
- Improved nutrition at the household level; and
- Reduced vulnerability to food shortages by rural households.

During the five-year period covered by this strategy, change will have to occur in three ways. First, smallholders will increase their on-farm productivity by adopting improved resource management practices and thereby become better able to meet their basic needs, including food, while remaining essentially subsistence farmers. Second, for a small percentage of smallholders, incomes from cash crops will increase, led by a growing agribusiness sector. This second change will start more slowly and affect fewer farmers than the first change during the time frame of this strategy. However, it is the increased incomes from cash crops that will begin the long-term process of not only pulling rural households out of poverty but also of putting the rural areas on the road to economic prosperity. The third change is that there will be slight but important increases in opportunities for off-farm employment in rural areas. These opportunities, which are likely to take place mainly on estates and in small-scale agro-processing and marketing enterprises, are essential for absorbing the surplus labor that cannot be productively employed in the smallholder sector. The strategy for the next five years must focus on facilitating these three changes, recognizing that the gains will be modest and the impact on rural poverty at the national level will be minimal. As stated above, the objective of the strategy should be to halt the downward spiral and create a solid base for sustainable long-term income growth for rural households.

Strategic Objective 1: increase the international competitiveness of the agribusiness sector

Sustainable agribusiness growth can only be achieved in the context of an internationally competitive national economy. The enabling environment for achieving international competitiveness has three elements: the policy framework, the infrastructure base, and supporting institutions.

The Policy Framework

Sustained high economic growth rates can only occur when private businesses are responding to free undistorted markets. The main role of government is to create the enabling environment necessary for private businesses to grow in those economic sectors in which the country has a comparative advantage. This means that instead of promoting economic growth behind a wall of protective import barriers, the goal is to achieve rapid and sustainable growth based on international competitiveness.

Improvements are needed in three areas:

- Macro-economic stabilization policies: reduce inflation; control budget deficits; stabilize the exchange rate
- Structural adjustment reforms: continue the lowering and rationalization of import tariffs; continue privatizing statutory corporations and parastatals; restructure and privatize the financial sector; deregulate the transport, electricity, telecommunications and petroleum sectors; improve funding mechanisms for rural road rehabilitation and maintenance
- Agricultural policies: reduce government interference in agricultural marketing; implement land tenure reforms on estates and customary lands; improve the design and targeting of food security safety net programs.⁷

The first two policy areas, stabilization and structural adjustment, have implications that extend beyond agriculture, but it is important that agricultural interests advocate for policies that favor rather than constrain agricultural growth.

With respect to agricultural policies, there is an urgent need for data collection, studies, and policy dialogue, especially among Malawians. The most important policy areas are: agricultural marketing policies, policy constraints to agribusiness growth, land tenure, environmental issues as they relate to agriculture, and increased clarity and focus in the Government's food security policies. The context for this work is to focus on the policy constraints to sustainable market-led agricultural growth. The identification and prioritization of these constraints should define the agricultural policy agenda for the next five years.

Within SADC, the major issues have to do with the region becoming a free trade zone. As tariff and non-tariff barriers are reduced or eliminated, Malawi's businesses will lose their import protection. This transition will be neither immediate nor complete. The end result is likely to be a trade zone with several tariff levels at relatively low levels, combined with certain non-tariff barriers related to the differing economic policies of the member countries. Further, each of the member countries will be requesting exemptions based on special circumstances. Malawi must become an effective negotiator in this process, understanding how free trade areas work and what are its legitimate national interests. The transition to a free trade zone must take into account the country's long-term development strategy and its basic comparative advantages. Similarly, Malawi must be able to measure the negative

⁷ See annexes A and B for a discussion of the marketing and land tenure policies that are constraining agricultural growth, and Annexes C and D for a discussion of the adverse effects of the Government's existing food security policies.

impact on Malawi of special exemptions being requested by other countries. Even after the process has been completed, changes in the tax and subsidy systems in each country will have an impact on Malawi's competitiveness. Malawi must be able to determine when its businesses are being adversely affected by the domestic policies of other member countries and know how to request remedial action within the SADC system.

At the overall level, the most critical need is for the Government to increase its capacity to manage a private sector-led economy, first, by improving the information base and, second, by expanding its analytical capabilities by receiving technical assistance and training. This is important for three reasons. First, the Government must have a thorough understanding of how to maintain macro-economic stability in an economy that is left to respond freely to domestic, regional and world market forces. Second, it must be able to define an appropriate enabling environment for private-sector led growth in the context of competing and often equally important social and political considerations. Third, it must be able to protect Malawian economic interests in dealings with trading partners and policy negotiations with donors and international agencies. This will be especially important as the SADC region removes protectionist barriers to trade and factor movements, and moves toward full economic integration.

At the present time, macro-economic and agricultural policy reforms are largely donor driven. The IMF generally takes the lead on stabilization policies and the World Bank, and to a much lesser extent certain bilateral donors, are taking the lead on structural adjustment and agricultural policies. There is general agreement among donors on the direction that these policies should be taking although there is considerable disagreement on priorities, timing and the role of government in economic activity. The Government, for its part, remains somewhat distrustful of completely free markets and the impact they may have on economic stability, international competitiveness and income distribution. Economic liberalization appears to be here to stay. The disagreements have to do with how much regulation and government participation in economic activities is necessary to assure stability and social equity. There is no question that a stronger policy analysis capability in Government would help it take the lead in policy dialogues on key issues affecting economic growth and poverty alleviation in Malawi.

Infrastructure

In order to become internationally competitive and attract private investment, Malawi needs a much more developed physical infrastructure.

Transportation. For agricultural growth the most critical need is for better rural roads. The poor condition of these roads in most parts of the country, and the consequent high transport costs, have the effect of reducing the size of the market as well as the farm gate price for agricultural products. This is more of a problem for smallholders than for estates because the estates produce in larger volumes and tend to be located in the more productive rural areas. Smallholders are spread throughout the country in areas that have low surplus production

and, therefore, a poorly developed road network. The problem is that when marketed surpluses are low, large expenditures on roads cannot be economically justified, but as long as the roads remain bad, marketed surpluses will remain low. The solution is to upgrade the roads, using resources from outside of the area, and set up financially sustainable, locally based systems for the maintenance of those roads. This will be a slow process and will have to begin in those areas that have the greatest economic potential. Where rural roads can be improved and maintained in a financially sustainable way, a major obstacle to the increased production of marketable surpluses will have been removed.

For agribusiness growth, the most critical needs are for reductions in road, rail and air transport costs to the major markets. Within the country's borders, the two most important needs are first, to prevent the primary roads from deteriorating, and second, change the policies that are increasing the costs of road, rail and air transport. Outside of the country's borders, the key is for Malawi to have bilateral agreements with its neighbors and assure that Malawi's needs will be adequately considered as SADC formulates its regional transportation policies and priorities.

Electricity and Telecommunications. Market-led growth is hampered when the electricity and telecommunications sectors do not keep pace. Value added industries will invest and grow where the overall economic and business conditions are most attractive. For capital intensive and high technology industries electricity and telecommunications are an important factor in that calculation. With liberalization, Malawian agribusinesses are finding that when the playing field is leveled, they find it very difficult to compete with South Africa and Zimbabwe, not only in the wider SADC market, but also in the domestic market. An inadequate electricity and telecommunications infrastructure is only part of the problem, but a relatively easy one to solve. As noted in the policy framework section, the key is to encourage private investment and create a regulatory framework that provides the proper incentives to meet national needs without preventing adequate returns on investment. At present, the main constraint is the Government's lack of expertise and therefore reluctance to make the necessary policy changes and take the necessary initiatives.

Supporting Institutions

The most important institutional support element of the enabling environment is to have well-managed and well-staffed regulatory agencies implementing well-conceived regulations. These cover the full range of regulations, including industrial licensing, import and export licensing, environmental regulations related to industry, fishing, forestry and other economic activity, the regulation of financial institutions and cooperatives, seed import controls, etc. These regulations are necessary, but they can greatly increase the cost of doing business if they are not implemented in the most efficient and least obstructive way possible. This requires that they be administered by agencies whose staffs understand fully the objectives of the regulations and have a facilitative rather than obstructionist attitude. This can only be achieved with good training programs and strong positive direction from the highest level of policy makers and managers.

For agribusiness growth to be rapid, broad-based and sustainable, there is also a need for effective agricultural services, including agricultural education, research, extension and statistics. The key here is efficiency and affordability. At present, all of these services are under-funded and trying to do too much. They need fewer staff, better equipment, more focused missions and stronger management. The constraints are human resources and finances. The rule should be that it is better to have small effective programs than large ineffective ones. The objective over the next five years should be to cut the number and size of most programs and properly fund and staff the ones that are most critical at this stage of Malawi's agricultural development process. This should be supplemented by efforts to link government programs with the private and NGO sectors. Private suppliers of seeds, fertilizers and pesticides must become more involved in extension, and NGOs should be seen as major participants in implementing programs to increase rural incomes, enhance food security, and conserve natural resources. Indigenous NGO capacity in these areas needs to be strengthened.

Finally, there are the agribusiness promotion agencies, including MIPA and MEPC. These agencies can provide important support to agribusiness, and can provide homes for donor-funded projects in support of agribusiness. The fact that in most developing countries donors choose to locate their projects outside of these agencies is indicative of how difficult it is to create effective investment and export promotion government programs. It is critical that these agencies have a strong private sector focus and not become bureaucracies. In general, they should stay small so that they are forced to focus on only the highest priority needs. Growth of these agencies should be based exclusively on successes, not perceived needs.

Strategic Objective 2: a stronger and more vibrant agribusiness sector

There is a very large untapped agricultural production potential in Malawi, at both the estate and smallholder level. By introducing modern technologies, and growing high value crops, yields in many parts of the country can be easily tripled or quadrupled. However, because the level of technology and asset accumulation in the agriculture sector is at such a low level, the transition from traditional agriculture to modern agriculture will begin very slowly. The critical first step is to create the conditions for the private agribusiness sector to grow and become stronger so that it can create markets for Malawi's agricultural products. It will be private agribusinesses that will identify markets for agricultural products, link those markets with agricultural producers, either smallholder or estates, and add value through processing.

The enabling environment for private sector-led growth is discussed above. The long-term objective should be economic growth based on increased international competitiveness. This policy framework will not be put in place quickly or easily, but it is important that those responsible for formulating economic policy within the government identify the critical elements of that framework and steadily and systematically move government policy in that direction.

The Government should then be proactive in helping to create a private agribusiness sector that has the technical and business capabilities to respond to the improved environment. The

government should provide direct assistance to individual businesses as opportunities are identified. The assistance should include feasibility and market studies, and facilitating access to technology and capital. The assistance should also be crop-focused: identify the crops that show the most potential, develop markets for those crops, identify the geographic areas and farmer groups that are most likely to be able to produce for those markets, and systematically take the steps necessary to achieve international competitiveness.⁸ These proactive, one-on-one assistance programs are an essential complement to existing passive promotion programs like Malawi Investment Promotion Agency (MIPA) and Malawi Export Promotion Council (MEPC), which are primarily responsible for providing general information to the Malawian business sector on investment and export opportunities.

It is clear from the commodity profiles in Annex B that there are not many obvious or easy opportunities for agribusiness growth over the medium term. The markets are very competitive and for most crops there is abundant productive capacity within the SADC region. It will therefore be very difficult to pick winners. However, the essential nature of agricultural markets is that they are fluid. For many of the commodities discussed in Annex B, there is no *a priori* reason why individual Malawian entrepreneurs cannot fill market niches. For government and donors, the best approach will be to keep their focus on the enabling environment, have a small transactional assistance program to respond to or help identify opportunities, then stand ready to help businesses remove obstacles as they are identified. It must be remembered that, during the time frame of this strategy, these efforts will result in individual successes, but no nation-wide transformation into modern agriculture or take-off into sustained agribusiness-led growth.

The measures of success for this agribusiness strategy will be:

- An increased number of agro-processors producing for import substitution and export;
- Private suppliers delivering increased quantities of agricultural inputs to estates and smallholders at lower cost;
- Increased foreign and domestic investment in agribusiness;
- Increased production and profitability of the large corporate estates, with stronger links to smallholders;
- Increased production and profitability of owner-operated small- and medium-sized estates, with stronger links to smallholders; and
- Increased formation of smallholder-owned and controlled agribusinesses and associations.

The key is the enabling environment and the determination with which the Government pursues its agribusiness development objectives. In this difficult environment, half-hearted efforts will certainly yield mediocre results. Determined efforts, however, can put the country on a sustainable growth path based on undistorted markets and international competitiveness.

⁸ The crop profiles section of Annex B takes a preliminary look at the potential for agribusiness growth over the medium term. Although, in general, the prospects are not promising, Annex B identifies crops that show enough potential to be the focus of an agribusiness development strategy over the next five years. These are, pulses, root crops, especially processed cassava, coffee, paprika, chilies, organic crops, and niche herbals.

Strategic Objective 3: a more productive smallholder sector

At the same time that the agribusiness sector is being strengthened, productive capacity must be increased at the farm level. Annex A presents a clear picture of the smallholder situation. The wide range of crops grown shows that the country's natural resource base for agricultural production is abundant and diverse. Smallholder farming systems, however, are geared almost exclusively toward subsistence, using hand and hoe cultivation and no modern inputs except on tobacco and hybrid maize. Further, as described in Annex E, high population growth is resulting in smaller land holdings and declining soil fertility. If the present situation is allowed to remain unchanged, smallholder productivity will continue to decline and the problem of widespread rural poverty will only worsen.

Two sets of interventions are needed to achieve sustainable increases in smallholder productivity. First, modern technologies must be introduced in order to increase the production of marketed surpluses. This is necessary to break the vicious circle of low production of marketed surpluses resulting in an undeveloped agricultural marketing system, and the undeveloped marketing system making it impossible for most smallholders to use modern inputs profitably. Second, smallholders must adopt improved land management practices that will halt the depletion of the resource base and increase the year round productivity of the land holdings. This will not only increase soil fertility but also help decrease smallholder cash needs that are forcing them to work off-farm at key times in the growing season.

The Introduction of Modern Technologies

Targeting. Since it is not possible to introduce modern technologies to all smallholders in all areas of the country, interventions should focus on crops and areas with the least constraints and the most opportunities. The crops should be selected on the basis of dependable markets and positive returns to the use of modern inputs. The northern region has relatively abundant land, areas of better than average rainfall, and a population that is known for its initiative and entrepreneurship. Farmers in the Central Region have a tradition of growing maize as a cash crop and have recently expanded into burley tobacco. There may be opportunities to build on this experience with cash crops to diversify into non-traditional crops. In the south the most promising approach would be to take advantage of the many microclimates and the processing capacity in Blantyre. Whatever the crop or geographic area, interventions must be based on a clear vision of the possibilities and a sound analysis of the constraints to be overcome.

Farmer organization. Because smallholders can only produce small quantities of cash crops they need to be organized for production and marketing. One way is for agribusinesses, including estates, that have identified markets and are looking for sources of supply to organize farmers, provide them with the necessary inputs and technical knowledge, and provide profitable and dependable markets for their output. Another way is to organize farmers for the purpose of producing and marketing cash crops. These organizations would in

effect be farmer-owned agribusinesses, establishing market linkages, supplying inputs and providing credit to their members, and purchasing their output. They would be responsible for obtaining inputs in economical quantities and obtaining maximum farm-gate prices for their members.⁹ Both approaches focus on increasing smallholder incomes by establishing links between producers and markets and by introducing the productivity increasing innovations that make it possible for these producers to supply the markets.

Technology dissemination. The important point to remember with respect to technology dissemination is that there is a large base of experience to build on, not only in Malawi but also throughout the southern Africa region. Any basic research should only be undertaken in conjunction with and under the direction of international and regional research centers. What is needed now is adaptive on-farm research and more effective extension services. The focus needs to be on the on-farm constraints that are preventing the adoption of technologies that have been successful on research stations but not on farmers' fields. On the research side, the technical packages should be fine tuned to reflect the growing conditions of specific areas, and new varieties should be better adapted to existing farming systems, local taste preferences and other location-specific considerations. On the extension side, the subject matter content should be broadened to include post-harvest handling, village-level value added activities, and business management. Field agents need to receive better and more relevant technical training, and need to develop more of a customer service orientation in their work.

Education. Certain ways of thinking need to change for smallholder productivity to increase significantly. First, they need to move away from the present culture of dependency and develop the attitude that they can take actions that will improve their situations. Second, they must move away from the maize mentality and start thinking of their farm as a business enterprise that should be maximizing its returns to land and labor within acceptable risks. Third, communities need to take primary responsibility for solving their law and order problems at the local level and put pressure on the Government to address the problem at the national level. There are too many instances where productive activities are not undertaken because theft is such a big risk.

Support system. As noted above, efforts to introduce modern technologies must be carefully targeted to be effective. Part of the targeting involves assuring that the necessary support system for a cash crop economy is in place in the geographic areas being targeted. This includes the following elements:

- Assured low-cost input supplies, especially seeds and fertilizers;
- A road system that includes well maintained secondary roads and feeder roads that are passable during the marketing season; and
- A reliable and competitive marketing system.

⁹ Annex A notes that smallholders recognize this need and are requesting assistance and advice in forming such organizations in their communities.

Input supplies and marketing services should be provided by private businesses, not government. This means that, in those areas being targeted, programs to introduce modern inputs, should include interventions aimed specifically at strengthening private agribusinesses, including management training, marketing information, and financial services.¹⁰

Impact. We must be clear on what the impact of these efforts is likely to be. Relatively small markets where Malawi can compete will be identified, and a relatively small number of farmers in the most productive and developed areas of the country will produce for those markets. There will be spread effects as the benefiting farmers hire laborers to work in their fields and spend part of their disposable incomes on locally produced goods and services. However, because the markets are so small and the opportunities so limited, at the end of the strategy period, most smallholders in most parts of the country will still be practicing hand and hoe cultivation using little or no modern inputs. These smallholders will continue to be essentially subsistence farmers meeting their basic needs by supplementing their on-farm production with off-farm incomes.

The Introduction of Improved Land Management Practices

At the same time that modern technologies are being introduced where they are economically viable, interventions are needed to reverse the depletion of the agricultural natural resource base. It is especially important that smallholders who will not benefit from the use of modern inputs find ways to stop the steady decline in crop yields and to obtain increased incomes from their land. As explained in Annex E, improved land management practices will not be adopted unless smallholders perceive direct economic benefits. It is therefore essential that these practices be promoted in a context of increased smallholder productivity.

The approach recommended here is an integrated community-based natural resource management program that conserves natural resources, increases soil fertility and increases the year round productive use of agricultural lands. The program would have four elements:

- The key element is agroforestry, which would increase organic matter and nitrogen in the soils; reduce soil erosion; produce wood for cooking, heating and construction; provide tree crops for food and fiber; produce high protein forage for livestock; and serve as an instrument of savings.
- Livestock production, which would increase year round income, provide a use for agroforestry products, provide manure as an alternative a supplement to chemical fertilizers, and serve as an instrument of savings.

¹⁰ It should be noted that there is very little scope for significant production credit being provided to smallholders. The role is rural credit and savings institutions are likely to be limited to serving as a much needed depository of savings and providing very short term credit for consumption needs and to finance small-scale trading activities. The capital that will be needed for agricultural modernization and growth will have to come from smallholder asset accumulation, supplier credits and investments from outside the smallholder sector.

- Crop diversification during the rainy season, which would improve soil conditions, help protect against droughts, and help address labor constraints during peak labor periods during the growing season.
- Small scale irrigated agriculture during the dry season to further increase year round production.

The key to this approach is the integration of the four activities, which would help address three critical problems being faced by smallholders: declining soil fertility, labor constraints at key times during the rainy season, and lack of savings to accumulate the assets necessary to adopt modern technologies. As discussed above, soil fertility is declining because of reduced fallow periods, soil erosion caused by poor cultivation practices, and the almost total absence of chemical or organic fertilizers. Agroforestry and livestock production will help address these problems. The labor constraint problem is caused mainly by the need for many smallholder households to earn cash incomes in low paying off-farm activities in order to meet basic needs just at the time when they should be working on their own fields. By providing opportunities for year round productive activity, the above interventions will enable many households to spend more time on their own fields during the rainy season thereby increasing returns to their land and labor. The inability of these households to accumulate assets is directly linked to their extremely low incomes that are inadequate to meet basic needs much less provide surpluses for savings. By expanding from rainy season crop production into agroforestry, livestock production and small-scale irrigation, these households will be accumulating assets while increasing current incomes.

The integration is best achieved at the community level. Communities should be selected based on their ability and willingness to organize for the purpose of improving the management of their natural resources. This interest is most likely to exist in areas where the environmental risks are greatest and where there are markets for the increased production from agroforestry, livestock and irrigation. Selecting these areas will require not only directly communicating with the communities themselves, but also much better information about environmental threats in specific geographic areas. The data generated by FEWS and the Malawi Environmental Monitoring Program (MEMP) can contribute to this information base.

The impact of these interventions should be measured on a community by community basis. In each community, it should be possible to measure the impact on soil fertility, value of production from agroforestry, livestock and irrigation, the value of asset accumulation in the form of trees, livestock herds and flocks, and capital improvements around dambos. It should also be possible to measure the impact of these improvements on the incomes, food consumption and food availability throughout the year for the households benefiting from the interventions.

Strategic Objective 4: increased opportunities for off-farm employment

Increasing smallholder productivity alone cannot solve the problem of rural poverty. As described in Annex F, the declining size of land holdings is forcing rural households to earn

more and more of their incomes from off-farm activities. Recent studies and surveys have found that one-fourth of smallholder household income is earned off-farm. Rising trends in off-farm employment and incomes is driven by the need of smallholder households to supplement their on-farm incomes just to meet their basic needs. With demand for off-farm employment growing rapidly, and the supply of off-farm jobs growing only slowly, prospects are for steady declines in compensation as more and more households are prepared to take whatever work is available in order to meet their basic needs. The problem is especially acute in the Southern Region where rural household incomes are only 55 percent of the national average, with 60 percent earned off-farm.

In the Northern and Central regions where 80 percent of rural income is earned on-farm, the most appropriate strategy would be to focus on increasing agricultural productivity. The rural economy in these two regions will continue to be based on agriculture for the foreseeable future and any significant growth in off-farm employment is likely to be based on meeting the increased effective demand generated by growth in agricultural incomes and on processing the agricultural products grown in the area.

Increasing off-farm employment opportunities in the Southern Region will require a concerted effort focused specifically on non-agricultural activities. The land holdings are small, household incomes are low, and there is an abundance of underemployed labor. The densely populated region benefits from the services and infrastructure available in Blantyre, Zomba and other cities. Further, the region is part of a larger regional economy extending into Mozambique on the east and west. Needs and opportunities in the Southern Region dictate that it should be the focus of efforts to generate off-farm employment opportunities.

The strategy should have the following four elements:

- Infrastructure development. The region's dense population makes infrastructure development for non-agricultural activities less expensive and more cost-effective than in the other two regions. Roads, electricity and telecommunications should all be improved as needs are identified.
- Institutional development. A regional plan should be developed to identify all of the institutional and support service constraints to non-agricultural growth. The key institutional needs are education, both basic and technical, and financial services. The key supporting service requirements are transportation, sources of intermediate goods, equipment repair capacity, and information technology services. Conditions need to be created in cities and towns to attract these types of businesses.
- Entrepreneurial development. The success of the strategy will be measured by the growth of micro, small and medium enterprises in rural areas, most of which will be locally owned and operated. Their effectiveness will be determined by their technical and business expertise, especially marketing and financial management. It is important that cost-effective training programs be put in place to address these needs.

- Market development. Timely and relevant market information will have to be made available to these budding enterprises. The information should focus on import-substitution possibilities and export markets within SADC. Links with large established businesses based in Malawi or elsewhere in SADC should be facilitated.

Strategic Objective 5: enhanced livelihoods for the food insecure

Smallholder production programs will go far toward alleviating food insecurity in rural areas. However, these programs will not reach rural households who do not have the land, assets or labor to take advantage of productivity increasing innovations. Market-based efforts to increase off-farm employment opportunities described in the previous section will help some of these households meet their needs, but some households living under conditions of extreme poverty will continue to require targeted safety net programs over the next five years and beyond. The exact size of this population and the exact severity of the food security problem are matters of debate, but it is safe to assume that at least 20 percent of the rural population faces serious food insecurity to some degree.

The main problem with the existing safety net programs is that they are neither large enough nor sufficiently targeted to reach those most in need. There is also a need to greatly improve the quality of these programs, especially by incorporating measures to help as many of these households as possible transition out of the need for safety nets. At this juncture there is a need to increase the targeting and cost-effectiveness of the food security programs. The donors need to greatly improve their coordination and work closely with Government to develop a strategy all can agree to, including an agreed upon way to identify needs. This strategy should look beyond simply increasing food availability to increasing household incomes and meeting other basic human needs, especially health. There should be three elements to the strategy.

The first is direct feeding of the destitute and those with special needs. To be most effective it is critical to understand the overall situation of these households, including why they are food insecure and what their other unmet needs are. In most cases, direct feeding programs will have to be combined with other types of assistance. For example, grandparents who are caring for orphans whose parents have died of AIDS need more than food. In one household are the combined needs of senior citizens and children with bleak futures. Pregnant women who are recipients of direct feeding programs are another example. These women should be provided food through health clinics in the context of maternal and child health care program. Finally, in those cases where entire villages are food insecure, school-feeding programs are a way to meet the special needs of children. Virtually all households needing a food security safety net have other urgent needs as well, and in many cases some of these needs can be met with little or no additional resources in the context of the direct feeding programs.

The second element consists of public works to increase incomes and food availability and at the same time address important rural infrastructure constraints. These programs are targeted at people who are food insecure but are able to work. Depending on the causes of food

insecurity, payment can be in the form of food, cash, or inputs. The key is to make sure that these programs do not displace traditional ways of carrying out public works. Whenever there are food for work or cash for work programs, demand exceeds supply. This is the case even when compensation is kept low as a way of assuring that only the most needy receive the work. Lowering the compensation, which is already below the poverty line, might reduce demand but this is not really a solution. Neither is increasing the size of the program since it is likely to displace traditional forms of public works. For public works safety net programs, communities will have to participate in selecting those who should benefit. The communities should also participate in the selection of the public works to be carried out to assure that they address the most critical needs of the locality.

The third element is follow-on programs that help vulnerable households become self-sufficient in meeting their basic needs. This element is targeted at households that are extremely poor because they have no assets and no sources of income. The objective is to help these households reach self-sufficiency by working with them over a period of several years to find income sources. The livelihood enhancing interventions can be carried out in conjunction with direct feeding or public works programs, or as independent livelihood enhancement activities. The programs should consist of a combination of income-generating activities, including trading, agro-processing, and tenancy relationships with larger landholders. NGOs have a strong comparative advantage in implementing these programs. Many have the experience and commitment to look beyond immediate food needs to the overall development needs of the community.

CONCLUSION

The overall goal of Malawi's rural development strategy should be to alleviate the conditions of extreme poverty through broad-based and sustainable increases in rural incomes. The proposed strategy has five elements:

1. Increase the international competitiveness of Malawi's agribusiness sector. The most important overall cause of low rural incomes is Malawi's lack of international competitiveness. Not only are Malawi's agricultural products not competitive in SADC and world markets, they cannot compete with imports in the domestic market. The reasons are easily identified and many can be corrected by improved government policies.
2. Strengthen the agribusiness sector. The existing agribusiness sector in Malawi is small, undeveloped and in many ways unable to respond to an improved enabling environment. Direct assistance should be provided to individual businesses as opportunities are identified. This assistance should be crop-specific and location-specific, based on a careful consideration of markets and productive capacity.
3. Increase smallholder productivity. The first two elements of the strategy address demand side constraints to increased smallholder production. This element addresses the supply side. There are two components. The first is to increase the use of modern inputs where

they are profitable. This involves organizing farmers into production and marketing associations, linking them with agro-processors and exporters, improving and targeting the adaptive research and extension services, and focusing infrastructure development and support services on the targeted geographic areas. The second is to increase the productivity of the large majority of subsistence farmers who will not find it profitable to adopt modern inputs by introducing an integrated package of improved resource management practices, including agro-forestry, livestock production, *dambo* irrigation and crop diversification.

4. Increase off-farm employment opportunities. A growing number of rural households, especially in the Southern Region, do not have enough land to meet their basic needs from on-farm production. The supply of labor for off-farm work is growing rapidly while demand is growing slowly. This strategic element should focus on creating the conditions for non-agricultural employment generation in the Southern Region. A regional plan should be prepared that identifies the infrastructure and institutional constraints to non-agricultural growth, projects to address those constraints should be implemented, and direct assistance should be provided to local businesses to strengthen entrepreneurial capacity and identify and help develop markets for their products.
5. Enhance the livelihoods of the extremely poor and food insecure. This involves developing effective safety net programs that meet the most urgent needs yet do not disrupt traditional coping mechanisms, and, more important, help food insecure households to transition out of the need for safety nets.

This strategy reflects a focus on increasing incomes at the household level. Its success depends on setting realistic objectives based on a sound analysis of opportunities and constraints, and concentrating policies, programs and resources on the achievement of those objectives. The successful implementation of the five strategic elements listed above will result in measurable and broad-based reductions in rural poverty.

CHAPTER FOUR GOM AND OTHER DONOR ACTIVITIES

GOVERNMENT PROGRAMS

The Government of Malawi has a long-standing and comprehensive agriculture development program implemented by the Ministry of Agriculture and Irrigation. This program is described in the MOAI's Agricultural and Livestock Development Strategy and Action Plan and in the Malawi Agriculture Sector Investment Program (MASIP). The focus is on increasing smallholder productivity for the full range of crops grown in Malawi. The overall strategy is organized according to the major categories of agricultural products: food crops, cash crops, horticulture, and livestock. In addition, the strategy has two special areas of emphasis: programs designed specifically for resource poor households and programs aimed at crop diversification. The main thrust of the Government program is on the generation and dissemination of productivity increasing new technologies. Most of the research is carried out on government research stations, but some research is also carried out in field trials and on demonstration farms. The research covers the full range of agricultural products and is aimed at increasing productivity for the major established crops and promoting agricultural diversification. The livestock programs cover dairy, poultry, beef cattle, small ruminants and swine. The horticulture program covers spices, tree fruits, tree nuts, vegetables and cut flowers. Most of the technologies being developed involve the use of modern inputs. These technologies are disseminated through the extension service, which has about 1,600 Field Assistants posted throughout the country. Most of the technologies being disseminated involve the use of modern inputs, but improved practices based around soil and water management are also being disseminated.

The Ministry's research and extension activities are supplemented by programs to distribute inputs and provide marketing services. The research and extension services are mainly responsible for seed development and distribution, while ADMARC and SFFRFM are responsible for fertilizer distribution. The stated goal is to utilize the private sector as much as possible in input supply, but there is no clear line that marks where the government stops and private businesses take over. ADMARC plays a major role in agricultural marketing, based on the premise that there is no other way to assure reliable market outlets for smallholder cash crops. The Government also provides credit through the Malawi Rural Finance Company, but at present most of this credit goes to tobacco farmers.

In general, the Government has identified all of the major constraints facing the agriculture sector and has sketched out programs to address those constraints. What is lacking is a clear sense of priorities. Of the many development goals stated in Government strategy statements, the three that stand out are: increased smallholder productivity through the increased use of modern inputs, food security, and poverty alleviation, especially for the resource-poor households. The cost of the Government program greatly exceeds available resources and to a large extent what actually gets implemented is determined by the agreements that are reached between Government and donors.

DONOR PROGRAMS

The donor programs are almost as wide ranging as the Government's. The programs fall into the following major areas:

- Technology generation and transfer. This is the largest category of donor programs. The main focus is on developing and disseminating improved technologies for the production of traditional food and cash crops but there is an important secondary focus on crop diversification and sustainable agriculture. The major emphasis continues to be on maize, which is by far the most important food crop in Malawi. The objective is to significantly increase smallholder production of hybrid maize using chemical fertilizers. The challenge is to refine the technical package and create the conditions that will make its use profitable. The major donors are the World Bank, the EU and DFID.
- Livestock production. The livestock sector is seen by many as having a large untapped potential. Projects cover the entire sector, including dairy, poultry, beef cattle, small ruminants, and swine. Interventions include animal husbandry, animal health and increased quantity and quality of animal feed. The major donors include DANIDA and FAO.
- Small-scale irrigation. The long dry season has generated a strong interest in promoting irrigation, both formal small-scale irrigated perimeters and informal (non-engineered) *dambo* irrigation. Small projects throughout the country are being funded by a large number of donors, including DANIDA, FAO, Japan, AFDB and GTZ.
- Poverty alleviation. This covers a wide range of community based activities aimed at promoting sustainable agriculture and improving the livelihoods of subsistence farmers. Most donors have small programs aimed at addressing poverty at the local level, often implemented by NGOs. These activities include the distribution of subsidized inputs, small rural credit programs, soil conservation practices, agro-forestry, *dambo* irrigation, and household livestock production. Some of the major donors in this area are: the World Bank (MASAF), DFID, EU, DANIDA, and UNDP.
- Safety net programs. These are programs targeted at the most vulnerable households. They consist mainly of direct feeding and public works programs (food-for-work and cash-for-work). Here again, many donors are involved, including the World Bank, WFP, DFID and the EU.
- Enterprise development. There is relatively little donor support for rural enterprise development. The major activity is the UNDP-funded Enterprise Development and Employment Generation Program located in the Ministry of Commerce and Industry.
- Policy reforms. Some donors are funding policy advisors in the planning departments of various government agencies, but most of the policy reform assistance is taking place in the context of the non-project assistance provided mainly by the World Bank. The assistance comes with policy conditionalities. The policy dialogue through which these

conditionalities are agreed on are the main vehicle for bringing about significant policy reforms in Malawi.

With the exception of the policy reform activities, most of the donor programs are aimed at increasing rural incomes by addressing production constraints. Most of the programs are implemented through government agencies and, to a much lesser extent, NGOs. The approach of addressing rural development from the demand side is lacking in both the government and donor programs.



CHAPTER FIVE USAID/MALAWI STRATEGY

THE STRATEGIC OBJECTIVE AND APPROACH

The Strategic Objective

USAID's strategic objective is to raise incomes and enhance the food security of rural households. Indicators that USAID's strategic objective is being achieved include:

- Increased incomes of rural households;
- Increased value of smallholder production, per household;
- Increased smallholder incomes from cash crops, per household;
- Increased off-farm employment opportunities;
- Increased purchasing power to meet basic needs; and
- Decreased vulnerability to food shortages as measured by household food consumption throughout the year.

This is USAID's existing strategic objective and, given the continuing poverty in rural areas, it is an appropriate focus for the 2001-2005 period. The indicators reflect USAID's primary focus, which is to achieve broad-based increases in the incomes of rural households, not simply increased agricultural growth. In fact, it has become clear that, under present circumstances, interventions aimed at increasing agricultural production through the use of modern technologies reach only the larger smallholders who have the land, assets and access to markets needed to apply these technologies profitably.

USAID resources, of course, are too limited to have a measurable impact on rural incomes at the national level. The direct impact of USAID activities will occur in the localities where they are being implemented. The strategy should also have two indirect impacts at the national level. First, based on its project-level experiences, USAID should advocate for changes in those government policies that are constraining economic growth in rural areas. Second, USAID initiatives should be designed and implemented in close coordination with Government and other donors so that successes can be replicated at the national level. USAID should establish monitoring mechanisms to measure the direct impact of its activities on its strategic objective as well as the two indirect impacts.

The Approach and Rationale

Agribusiness Development

USAID's approach to achieving its strategic objective is determined by the opportunities and needs of the rural sector and USAID's comparative advantages. The opportunities are based on the embryonic market-led growth which has been made possible by the Government's liberalization policies. In Malawi at this time there is only one major growth pole, agriculture. But, for agriculture to grow, Malawi will need markets where its products can compete and these are best developed by the private sector. The heart of USAID's strategy, then, should be to support agribusiness growth in partnership with Government and other donors. In the recent past, there are two areas where USAID has had reasonable success: policy analysis and dialogue related to the enabling environment, and organizing smallholders into production and marketing associations.

The major elements of the enabling environment are related to macro-economic policy, where the IMF and World Bank are taking the lead. Success in improving the macro-economic enabling environment will do more to spur agribusiness growth than all of the programs providing direct assistance to agribusinesses, combined. Since USAID is not a major participant in the macro-economic policy dialogue, it should leave that area to the multilateral institutions, and focus its policy work on issues that are directly related to the objectives of its rural development program.

Beyond policy, USAID has two choices. The first is to put together a program, consisting mostly of technical assistance at the national level, that would help the government to systematically address sector-wide constraints facing agribusiness. These include inadequate physical infrastructure, inadequate and high cost air freight services, inefficient transport links to ports and major markets, the absence of a strong and responsive financial sector, and the lack of key bilateral agreements that would facilitate dealings with trading partners, especially in the SADC region. To be effective this assistance would have to be provided in the context of a policy oriented agribusiness program, since many of the constraints require policy reforms. This would be a very large and long-term commitment, requiring more resources than USAID is likely to have available. Change in the overall conditions being addressed would be slow, difficult and costly, and, given its present moribund state, the private sector's response in terms of increased investment, production, exports and job creation would be even slower. A 10- to 15-year commitment requiring both project and non-project assistance would be required. Given the amount of resources required, USAID would probably have to make a clear commitment to focus its rural development program primarily if not exclusively on economic growth and not on poverty alleviation.

The second approach is to provide direct assistance to individual agribusinesses focusing on the specific constraints they are facing in their efforts to grow and expand into new markets. This approach has several advantages for USAID at this time. First, assistance on a case by case basis can be provided with the resources USAID is likely to have available. Second, the assistance can be focused on specific crops and specific areas of the country where prospects

of success are the most promising. Third, the interventions will have a direct impact on rural incomes, which is USAID's overall strategic objective. Fourth, measurable results can be achieved within the five-year period of the strategy. The specific types of assistance required by agribusinesses are discussed later in this section and in Annex B.

Poverty Alleviation

During the time frame of the USAID strategy, agribusiness growth will have an impact on the incomes of a relatively small percentage of rural households. Government and donors must continue their efforts to increase smallholder production of marketed surpluses, but increasing the incomes of the majority of rural households over the next five years will have to be based on more than modern inputs and agribusiness growth. Economic activity in rural areas is mostly for subsistence. The problem is that a large percentage of rural households are unable to produce enough to meet their basic needs. The agribusiness growth that is likely to occur over the next five years will have a minimal impact on this situation, even taking into account the spread effect brought about by successful smallholder households hiring more labor on their farms and spending more in the local economy.

There are two ways to address the problem. One is to increase on-farm productivity in ways that are not inextricably linked to agribusiness growth, that is, are not dependent on the use of modern inputs that require cash outlays and dependable markets. Annex E presents a community-based model for increasing smallholder incomes using improved land management practices. By introducing an integrated package of agro-forestry, crop diversification, livestock production and small-scale irrigation, smallholder households can produce more from their lands and accumulate assets. By producing more, they will be able to meet more of their needs.

With many rural households having only limited access to land, on-farm productivity increases need to be accompanied by increases in off-farm employment opportunities. Because of the lack of markets, business expertise and capital, non-agricultural economic activity in rural areas cannot become a significant growth pole during the next five years. However, there is demand for consumer goods in rural areas that can be met by local producers, and there are possibilities for small-scale processing of agricultural products for urban and export markets. The result will not be the rural growth and development that many hope can be achieved through agribusiness-led adoption of green revolution technologies, but the ability of rural households, especially the poorest rural households, to meet their basic needs can be increased.

What USAID decides to do flows directly from its strategic objective. Supporting agribusiness-led growth is obviously the first priority because, for the foreseeable future, increasing agricultural productivity based on the use of modern inputs is the only way to increase the GDP growth rate and the only way that rural incomes can rise much above subsistence. In addition to promoting agribusiness growth, USAID could work with the Government and other donors to continue disseminating modern technologies to smallholders. However, the assessment team feels that for USAID to have a broad-based

impact on rural incomes it must take actions that address the needs of the large majority of rural households who will not benefit from these technologies during the timeframe of this strategy. The two areas of strategic intervention proposed above are aimed primarily at alleviating poverty in rural areas within the timeframe of the strategy. However, they both make important contributions to long-term growth and development, the first by conserving the country's natural resource base, and the second by creating the beginnings of an entrepreneurial capability in rural areas.

INTERMEDIATE RESULTS

Intermediate Result 1

Increased smallholder cash incomes resulting from stronger links between agribusinesses and smallholders

The important point to remember here is that increasing incomes from the production of cash crops has proven to be extremely difficult. The constraints are well known. The returns to labor from the production of many cash crops is less than other options available to rural households; farmers cannot afford to purchase modern inputs and credit is not available; marketing channels are undeveloped; transport costs are high; demand is volatile. Nonetheless, increasing agricultural incomes above subsistence means growing cash crops. At present, the two major cash crops are maize and tobacco. Maize is only marginally profitable, and the world tobacco market is not expected to grow over the long term. Malawi needs to grow other crops, either for the domestic market, or for the SADC and world markets. However, except for the large corporations, the agribusiness sector is small, undercapitalized and barely growing. In time, small businesses will have to grow into medium sized businesses, and the medium sized businesses will have to grow into large businesses. This will occur partly through indigenous growth and partly through foreign direct investment. As discussed in previous sections, the rate at which this occurs will depend mainly on the enabling environment for private-sector led growth.

In addition, USAID can provide direct assistance in creating linkages between a growing agribusiness sector and smallholders. The question is, where does USAID have a comparative advantage? Organizing farmers to produce and market cash crops is one area; another is creating savings and credit mechanisms at the local level; yet another is the introduction of improved planting materials. These are all areas of past USAID activity, and continue to be areas of need for Malawi. Based on its worldwide experience, USAID also has a comparative advantage in providing transactional assistance needed by emerging agribusinesses. USAID does not have much experience working with estates, especially large ones. However, many of the privately owned and operated smaller estates are, in effect, emerging businesses that have little or no experience competing in an open market economy, and would stand to benefit from direct USAID assistance.

Another critical area is small-scale enterprise development in rural areas. A significant percentage of smallholder labor time is already spent working off of their farms. In most cases the productivity of this labor, and corresponding incomes, are very low. Efforts are needed to identify opportunities for market-based increases in rural agro-processing. Initially, these businesses will be very small and will supply mostly the local markets, but in time they could become an important source of gainful employment in rural areas. This area of intervention needs to be closely coordinated with USAID efforts to help vulnerable households achieve secure livelihoods.

For USAID, the following avenues are worth pursuing:

- Continue strengthening farmer associations by building on SADP successes. In the end, this is the only way that smallholders will be able to produce for commercial markets. Because individual farmers produce only small quantities of marketable surpluses, they will have to organize themselves into associations as a way to enter the cash economy.
- Work with small and medium estates to facilitate out-grower and other contracting arrangements with smallholders. The large corporate estates are already beginning to diversify out of tobacco. It is likely that the small and medium estates will want to build on their successes. Some markets will require estate production, but for other markets smallholders will be more competitive. Under the right enabling environment, the estates can take the lead, but their ability to respond to an improved environment can be increased by programs to provide technical, marketing and financing information when new opportunities arise.
- Work with agro-processors and exporters to facilitate linkages with smallholder associations. In addition to the market opportunities identified by the corporate estates, there are many possibilities for niche markets in Malawi, in SADC and in the rest of the world. Agribusinesses should take the lead, but USAID can help by identifying promising new markets to explore and helping to match them with interested agribusinesses, including smallholder-owned production and marketing associations.

The objective of these activities will be to help estates, agro-processors and agricultural marketing firms identify markets, identify the sources of financing and technical knowledge to meet those markets, establish strategic alliances with foreign partners, and, most important for the purposes of USAID's strategic objective, establish contractual production and marketing ties with smallholders. USAID's assistance should be focused on specific crops and individual agribusinesses. Annex B discusses specific crops and markets that show promise, but more in depth crop and market assessments will be needed before specific interventions can be identified. Further, agricultural markets are extremely fluid. Any USAID program must be flexible enough to respond to rapid and frequent changes in market conditions. The main thrust of USAID assistance should not be on directly identifying and responding to those changes but on creating the capacity to do so on Malawi's private sector. It is important that any activity to support agribusiness be proactive in identifying crops and agribusinesses to work with. A passive business advisory service waiting for targets of opportunity to develop is unlikely to achieve significant results, but a carefully targeted

aggressive agribusiness activity will result in increased cash crop production and increased cash incomes for smallholders.

Several key assumptions are required for this intermediate result to be achieved. The most important is that the policy framework is in place to maximize the competitiveness of Malawi's agribusiness sector and provide a business climate that encourages private investment. USAID should be actively involved in assisting the government to create this enabling environment. This is discussed further below. A second assumption is that there are businesses and estates with the business expertise, technical knowledge, and access to capital necessary to pursue and supply new markets. Outside of the large corporate agribusinesses, the pool of such businesses is small. Indigenous growth will necessarily be slow, but the process can be speeded up considerably with private foreign investment. An important part of improving the enabling environment will be to remove all unnecessary obstacles to the flow of foreign capital into the Malawian agribusiness sector. A final assumption is that smallholders are in fact able to produce the agricultural products needed by these agribusinesses. The agribusinesses will have to take the lead in organizing the farmers for production and marketing, and provide them with the technical knowledge and inputs necessary to produce the quantities and quality needed. However, by continuing an SADP type of activity, USAID can significantly facilitate this process.

Intermediate Result 2

Increased smallholder productivity and incomes based on improved natural resources management

With population growth, the smallholder sector is experiencing declines in the size of holdings, soil fertility, yields and incomes. The present strategy for reversing these trends is based primarily on the use of modern inputs during the rainy season. However, for a variety of reasons, including lack of assets, high risks and low financial returns, labor shortages at key times during the growing season, and unreliable market outlets, most smallholders have not adopted these new technologies. The need at this time is to increase the productivity and incomes of these households while reversing the steady degradation of the natural resource base. Indicators that this intermediate result has been achieved will include:

- Increased incomes from agro-forestry, livestock production and small-scale irrigation;
- More diversified production of rainy season crops;
- Increases in soil fertility and resulting increases in yields; and
- Increases in asset accumulation resulting in the increased ability to meet basic household needs and increased ability to adopt modern production technologies.

This results package should encompass the following four sub-results:

- Crop diversification. The objective is to encourage farming systems that contribute to soil conservation, increase incomes, alleviate peak period labor constraints and improve food

security. The crop mix on individual holdings will vary greatly, but in general there will be some shift out of maize into other cereals, root crops and legumes.

- Agro-forestry. Trees are a way to utilize the land throughout the year. In addition to being a source of income, they provide organic matter and nitrogen to the soil and forage for livestock, and are a means of saving.
- Livestock, including cattle, small ruminants, pigs and chickens are another way to use land year round. They are a source of income and a means of savings, and provide organic matter to the soil. Some of the forage will come from trees, but forage grasses will have to be grown as well.
- The dry season small-scale irrigation potential is greatly underutilized in Malawi. Well-designed dams can increase crop production, provide water for animals, and reduce siltation problems that are threatening the country's lakes and rivers.

The most effective approach for achieving these sub-results is to work through community groups. The technical packages have been developed and are available for dissemination. Appropriate planting materials have been identified and tested. The next step is seed multiplication, which can be done through estates or smallholder groups depending on the required growing conditions. It will also be necessary to identify market outlets for the increased production. This will require coordination with the agribusiness development efforts under I.R. 1, especially the efforts to organize farmers into marketing cooperatives. It is important to emphasize that the four sub-results listed above are not stand-alone objectives. They are an integrated set of innovations that, when adopted as a package, will improve the livelihoods of the large majority of smallholder households, and increase the sustainability of smallholder agriculture in Malawi.

There are four key assumptions that affect the feasibility of this sub-result. The first and most important is that there are organizations capable of disseminating the technical information and organizing farmers. Second, the communities must be willing and able to adopt the innovations. Third, the target population must perceive the innovations as profitable. Fourth, the labor requirements of the innovations must be consistent with the availability of labor in the community. Based on the MAFE and SADP experiences, it is reasonable to expect that these assumptions are valid in many parts of the country.

Intermediate Result 3

Increased food security of vulnerable households through livelihood enhancement

Although there is little information on what percentage of rural households is food insecure, there is no doubt that it is substantial. Consequently, there are large government and donor safety net programs to address the problem. Most of these programs have three major shortcomings. First, because they are poorly targeted, they can have the effect of disrupting markets and discouraging commercial activity. Second, because not enough is known about traditional coping mechanisms and informal safety nets, some food distribution programs have had the effect of actually increasing long-term food insecurity in certain localities. Third, very few programs link food security programs with programs to reduce the future

need for government safety nets. This is an area where USAID can make a difference, initially at the level of individual communities and later, through replication, at the national level.

The objective is to develop an integrated safety net program that reaches the truly vulnerable groups with the appropriate mechanism, either direct feeding or public works, for increasing immediate access to food, and combining that with multi-year follow-on programs to remove the causes of food insecurity for those particular target groups. This involves three sets of activities:

- Studies and data gathering to better understand the magnitude, location and causes of food insecurity. There is much to build on, including work being carried out by FEWS, the NEC, donors, and social research institutions. The task now is to analyze the data, fill in the gaps, and use the information for better targeting and design. USAID should be actively involved in this process.
- Distributing food to vulnerable groups, either through direct feeding or public works. Direct feeding should be combined with other services, such as health for mothers, children and the elderly, or schooling for children. USAID can support public works through a combination of food, cash, fertilizers and seed. The key is to make sure that form of compensation meets the circumstances of the target group, and that adverse impacts on traditional ways of carrying out public works are minimized.
- Follow-on activities to reduce the future need for government safety nets. There are several models for this type of activity, but they all involve bringing vulnerable households to the point where they can provide for their own livelihoods. USAID is currently financing a pilot CARE livelihood enhancement activity in the Central Region. A USAID-funded integrated safety net program could build in this activity and expand it to other NGOs and other models. USAID should have a program that invites NGOs to submit proposals for funding, and provides performance-based grants aimed at improving the livelihoods and financial self-sufficiency of vulnerable households. As can be seen from Annex E, the needs are particularly great in the Southern Region.

Major donor support is already being provided for food security programs. USAID can contribute to the improved design and targeting of these programs, but its major contribution would be the programs that are aimed at helping vulnerable households to transition out of the need for safety nets. Given the fact that most food insecure households have little or no access to land, a major focus of these follow-on activities will be the promotion of off-farm income generating activities. There is an urgent need to create opportunities for gainful employment so that rural households can earn higher incomes based on increased productivity instead of earning whatever they can for the purpose of meeting their basic needs. This will have to be addressed at two levels. First, there needs to be a strategy for creating the dynamic conditions that will cause jobs to be created. This means identifying markets that can be supplied by rural industries and determining what incentives and support the emerging small and micro-enterprises will need. Second, direct assistance will have to be

provided at the community level, including labor skills training, and business advisory services to micro-entrepreneurs.¹¹

The most important assumption affecting the achievement of this intermediate result is the ability of government and donors to agree on a common approach to alleviating food insecurity. USAID can make a difference in individual communities but its activities by themselves cannot have a measurable impact at the national level. The most important need is to agree on the targeting mechanism. Then it is necessary to agree on the most effective and least disruptive ways of meeting the needs of the target groups. In the long run, the need for safety nets can be reduced only through broad-based economic growth. Initially, this growth will occur mostly in the agriculture sector but, over time, increased incomes will have to be derived more and more from off-farm employment. This is especially true of the vulnerable groups who are the targets of safety net programs. Whether these off-farm opportunities are available will depend to a large extent on the government's overall policy framework, and how Malawi evolves within SADC.

ACTIVITIES TO ACHIEVE THE INTERMEDIATE RESULTS

It is beyond the scope of this rural sector assessment to get into the details of the USAID program, but it is useful to provide the broad lines of the interventions that will be necessary to achieve each of the intermediate results and ultimately the strategic objective.

- I.R. 1 would require an agribusiness project that could include a follow-on to SADP with more flexibility in how farmers are organized, but should also include other activities that would work directly with estates, agro-processors, agricultural marketing firms, and exporters. The Land O' Lakes initiative would be included under I.R. 1, and similar activities could be added as opportunities arose.
- I.R. 2 would require what is essentially an expansion of the MAFE approach. MAFE focused on agro-forestry. Achieving I.R. 2 would require expanding the interventions to include livestock production, field crop diversification and small-scale irrigation. COMPASS would also be included under this I.R.
- I.R. 3 would require activities that build on the CARE pilot project, including the funding of other NGO activities with similar objectives but different approaches. Several of these activities were identified during this consultancy. Direct feeding and public works programs should be added where and when appropriate.

¹¹ Annex F, which provides detailed information on the contribution of the rural off-farm sector in Malawi, was prepared after the work of the rural assessment team was completed and its findings are therefore not incorporated into these recommendations for a USAID strategy. However, it is clear from the analysis in that annex that off-farm employment generation should be an integral part of any rural development strategy in Malawi. A USAID-funded off-farm employment generation activity, especially in the Southern Region, would not only improve the livelihoods of the poorest households in that region, it would also contribute to the long-term growth of the rural economy.

In addition to activities contributing specifically to each I.R., two crosscutting activities would be needed in support of all three I.R.s and the overall strategic objective.

The first is an activity to improve the policy environment for broad-based and sustainable agricultural growth. The policy agenda for this project would focus on those policies that are important for the achievement of the three I.R. s. The three policy areas would be: the enabling environment for agribusiness growth, improved food security policies, and improved natural resource management polices in support of sustainable agriculture. In addition to studies and analysis, there is a critical need for better information on which to base policy decisions. The activity would have to generate some of this information, but its most important role will be to advocate for better data collection by government agencies and donors. The key issue here, of course, is recurrent costs. The major reason for the lack of good data is that the Government is trying to collect too much information with the limited resources that it has available. The solution will require a combination of priority setting to concentrate on the most important information needs, improved data collection methods, some increased funding by Government with financial support from donors, and increased data collection by donor projects, including those funded by USAID. One of the roles of the USAID-funded policy analysis project will be to identify information needs and propose actions for meeting those needs.

The second is a seed multiplication and distribution project, especially in support of I.R. 2, but also needed for I.R. 1. The main objective would be to increase the availability of improved plant materials needed for year-round diversified production, including legumes, cereals, root crops, and tree and forage crops. The secondary objective would be to supply the seed varieties needed to respond to new markets for cash crops. The research centers -- ICRISAT, IITA, ICRAF -- are well equipped to identify improved seeds and plant materials and promote them through the extension service and specialized NGOs. Multiplication, however, is a commercial activity that should be placed in the hands of private producers such as estates, farmer organizations and seed companies. In most cases, the plant materials should be sold at full cost to USAID-funded extension projects, other donor projects and private farms and agribusinesses.

ANNEX A
AGRICULTURAL PRODUCTION SYSTEMS

Killy Sichinga



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QUOTATIONS

“I feel the extension workers are busy learning from me! The extension worker must demonstrate by producing own good crop.” Statement from one women farmer at Chintechi EPA, while discussing the processing and production of root crops. (M Saka, 28/3/99).

“If you value government resources and peoples dignity you will move away from free handouts. The free inputs are nice but who really pays for them?” Statement from farmer at Chisenga EPA, Chitipa (C. Mulaga, 3/4/99).

“Most of my neighbors are lazy, I have tried to teach them how to grow *dimba* crops, but they prefer to rent out their dimbas to people from other districts. Well, they are starving out of choice” Vegetable and Banana grower at Che-Mapila village Mangochi. (Mwiba-Home Based Care Study, 11/3/99)

“The starter pack is very nice, but look at the land here, rich soils, plenty water, who needs fertilizer inputs! I leave on cassava and pulses, this year I will have a bumper crop of both maize and cassava. Look at the water and forests it is really a nice place to live, why don't you move here.’ A village Traditional Healer at Chapamatha, on the edges of Ntchisi forest reserve, Nkhotakota (Banda 5/3/99).

“Of course I am still here because I need to earn income from estates, else I would have moved to Mozambique where there is plenty of agricultural land. Actually, part of my family is in Mozambique cultivating while I work here.” Statement from an individual during crop production discussions in Phalombe (Phiri, March 1999)

“The road status between Thyolo and Blantyre is making the tea growers lose millions through car and truck maintenance; do the road and our problems will be half way solved.” Tea estates owners meeting in Thyolo (1997).



SMALLHOLDER PRODUCTION

This annex will concentrate on the agricultural production systems in Malawi up to the farm gate level. It will provide a brief description of Malawi's smallholder sector then examine the opportunities and constraints for transforming them into more productive sectors. The analysis deals mainly with production systems on the customary lands, which account for 65 percent of the land in Malawi.

Malawi's smallholders are typically subsistence farmers producing mostly for on-farm consumption. The major food crops are maize, sweet potatoes, beans, and more recently, cassava. Other food crops include millet, sorghum, rice, and a wide range of pulses, with the particular mix of crops varying depending on the region. The two major cash crops are tobacco and hybrid maize. In addition, surplus quantities of food staples are sold in the urban markets, and cotton, coffee, rice, groundnuts, pulses, oilseeds and other minor products are sold in very small quantities to small traders, processors and exporters. Tables A-1 and A-2 present historical data on smallholder crop production and area planted. Table A-3 shows quantities of agricultural exports since 1970. The following paragraphs provide additional information on major crops and how they fit into the smallholder farming system.

FOOD CROPS

Maize, the main staple in Malawi, is grown in all districts of the country, with the largest production in the Central Region upper plain districts (92,000 tonnes) and Kasungu (81,000 tonnes), and the lowest in Nkhata Bay (4,500 tonnes) and Nsanje (5,000 tonnes) districts.¹ Of the 1.3 million hectares planted in maize in recent years, about 900,000 hectares is in local maize and 400,000 hectares is in hybrid maize. Depending on rainfall, hybrid maize can account for up to half of the total maize production of the country. Because of the input costs associated with maize production, the large majority of smallholders grow the local variety. The role of hybrid maize in the smallholders production system is currently in transition. With the elimination of input subsidies and changes in the relative prices of maize and inputs, hybrid maize is generally not profitable as a smallholder cash crop. It continues to be profitable for home consumption, however, but smallholders must earn cash income either from a cash crop or off-farm employment, in order to be able to purchase the inputs necessary to grow the maize.

Pearl millet is grown in the Shire valley and to a small extent in Mzimba and Chitipa districts. Production in 1997/98 was estimated at 19 thousand tonnes on 35 thousand hectares of land. The average yield is 600 kg per hectare. In Chitipa and Mzimba districts, where millet is grown as a component of shifting cultivation systems, land pressure has greatly reduced the amount of millet grown as a staple crop.

¹ Administratively, Malawi is divided into three regions, Northern, Central and Southern. These regions collectively are divided into 26 districts, which are further divided into 188 Traditional Authorities (TA). This section will generally refer to district names when specifying where certain crops are grown.

Sorghum is an important staple food in the Shire Valley and a food security crop in other marginal rainfall areas. The total area under sorghum is estimated to be between 70 and 80 thousand hectares nationally.

Rice is one of the main cereals grown along the lakeshore, Phalombe and Lake Chilwa plain, and the Lower Shire Valley, either in irrigated rice schemes or rainfed lowland areas. The production figures are not impressive. Currently rice is grown on 41,000 hectares, with annual production varying between 30,000 and 73,000 tonnes due to changes in area planted. In 1997/98 total production was estimated at 69,000 tonnes.

Sweet potatoes are a traditional staple in Malawi, and are grown by nearly every household. They are mainly grown as a breakfast food. Estimated production for 1997/98 was 1.4 million tonnes on 135 thousand hectares.

Cassava is a staple for Nkhata bay, Nkhota kota, Rumphu (Henga valley) and Karonga (lake shore areas). It is also grown in all parts of the country as a food security crop. In Lilongwe, Zomba, Mulanje and Dedza it is also grown as a cash crop sold to urban consumers. Official statistics show current production at over 800,000 tonnes on 150,000 hectares.

A wide variety of pulses are grown in all parts of Malawi, mostly as a staple. Production is estimated at 210,000 tonnes on 400,000 hectares. The main crop is beans, accounting for over one third of total pulse production in some years. Other important pulses include guar beans (1,500 tonnes), soya beans (28,500 tonnes) and ground beans (5,000 tonnes). Pulses are an important part of the Malawian diet, traditionally inter-cropped with maize on smallholder farms.

Plantains are a staple in Misuku hills, Karonga, Nkhata Bay and Mulanje.

Irish potatoes grow best in areas of high altitude and rainfall, for example in Tsangano, Neno, Dedza, Shire Highlands, Viphya Plateau, Ntchisi, Phoka and Misuku Hills. Production has grown rapidly over the past decade reaching an estimated level of 120,000 tonnes on 13,000 hectares in 1998.

CASH CROPS

Over 200,000 rural households are growing tobacco. Every district in Malawi has smallholder farmers growing tobacco, with most of the production in the central plains region of Kasungu and Lilongwe. In 1997/98 smallholders grew 81,300 tonnes of burley tobacco and 9,600 tonnes of nddf tobacco.

Cotton is a cash crop for farmers in the Shire Valley, in the lake shore areas of Karonga, Salima, Nkhotakota, Mangochi, Bwanje valley, Zomba West, Machinga, Balaka, Mwanza/Neno plains, Henga Valley and the Khamanga plains. The total area cultivated is estimated at 60,000 hectares with production fluctuating between 33,000 tonnes and 45,000

tonnes. In extreme drought situations production may drop to 14,000 tonnes. In 1998 production was 36,000 tonnes on 45,000 hectares.

Coffee is mainly a smallholder crop grown in Misuku Hills, Viphya Highlands, and in the Rumpi Hills on the southern slopes of the Nyika Plateau. Coffee is also grown in the Shire Highlands area. Total production for 1996/97 was estimated at 200 metric tonnes, grown on 1,130 hectares by 8,900 smallholder growers. To a limited extent estates in Blantyre, Chiradzulu, Thyolo, Zomba and Mulanje plant coffee. (See Table A-10 for data on production levels since 1980.)

Spices are grown on a small scale in Malawi by smallholder farmers. Chili production is estimated at 2 tonnes on 4,000 hectares. The potential to grow spices is high but the domestic market is small and the export markets are highly competitive, so most smallholders grow small amounts of turmeric, ginger, cardamom, pepper, coriander and cinnamon for local markets.

Vegetables are grown by smallholders to supply urban centers and, to a much lesser extent, for export. Currently the market and transport situations are not favorable, and as a result most of the production does not reach the market and perishes. Poor packaging also contributes to vegetables not reaching the market. There are limited statistics available on vegetable production. The Agro-Economic Surveys and National Statistics Office (NSO) do not collect statistics on farm gate prices or local market prices, and need to incorporate marketed volumes in their reports.

Malawi has many micro-climates that support both tropical and sub-tropical fruit production. Mangoes are a Malawian household fruit. Many smallholder gardens are dotted with mango trees, especially along the rift valley. Although the volume of mangoes produced is quite large, 50- 80% never reaches the consumer, as it perishes in the field or market place.

Bananas are grown mainly in Thyolo, Mulanje, Nkhata Bay and Karonga. Most Malawian households grow bananas. Thekerani, a banana area in Thyolo District takes a lead in the organized marketing of bananas. The bananas on the urban streets of Lilongwe and Blantyre are from Thekerani.

Citrus fruits are grown all over the country with marketed supplies grown in the Mwanza/Neno area which supplies Malawi with tangerines, oranges and lemons. Avocado and pineapple are mainly grown in the Shire Highlands and are marketed to all parts of the country. The Central and Northern highlands also grow these fruits in small quantities. Apples, peaches, plums and pears are grown in Malawi on a very small scale. Urban centers depend mainly on imports from South Africa and Zimbabwe.

The most commonly grown tree nuts are macadamia, and cashew. Cashew nut area is estimated at 800 hectares of which 200 hectares are under smallholder production. Estimated cashew production was 153 tonnes in 1997/98 and macadamia production was 214 tonnes on 2,181 hectares, (of which only 100 hectares was by smallholders).

ANALYSIS OF AGRICULTURAL PRODUCTION SYSTEMS

EVOLUTION OF LAND TENURE AND LAND USE SYSTEMS

There are three land tenure systems in Malawi -- Customary, Freehold and Leasehold. The farming systems are usually identified with the tenure system. The smallholder subsistence farming system operates on customary land and the major cash crop systems are on freehold land (tea and tobacco) and leasehold land (tobacco and sugar). Customary land is distributed evenly throughout the country and is divided into "traditional authorities" (TA), where people own land in a communal manner. TAs are further sub-divided into sub-traditional authorities, then groups of villages under a Group Village Headman, and, finally, villages under a Village Headman. Freehold estates and leasehold estates as well as cities fall within TA boundaries, however the traditional chiefs have no authority over them.

All land in what was formerly called Nyasaland was originally communal land. However, by virtue of colonial proclamations and legislation it was turned into Crown land, accompanied by authority to dispose of all land through the Commissioner and then the Governor of Nyasaland. Communal land was turned either into private land allocated to British settlers, or to public land required by the colonial administration itself. The land required by natives was reserved as African Trust Land, but was always available for conversion into private land and public land.

After independence no substantive policy change was brought about in land matters. African Trust Land became customary land and the state had powers to deal with it as it pleased. Title to customary land was vested in the President. Private titles to land were recognized and private land was protected. The Minister of Lands was granted the authority to dispose of customary land through leases and in any manner he wished. Customary land was converted to private land for agricultural and other purposes without compensation to communal owners of the land.

The law governing land matters in Malawi ranges from the constitution to statutes and custom. The law creates a complex regime of rules and practices extending to issues of land tenure, land use and inheritance of land². The Land Act, passed in 1965, did not effect a fundamental change in the law and policies.

The current land ownership situation, whether it be customary, leasehold or freehold, seems adequate on the surface. However, land rights are not being enforced and land transfers are virtually impossible to transact because the rules and regulations are so complex. Leasehold land is granted more expeditiously to people with political connections or influence. The majority of freehold landowners inherited their land during the pre-independence era. The 1995 Constitution has not changed any laws on land inherited during the pre-independence era.

² Modecai Msisha, Land law in Malawi. January 1998.

The Lands Acquisition Act of 1970 empowers the Minister of Lands to acquire private land whenever the government deems it to be in the national interest³. The effect of this act is that currently in Malawi no land tenure is secure, as the decision to change the tenure of any piece of land can be affected by the Minister without the occupants of the land having much of a say.

THE SMALLHOLDER SECTOR

Subsistence Farming Systems

The Land Constraint

The majority (85%) of Malawians lives on customary land and practices smallholder crop production. The average land holding estimated for 1998/99 is 0.45 hectares. Seventy-eight percent of all smallholders have land holdings of less than one hectare and 93 percent have land holdings less than two hectares.

Table 1: Land Distribution of Smallholders (%)⁴

Holding size	Smallholders	Smallholders	Holding size	Smallholders
Hectares	1980/81	1992/93	Hectares	1998
Less than 0.5	24	44	<1	78
0.5 - 0.99	31	29		
1 - 1.49	19	13	1-2	17
1.5 - 1.99	11	6		
2 - 2.99	10	5	≥2	5
3 and over	5	2		

Table 1 shows the declining trends in size of holdings. The size of holdings varies considerably by region and district.⁵ The expected holding size for an average household is between 0.5 - 1 hectare for the maize dominant areas and less than 0.5 hectares for cassava and rice areas in the central, southern and northern regions. Female-headed households have smaller holdings. The Shire Highlands, Likoma Island and Lilongwe District have land problems, and most households cultivate less than 0.2 hectares.⁶ Due to small land holdings,

³ This is Act No 21 of 1970 and cap 58.04 of the Laws of Malawi, section 3 of the Lands Acquisition Act.

⁴ Land holdings are monitored every ten years under NSSA, 1968/69, 1980/81 and 1992/93. The changes in sizes are quite proportional to population increase, so estimates for 1998 can be considered reasonably accurate.

⁵ See Tables A-4, A-5 and A-6 for trends in population density by district, and trends in agricultural land holdings by ADD.

⁶ Information on holding sizes are aggregated at ADD level. It could be more informative if the data is at RDP/District level since districts differ on holding size. Example Karonga and Chitipa, Lilongwe and Dedza.

cropping rotations are not extensively practiced and fallow periods are not common (NSSA, 1968/69, 1980/81, 1992/93; studies done by Center for Social Research and Agricultural Research and Extension Trust).

Tobacco growers tend to have slightly larger holdings. Areas like Misuku Hills, Thekerani, Viphya, Neno, which have cool climates and grow a lot of fruit crops, also tend to have smaller holdings, as do areas near cities or next to large plantations. Larger holdings are common in less fertile areas, and farmers in these areas are more likely to use draft animals. There is no demarcation between grazing areas and gardens. Consequently, there are conflicts between grazing land and cropland (Land reform, Reports 1998). On most days rural traditional courts are resolving issues concerning cattle grazing in other people's gardens. Overall, the story is clear; land holdings are very small in most parts of the country and getting smaller.

The Labor Constraint

In many areas of Malawi, the size of land holding is limited by land availability, but the size of the cultivated area is also limited by how much a person can cultivate manually.⁷ The size of household cultivated areas are relatively small even in ADDs like Karonga, Mzuzu, and Kasungu, where land is relatively abundant⁸. The current axe and hoe production system cannot produce more than 2 million tonnes of maize due to these seasonal labor constraints. Studies and agro-economic surveys indicate a half-hectare limit for a family of two active adults and two children manually cultivating a maize plot. Farmers with draft animals can cultivate up to 5 hectares of maize in pure stand. Smallholders are known to have over 5 hectares of bananas and easily manage to look after them with hoe and axe, which is the case in the Karonga at Lupembe area. Smallholders also plant fruit trees and natural trees in their fields since on rural customary lands you only own a tree inside your maize field or garden. This makes it difficult to use tractors for cultivation, but draft animals can be used.

The Use of Improved Technologies

Nearly all food crops can grow without use of mineral fertilizers. However, the decline in soil fertility requires more and more fertilizer to maintain yields, especially for hybrid maize. Annual sales of fertilizer to smallholders fluctuate from 80,000 metric tonnes to 152,000 metric tonnes, most of it used on tobacco. In the 1998/99 season, seeds and fertilizer were distributed free to smallholder farmers throughout Malawi, through the Starter Pack program.

Smallholders generally have no assets to use as collateral when applying for loans. The general condition is that the smallholder lives in a thatched mud house, with no furniture, sleeps on the floor and has one pair shoes. Smallholders typically have no radio or bicycle

⁷ Critical labor constraints during planting, weeding and harvesting periods have been confirmed by production cost surveys in the late eighties and other related studies like the tobacco and maize production studies conducted by The Agriculture Research and Extension Trust.

⁸ Land studies indicate that ideal land is available in nearly all ADDs.

and their only assets are surplus production (NSSA, 1992/93). This effectively prevents most smallholders from using modern inputs.

Dry season Cultivation

Introduction of dry season cultivation may help to increase production of food crops in Malawi. However this must take into consideration free range livestock grazing during the dry season, and the need to fence *dimba* gardens. Currently dry season farming takes place in selected areas like Chikwawa and Tsangano area. Farmers do not adopt dry season cultivation because they have other off-farm subsistence alternatives. When food is really a problem, farmers will move to *dimba* cultivation. The farmers also may avoid dry season cultivation for security reasons, as one needs constant surveillance from theft. In Lilongwe two *dimba* farmers were interviewed, one near Lilongwe Bottom Hospital and one at Ching'anga Village (nine kilometers on the Mchinji road from the Lilongwe hotel). These sentiments were also expressed by Chief Njewa and the Village Headman, Ching'anga (1/5/99), who indicated that because they have to guard their crops even during the day, they have no time for other activities. These isolated interviews are in agreement with concerns cited by TAs throughout Malawi during land reform interviews in 1997 and 1998.

Farm Labor and Off-farm Employment

As noted above, most smallholders have labor constraints during periods of peak agricultural activity. This is reflected by the fact that, on average, they hire labor for land preparation, weeding, fertilizer application, harvesting, transport and grazing. The NSSA, 1992/93, indicates that the highest labor constraint is during land preparation and harvesting. Households hire labor in the form of labor exchange, that is, today we work in my field and tomorrow in your field. Sometimes labor is exchanged for food or salt. Hiring and exchange of labor during labor intensive periods is done in all districts.

Table 2: Average working days in off farm activities per household

	July – October	November – January	March – June
Fishing	35	33	40
Paid Employment (Estates)	67	60	69
Paid Employment (<i>ganyu</i>)	22	17	24
Paid Employment (other)	54	52	56
Other/Unknown	32	29	31
Beer Brewing	16	16	15
Basket Making	20	30	26
Brick Making	19	19	24
Charcoal making	26	26	19

Source: NSSA 1992/93

The number of hours spent on off-farm activities, as shown in Table 2, does not vary very much from season to season, the reason being the labor requirements for non-agricultural activities do not change much from season to season. The smallholder household spends 108

days fishing, 196 days working in estates, 63 days doing *ganyu* (piece work), 162 days paid employment, 92 days self-employment, 47 days beer-brewing, 76 days basket-making, 62 days brick-making and 71 days charcoal-making.

This data shows that, on average, smallholders spend 230 days working on non-farm activities (39 days fishing, 73 days on estates, 23 days doing piece work, 60 days paid employment, 34 days doing their own business, 17 days brewing beer, 28 days basket-making, 22 days brick-making and 26 days charcoal-burning). This implies that the smallholder farmer, on average, spends less than 136 days in a year for agricultural activities.

Security

Farmers in all parts of the country are facing security problems. There is frequent theft of livestock and food crops. In each of the 188 TAs visited during 1997/98 land reform studies, the people and the chiefs were concerned with security. The reason for not keeping livestock and poultry in most areas was because of theft. These problems are more intense in areas near the cities of Lilongwe and Blantyre. One Lilongwe water board engineer explained during an interview that he no longer had water treatment problems (common during the seventies) because their catchment area was now cattle free.

Markets

Until the early 1990s, the Agricultural Development and Marketing Corporation (ADMARC) was responsible for purchasing all cash crops and surplus food crops from smallholder farmers. The liberalization program allowed private traders to purchase crops directly from smallholders. Unfortunately, private traders do not reach most farmers who live far from proper roads. This limits farmer access to input and produce markets.⁹ Because most rural farmers have problems disposing of surplus production they generally reduce production to meet their subsistence needs. (Private trader interviews conducted by the marketing section of the Ministry of Agriculture and Irrigation, 1993-1999, Mpande, M & P section, MOAI). Special fieldwork was also conducted by USAID in 1994 and 1995 to check markets and private traders. The findings were clear that private traders only operate in areas where they have good roads or where high value crops like tobacco are produced. In March 1999, field visits to 15 EPAs in ten districts indicated that many smallholders continue to have only limited access to markets to sell products.

Smallholders produce small quantities of cash crops due to small land holding sizes. As a result, farm gate production is so small that it makes sense to organize smallholders into associations that can link with private traders. Women farmers in Chitipa (C Mulaga) at Chisenga suggested a cooperative which could bring inputs to the village and also purchase produce and sell it on the national market. The suggestion is the cooperatives should also administer credit at the community level. When the community owns the cooperative it is

⁹ See Table A-1 for a picture of the general downward trend in groundnut, soya bean and cash crop production.

simple to know who can be given credit. The suggestion is to have a reasonable interest system, where local arrangements can be made to supply inputs and purchase produce later. Communities may need an initial grant to start a cooperative, however they should also contribute to the building of the cooperatives' stores. The government would have to facilitate this initiative by improving roads and providing market and price information.

Research, Extension and Statistics

Malawi has a very extensive research system conducting research in all crops at Chitedze, Makoka, Bvumbwe and Lunyangwa Research stations¹⁰, which, together with international research organizations like ICRISAT and NGOs like CARE, have released many locally and internationally research varieties to farmers. The Research Department has also published annual research reports, descriptions of crop varieties grown in Malawi and reports on many research trials.

The adoption of new varieties of seeds and plants, especially those not requiring chemical inputs, has been very fast. However, the change back to traditional varieties has been equally fast. Farmers adopt new varieties for the following reasons:

- They need to grow crops that will provide them with food security; and
- The willingness to participate in cash crops to earn an income.

The reasons why farmers reverse quickly back to traditional varieties are:

- The new varieties like potatoes and cassava just introduced have high pre- and post-harvest losses. The farmers need to learn on how to store the crop and process the crops (farmer interviews).
- The farmers have not acquired the taste for new varieties so they prefer their traditional foods.

The Agricultural Extension Service has field staff all over the country. There are 1668 Field Assistants (FA) in Malawi covering 2006 sections. These form the grassroots level of the extension system, which is responsible for disseminating research and training farmers on new farming practices. Extension workers are also supposed to share on-farm experiences among farmers. The extension branch has published the Guide to Agriculture Production in Malawi and the Calendar of Agricultural Field Activities which are very comprehensive and up to date. The calendar and most extension materials are given free.

The extension and research services must now move more towards pre- and post-harvest losses, food processing, storage and consumption. Smallholder farmers have indicated these concerns during extension meetings aired on local radio. During crop estimate visits in March 1999 in Lilongwe, Mchinji, Kasungu, Nkhata bay and Balaka (Killy Sichinga, Mike

¹⁰ There are other research stations and farm institutes like Baka in Karonga, Choma in Mzuzu, Tuchila in Mulamje etc which handle research in livestock and special crops.

Felton and Benson Phiri) farmers identified storage, processing and marketing as major concerns. Proper processing, harvesting and consumption of cassava makes the households food secure. Farmers have expressed the desire to learn more about new varieties of cassava and potatoes, and about the storage and processing of these important crops.

Statistical information in Malawi must be treated with caution. Currently agricultural and national statistics are not analyzed or stored in an appropriate manner. There is no institutional memory or capacity to process and retrieve statistics. Several studies have been conducted by USAID, FAO and the EU on agricultural statistics, the most recent by FAO, which is recommending improvements in the collection of agricultural statistics. Dr. Acoroda, the current USAID consultant on root crop production estimates, has outlined ways to improve root crop estimates in Malawi. For the agricultural sector, there is a need to have a central agricultural statistics office responsible for the processing and analyzing of all agricultural statistics. The EU has also recently (January 1999) commissioned IFAD to investigate the quality of crop estimates and make recommendations.

The Estate Sector

Estate¹¹ farming systems could be divided into several sub-components depending on the major cash crops grown by the system. Current estate land, estimated at 1.1 million hectares, is under sugar, tobacco, tea, maize, and a number of other minor crops.

The estate sector contributes over 70 percent of total export production, mainly from tobacco and tea. Due to the current food security situation some estates are moving towards staple crop production so as to complement smallholder production of these crops. The additional production of staples by estates is still small.

A conditionality imposed on the estate sector is to leave at least 20 percent of estate land in wood lots, 20 percent under tobacco and the balance under fallow or other crops. The estate sector is the only farming sector for which the government has designed mechanisms to monitor good land management.

Table 3: Number of Estates in Malawi¹²

ADD	Number of Estates
Karonga	50
Mzuzu	2,100
Kasungu	8,500
Salima	1,700
Lilongwe	1,400
Machinga	1,100
Blantyre	120
Lower shire	30

¹¹ Any holding with more than 10 hectares of land is treated as an estate.

¹² Source: Lands Department Data base files, 1999. The figures include estates that have not yet been granted leasehold.

The Major Estate Crops

Leasehold Land Sugar Estates

The sugar industry has 17,724 hectares of leased land in sugarcane production. Sugar is grown mainly on two estates¹³ -- Ntchalo estate in Chikwawa district and Dwangwa estate in Nkhota kota District. Both estates use irrigation. Smallholders are allowed to operate on the Dwangwa Sugar estates on sub-lease terms. There is also a smallholder sugar program being developed near Ntchalo estate (Kasinthula scheme). In 1998, sugar production was estimated at 200,000 tonnes of which 10,000 tonnes was smallholder production. (See Tables A-7 and A-8 for estate and smallholder sugar production over the last 20 years.) There are plans to expand smallholder sugar production through out-grower schemes, which may increase smallholder sugar production to 72,000 tonnes by year 2004¹⁴. The sugar industry also supports an ethanol plant that produces petrol additives and nearly all the alcohol and spirits produced in Malawi. The ethanol plant is at Dwangwa estate. The Ntchalo estate also uses sugar extracts for animal feed. Estate land not devoted to sugar is used for staple crop production and other agricultural production activities. These estates are also known for fish farming and crocodile farming.

Freehold Land Tea Estates

The estate system first evolved during the late 1800s when Europeans settled in Thyolo, Chiradzulu and Mulanje. The major crop grown by these settlers has been tea. The plantations also moved to the wet regions of Nkhata Bay. The proportion of agricultural land under tea estates in these districts ranges from two percent in Nkhata Bay to approximately seven percent in Thyolo and Mulanje. Production of tea has been static since 1980, fluctuating between 29,000 and 40,000 tonnes. The area under estate tea plantation has been steady at around 18,000 hectares since 1980. Smallholder tea is currently estimated at 14,000 tonnes, grown on 2,500 hectares of land by 6,587 smallholder growers. (See Table A-9 for tea production figures since 1980.)

Tea is the second most important export crop. It was Malawi's number one export for more than 80 years until the early 1980s, when it was displaced by tobacco. The tea estates have diversified into other activities including livestock production, blanket making and other industrial activities. Tea estates also grow other cash crops such as tobacco, tug and coffee. They are also involved in dairy farming.

The tea estates and rubber (Nkhata Bay) estates make up some of the most beautiful scenery in Malawi . They also form well-managed land systems, with minimum land degradation.

¹³ ILLOVO has management rights of both Dwangwa and Ntchalo estates and they own the sugar mills which process all the sugar in Malawi.

¹⁴ Source Smallholder Sugar Authority Business Plan, February, 1999. Prepared by Killy and Partners.

During interviews with tea estate owners the following issues were raised¹⁵.

- There is a persistent encroachment problem due to land pressure, and general disregard for the law. There are also large losses of forests due to tree cutting for firewood.
- The delay in construction of the Blantyre-Thyolo-Mulanje road is costing the tea industry millions of kwacha. Moreover, the disruption of the Mozambique/Malawi rail to Biera and Nacala has brought a lot of strain on the tea industry which has all its market in Europe
- Several estates have applied to construct dams but registrations and other factors are frustrating the efforts.

Without proper interventions on encroachment, roads and investment, the tea industry faces a bleak future, especially with the world failing prices.

During discussions, ideas to treat tea estates in the same way as leasehold tobacco were discussed. A strong case can be made that tea estates should remain freehold in perpetuity. The tea estates contribute foreign exchange and also are a positive contribution to the environment. Giving them the same treatment as tobacco estates could kill the tea industry in Malawi. Efforts must be made to ensure that the 55,000 hectares of land belonging to tea estates are not involved in current quick proposed remedies to ease land pressure for subsistence farmers.¹⁶

Leasehold Land Tobacco

The Lands Register indicates that there were 15,000 estates on leasehold in Malawi as of March 22, 1996. The tobacco files now kept at the Tobacco Association of Malawi (TAMA) indicate that there were 39,414 burley growers registered as estates growers in Malawi in 1999.

Estate lands involved in tobacco production exceed 1.4 million hectares, of which 434,000 hectares are under burley tobacco. Statistics indicate that actual tobacco production on estate land is approximately 1 million hectares, since many registered growers do not grow tobacco but are intermediary buyers who claim to have estates.

The leasehold estates growing tobacco are mainly in the Central region (Kasungu, Mchinji, Dowa, Lilongwe, Rumphi/Mzimba and Machinga/Balaka districts). Chikwawa, Nsanje, Karonga and Chitipa districts have very few tobacco estates. The above figures were extracted from Lands Registries, which are different from the tobacco registration files. In principle these sources are supposed to be the same.

¹⁵ Longframes produced by Killy Sichinga for Land reform Commission

¹⁶ Current debates on land reform are suggesting for tea estates to pay lease and location of land to the landless. If the two are done then Malawi will add one more mistake to its production strategy.

The difficulties involved in acquiring reliable estate data are real. However it is easy to make a count of the number of estates in a district without actually measuring the land area. During the *Quota and not to quota* study conducted by USAID in 1994, it was noted during field work that most estates registered in Nkhata Bay, Karonga and Chitipa and parts of Rumphu did not exist. The registered growers used smallholders in Lilongwe, Dowa, Ntchisi and Mchinji to grow tobacco. It was also noted that big growers even in the central region purchased tobacco from smallholders and sold it on auction floors. Until a proper survey is done, we have to use approximations on estate sizes. However the size of large corporate estates can be calculated.

The MOA field assistants in each section know how many estates they have in their sections and the approximate sizes. It would be a simple exercise to record all estates by EPA in Malawi, by contacting and involving field assistants.

Freehold Land Tobacco

Press Corporation and other large estates belonging to a few traditional tobacco producers in Malawi have been operating on freehold land. These estates produced approximately 30 percent of all tobacco grown in Malawi in 1993. The total number of owners was 120 in 1993 and the figure has not changed much. Currently with the liberalization of tobacco most of these farmers are facing stiff competition on labor demand and are moving towards other crops.

Conclusion

Whatever the statistics, it is important to note that increased agricultural production in the future will depend in large part on the estate sector. Currently, smallholders and subsistence farmers are failing to produce enough staples for self-consumption and for selling to urban populations. Whether the land under tobacco estates is one million hectares or two million hectares, the important fact is that it is easier to organize production with modern technology with large land parcels. Table 4 shows the huge predominance of the estate sector in generating foreign exchange earnings for Malawi. This is not going to change measurably over the five years covered by USAID's rural development strategy.

Table 4: Exports by main commodities, 1994-1998 (%)¹⁷

	1994	1995	1996	1997	1998
Tobacco	62.1	65.3	64.1	59.8	57.7
Tea	9.6	6.9	5.5	12.5	11.8
Sugar	8.2	6.8	7.3	5.2	5.0
Cotton	0.6	1.0	3.2	5.3	6.6
Rice	0.7	0.4	0.3	0.3	0.4
Coffee	4.7	4.0	2.3	2.2	2.3
Pulses	0.9	1.9	2.6	1.3	1.7
Other exports	13.2	13.7	14.8	13.3	14.4
Total	100	100	100	100	100

¹⁷ Source: National Economic Council, Economic report 1998, page 16.

RECOMMENDATIONS

In order to increase agricultural production there is need to improve input delivery, security, extension, research and diversification of agricultural production. The process would be through improvement in the following areas:

Input Delivery and Surplus Subsistence Production

Recommendation 1: Introduction of village cooperatives as the major inlet for inputs and outlet for produce at the village level. The cooperatives should be run by the communities. The cooperative shops must have contracts with major suppliers to contract inputs and collect produce from the community. USAID or the Government could provide initial capital and later price support. Community ownership of the system will improve stability and sustainability.

Agricultural Extension

Recommendation 2: The extension workers must go beyond demonstrating in farmers' fields by growing their own demonstration crops and have a day in the week for which the farmers can come and share knowledge. As an example to farmers, the field assistants should be engaged in full agricultural production, storage, processing etc... A team of four at the EPA level should monitor progress with farmers and FA's.

Recommendation 3: Gradual change from hoe technology to new technologies that increase the productivity of land and labor.

Recommendation 4: Educate Malawians to stop depending on maize as a staple to improve food security.

Recommendation 5: Market identification for major cash crops must be supported by the extension system at the EPA level.

Recommendation 6: Introduction of simple processing technologies for juice and oil extraction from nuts, seeds, root crops and fruits (mangoes, guava).

Agricultural Research

Recommendation 7: Research on tobacco, maize and tea, Malawi's three most important cash crops, should be a coordinated effort of farmers, the major growers and seed multipliers, with the Government providing a supportive role.

Recommendation 8: Resources must be channeled to appropriate research activities with less maize seed research and more focus on crops that need less imported fertilizer.

Recommendation 9: The government and donors should only finance new areas of research and varieties that may contribute to national food security (surplus production). This implies that there is need for more research on production, storage, own farm consumption, pre- and post-harvest losses, food processing and marketing. The current practice is to introduce new varieties without considering storage and processing.

Land Tenure and Security

Recommendation 10: There is need to promote more secure tenure for customary land. Mechanisms must be put in place to respect fallow and wood lots. This could be achieved if all land in rural areas was transferred to private land i.e. individual families owning land. Customary land tenure does not promote proper land husbandry since no one really owns the land apart from the garden.

Recommendation 11: Forest areas must be protected from wanton cutting of trees for poles and firewood.

Recommendation 12: There is need to have more secure leasehold tenure.

Recommendation 13: There is a need to support a statistical and management information system that will inform the government on agricultural changes.

Recommendation 14: There is a need for good statistics for policy analysis and evaluation of agricultural growth.

Recommendation 15: Reduce constraints that delay smallholders from developing dams in their areas.¹⁸

Recommendation 16: Communities need more security for their crops and livestock.

¹⁸ Farmer interviews in Thyolo, Mulanje in 1997/98 Land Reform Exercise.

TABLE A-1: SMALLHOLDER PRODUCTION 1987/88-1997/88 (MTs)

	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
MAIZE	1,509,513	1,342,809	1,589,377	657,000	2,033,957	818,999	1,327,865	1,793,459	1,226,478	1,534,326
local	1,220,565	963,171	1,041,031	368,282	1,032,173	534,241	659,295	864,369	667,156	746,882
composite	44,123	34,616	26,743	5,377	6,286	601	2,401	25,740	21,168	30,054
hybrid	244,825	345,022	521,603	283,341	995,498	284,157	666,169	903,350	538,154	757,390
RICE	45,690	43,280	63,175	23,798	65,357	41,132	39,073	72,629	65,690	68,658
GROUNDNUTS	34,752	18,574	31,051	#REF!	31,785	30,654	30,664	40,327	68,718	97,228
TOBACCO	7,934	14,000	18,729	16,544	26,924	15,507	35,439	68,978	83,566	81,181
burley	261	324	1,627	2,759	16,516	5,815	20,659	49,786	65,781	81,181
COTTON	35,106	33,026	42,780	13,632	45,339	17,014	25,197	82,591	45,122	36,336
WHEAT	1,481	1,639	877	613	1,014	208	1,572	2,315	1,339	1,842
SORGHUM	20,050	15,452	18,557	3,957	21,591	16,667	19,290	54,624	39,514	41,473
MILLET	11,183	10,113	7,766	3,418	15,228	9,711	13,259	20,262	16,424	19,638
PULSES	50,390	71,385	68,514	55,849	70,094	78,251	99,772	183,210	179,226	208,895
beans	27,522	27,638	38,755	30,341	45,257	25,134	30,895	49,574	70,862	60,039
peas	19,762	42,814	28,808	15,772	24,484	43,311	52,601	81,170	89,288	79,368
grams	3,106	1,945	2,008	181	354	265	304	501	556	761
soya beans	836	3,284	13,020	10,965	13,660	8,176	15,011	42,374	28,425	28,482
ground beans	417	411	382	152	391	893	961	1,835	2,822	5,017
GUAR BEANS	3,300	1,676	4,861		1,368	317	339	1,238	1,350	1,540
CASHEW	89	7,465	11,723	2,501	148	154	150	148	1,487	153
MACADAMIA	4		3	4	4	5	5	5	131	214
SESAME	154	143	215	7	75	11	59	291	46	219
SUNFLOWER	2,192	1,703	5,211	4,961	9,339	6,673	50,353	17,832	4,580	1,818
COFFEE	7		5	7	9	9	6	12	484	856
CHILLIES	615	1,020	834	353	633	829	797	882	4,132	1,824
CASSAVA	154,762	144,760	167,818	128,827	216,005	250,056	328,424	534,549	713,876	829,821
S. POTATOES	177,424	94,911	176,999	43,074	210,572	165,322	317,714	596,469	858,129	1,432,383
I. POTATOES	11,979	34,200	39,969	49,144	47,975	42,495	79,500	106,422	116,884	120,338

Source: Ministry of Agriculture Crop Estimates

Table A-2: SMALLHOLDER HECTARAGE PER CROP, 1987/88-1997/98

CROP	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
MAIZE	1,215,087	1,270,822	1,343,784	1,391,878	1,368,093	1,327,038	1,129,327	1,225,580	1,242,588	1,233,538	1,292,669
local	1,137,499	1,159,985	1,184,036	1,193,642	1,137,894	996,757	920,920	859,143	856,417	914,518	912,751
composite	18,698	25,072	24,725	18,878	13,347	3,873	778	2,303	17,465	20,275	24,997
hybrid	58,890	85,765	135,023	179,358	216,852	326,408	207,629	364,134	1,313	298,745	354,921
RICE	22,658	25,573	29,042	32,841	18,241	38,824	27,087	33,308	368,706	40,368	41,770
GROUNDNUTS	175,819	139,691	48,185	69,978	64,386	61,040	95,309	89,373	71,586	100,140	140,747
TOBACCO	24,095	21,446	30,823	33,275	32,439	44,981	31,733	52,732	78,882	98,981	114,051
burley	29	167	186	1,221	2,444	20,138	6,970	24,412	46,277	66,547	89,961
COTTON	43,642	47,741	48,516	58,691	58,281	53,691	37,593	52,237	79,073	70,734	45,023
WHEAT	2,593	2,211	2,119	1,494	1,446	1,608	927	2,290	2,686	2,271	2,483
SORGHUM	30,099	29,828	30,814	31,035	27,668	43,873	54,482	61,633	70,029	83,859	67,937
MILLET	19,439	17,916	19,583	14,979	14,767	24,169	23,958	27,953	34,944	38,634	35,165
PULSES	160,040	149,088	215,301	190,977	218,962	264,736	266,458	294,360	359,347	412,676	433,092
beans	91,345	93,506	96,499	116,268	126,969	132,879	106,238	112,208	128,212	172,197	171,663
peas	62,256	48,380	113,941	69,814	67,838	62,756	135,915	155,132	172,982	180,460	123,088
grams	6,439	7,202	4,861	5,465	1,145	836	1,216	955	1,316	1,677	1,990
soya beans	760	1,671	5,901	16,255	22,163	15,842	18,433	23,274	53,611	39,604	40,829
ground beans	291	959	953	787	750	855	3,128	2,791	3,226	5,696	8,617
GUAR BEANS	2,457	3,000	3,242	5,176	1,610	3,200	705	1,443	1,868	2,013	2,761
CASHEW**	27,302	32,951	41,349	54,820	53,683	53,956	53,646	43,963	42,877	53,493	44,104
MACADAMIA**	0	1,188	0	1,188	1,188	1,288	1,288	13	1,293	13,768	13,821
SESAME	387	420	465	545	136	262	97	599	709	122	571
SUNFLOWER	3,000	4,726	3,757	7,990	9,649	10,776	15,460	26,783	32,146	10,766	3,898
COFFEE**			0			19	19	13	25	443,899	752,454
CHILLIES	292	746	1,988	2,053	1,551	1,229	2,596	2,160	2,177	6,656	4,307
CASSAVA	61,780	72,823	61,506	71,619	63,965	75,050	72,149	94,731	116,523	125,813	151,941
S. POTATOES	28,517	43,823	29,839	48,384	19,886	34,466	37,151	60,701	68,804	91,700	135,346
I. POTATOES	3,080	3,437	4,460	5,565	5,855	6,217	3,844	7,782	9,042	10,113	12,851

**For 1996/97, 1997/98 hect = no. of trees.

Table A-3: Historical exports of Main Agricultural Products
Quantity in Metric Tons

Year	Tobacco	Tea	G/nuts	Cotton	Sugar	Rice	Pulses	Coffee	Sunflower
1970	17,382	17,909	22,511	5,859	1,545	2,780	9,990	136	1,396
1975	29,569	24,851	25,814	2,493	31,352	5,101	4,909	191	4,520
1980	63,069	31,347	25,556	2,994	86,208	9,822	6,578	249	2,727
1985	59,403	38,521	9,511	3,571	89,312	572	11,532	3,358	0
1986	56,298	40,380	17,869	2,160	94,320	1,271	17,798	4,129	0
1987	61,417	33,404	18,554	634	91,727	0	48,524	4,899	0
1988	59,939	36,991	30,321	2,747	96,898	4,272	11,126	3,708	0
1989	57,874	38,210	1,292	4,417	53,096	3,307	7,662	3,615	0
1990	89,066	43,039	40	3,595	60,193	3,792	5,873	7,167	0
1991	97,192	41,185	866	9,122	53,555	1,924	6,185	5,429	0
1992	97,316	37,100	0	4,706	46,018	907	5,658	8,307	0
1993	96,702	35,265	0	1,875	26,763	70	3,488	5,734	0
1994	98,466	38,871	0	2,551	40,087	5,861	9,290	4,633	1,902
1995	99,500	32,600	-	2,200	44,800	4,500	28,600	5,400	-
1996	106,700	36,700	-	10,600	57,100	3,100	41,800	5,100	-

NOTE: The years are calendar years.

Source: National Statistics Office

TABLE A-4: POPULATION BY DISTRICT, 1998

Region/ District	Total	Age			
		0-4	5-14	15-17	18+
Malawi	9,838,486	1,658,841	2,649,643	649,203	4,880,799
Northern Region	1,229,360	209,819	341,401	85,281	592,859
Chitipa	125,619	21,537	38,057	9,158	56,867
Karonga	194,275	33,043	54,962	14,146	92,124
Rumphi	128,274	22,383	34,947	8,443	62,501
Nkhata Bay	171,134	27,992	46,655	11,887	84,600
Mzimba	523,028	90,843	144,545	35,412	252,228
Mzuzu City	87,030	14,021	22,235	6,235	44,539
Central Region	4,041,636	709,145	1,097,647	259,778	1,975,066
Kasungu	476,018	86,238	128,219	31,236	230,325
Nkhotakota	230,361	41,700	63,071	14,410	111,180
Ntchisi	167,353	28,413	47,594	11,155	80,191
Dowa	409,087	71,442	112,462	26,128	199,055
Salima	248,157	44,388	67,553	14,849	121,367
Lilongwe Rural	901,813	161,985	243,753	55,229	440,846
Lilongwe City	435,964	69,407	110,139	30,905	225,513
Mchinji	318,759	57,379	88,429	20,775	152,176
Dedza	483,136	86,375	132,975	28,820	234,966
Nicheu	370,988	61,818	103,452	26,271	179,447
Southern Region	4,567,490	739,877	1,210,595	304,144	2,312,874
Mangochi	599,935	104,655	160,474	36,024	298,782
Machinga	366,196	63,757	98,332	22,282	181,825
Balaka	252,046	42,003	68,737	17,368	123,938
Zomba Rural	476,313	76,897	123,429	32,535	243,452
Zomba Municipality	64,115	9,240	16,425	4,835	33,615
Chiradzulu	235,123	35,521	62,860	16,394	120,348
Blantyre Rural	304,071	47,301	81,549	21,307	153,914
Blantyre City	478,155	68,618	117,867	35,636	256,034
Mwanza	136,910	23,798	37,551	9,619	65,942
Thyolo	457,954	72,579	123,555	30,924	230,896
Mulanje	428,079	65,241	113,056	28,950	220,832
Phalombe	231,448	37,819	61,256	14,421	117,952
Chikwawa	342,664	58,640	92,368	21,935	169,721
Nsanje	194,481	33,808	53,136	11,914	95,623

Source: Population census preliminary report 1998, September.

TABLE A-5: POPULATION DENSITY 1977,1987 AND 1998

Region/District	Land Area Sq. km	Population Density		
		1977	1987	1998
Malawi	94276	59	85	104
Northern Region	26931	24	34	46
Chitipa	4288	17	23	29
Karonga	3355	32	44	58
Rumphi	4769	13	20	27
Nkhata Bay	4089	26	34	42
Mzimba	10430	30	29	58
Central Region	35592	60	87	114
Kasungu	7878	25	41	60
Nkhotakota	4259	22	37	54
Ntchisi	1655	53	73	101
Dowa	3041	81	106	135
Salima	2196	60	86	113
Lilongwe	6159	109	108	217
Mchinji	3356	47	74	95
Dedza	3624	82	114	133
Ntcheu	3424	66	105	108
Southern Region	31753	87	125	144
Mangochi	6273	48	79	96
Machinga	3771	52	80	97
Balaka	2193	67	97	115
Zomba	2580	108	102	209
Chiradzulu	767	230	275	307
Blantyre	2012	191	198	389
Mwanza	2295	31	53	60
Thyolo	1715	188	251	267
Mulanje	2056	150	204	208
Phalombe	1394	122	156	166
Chikwawa	4755	41	67	72
Nsanje	1942	56	105	100

Source: Population Census preliminary report. September, 1998

Table A-6: Holding Size for Smallholder Households, 1980/81, 1992/92 and 1998/99 (%)

ADD/Year Holding Size (ha)	1880/81			1992/93			1998/99		
	<1	1-2	>2	<1	1-2	>2	<1	1-2	>2
National	55	30	15	78	17	5	78	17	5
Karonga	65	27	8	82	16	3	83	14.5	2.5
Mzuzu	45	36	19	69	23	8	70	22	8
Kasungu	18	39	19	46	37	17	48	35	17
Lilongwe	41	38	22	76	20	4	78	19	3
Salima	62	27	11	80	17	3	81	16	3
Machinga	69	25	21	81	16	3	82	15	3
Blantyre	74	21	4	92	7	1	92	7	1
Shire Valley	46	33	22	76	16	8	77	17	6

Source: National Sample Surveys of Agriculture, 1980/81, 1992/93 and 1998/99

Table A-7: ESTATE SUGAR PRODUCTION

YEAR	HAs	MTs	YIELD
1975	5,368	49,371	9.20
1980	13,851	147,432	10.64
1985	13,829	143,810	10.40
1990*	15,000	189,261	12.62
1991*	15,000	191,125	12.74
1992	15,101	243,895	16.15
1993	12,137	116,090	9.56
1994	16,915	183,566	10.85
1995	16,882		
1996	17,026		

SOURCE: Dwangwa and Sucoma Sugar Corporations

**Estimates*

Table A-8: SMALLHOLDER SUGAR PRODUCTION

YEAR	GROWERS	HAs.	MTs	VALUE
1980/81	71	150	7,814	1,271,650
1985/86	302	612	8,693	1,832,919
1990/91	197	595	8,361	3,836,736
1991/92	195	591	10,078	5,334,110
1992/93	199	599	11,340	6,521,780
1993/94	199	670	10,228	8,075,855
1994/95	198	697	10,399	19,489,078
1995/96	192	695	10,770	25,298,515
1996/97	186	698	10,625	31,622,020

SOURCE: Smallholder Sugar Authority Dwangwa

Table A-9: Tea Estates Production and Exports 1980-1997

Estates			Smallholder and Estates Combined		
YEAR	HECTARES (^{'000} KGS)	PRODUCTION (^{'000} KGS)	YEAR	EXPORT QUANTITY	VALUE (K ^{'000})
1980	18,183	29,915	1980	31,347	29,826
1981	18,424	31,964	1981	31,527	31,108
1982	18,115	38,482	1982	37,264	46,109
1983	18,500	32,010	1983	35,833	55,866
1984	18,635	37,530	1984	37,080	113,926
1985	18,625	39,954	1985	38,521	97,090
1986	18,357	38,973	1986	40,211	68,450
1987	18,356	31,908	1987	33,404	60,990
1988	17,507	40,157	1988	36,991	78,507
1989	18,197	39,469	1989	38,323	101,134
1990	18,707	38,921	1990	43,039	127,432
1991	18,700	40,501	1991	41,185	103,808
1992	18,586	28,136	1992	35,400	121,700
1993	18,600	32,400	1993	35,300	156,700
1994	18,700	39,920	1994	38,700	257,700
1995	18,800	34,310	1995	32,600	414,500
1996	18,600	34,750	1996	36,700	389,400
1997	16,273	29,671	1997	49,400	673,300

Smallholder Tea production 1984-1997

YEAR	GROWERS	HECTARES	TONS	KWACHA
1984	4,806	2,348	7,912	1,809,039
1985	4,815	2,348	10,209	2,655,587
1986	4,841	2,361	13,321	1,998,285
1987	4,885	2,366	11,387	1,366,409
1988	4,899	2,370	9,922	1,190,640
1989	4,909	2,376	12,534	1,504,080
1990	5,004	2,378	14,263	2,852,600
1991*	5,000	2,300	14,200	2,900,000
1992*	5,000	2,400	14,300	3,000,000
1993	5,774	2,559	11,304	3,958,000
1994	6,557	2,510	15,343	16,111,000
1995	6,557	2,510	14,706	23,019,000
1996	6,439	2,493	13,343	21,346,000
1997	6,587	2,510	14,259	21,346,149

Source: Tea Authority

**Table A-10(a): Smallholder Coffee Production
Production, Hectarage and Number of Growers**

YEAR	MTs	HAs	NO. GROWERS
1979/80	113	N/A	N/A
1980/81	142	N/A	N/A
1981/82	137	493	3,432
1982/83	112	613	4,052
1983/84	149	787	5,066
1984/85	193	1,072	6,622
1985/86	194	1,299	7,736
1986/87	180	1,518	10,076
1987/88	405	1,639	9,845
1988/89	403	2,022	10,413
1989/90	345	2,190	10,910
1990/91	340	2,190	10,910
1991/92	281	2,000	10,000
1992/93	326	1,600	10,000
1993/94	203	1,473	9,482
1994/95	202	1,188	8,976
1995/96	200	1,150	8,900
1996/97	200	1,130	8,900

NOTE: Years are Financial Years and Data only represents the Northern Region.

Source: Smallholder coffee

**Table A-10(b): Coffee Prices
Price per Kilogram in Malawi Kwacha**

YEAR	LOCAL PRICE	INTERNATIONAL
1990/91	4.97	4.55
1991/92	4.61	3.98
1992/93	6.00	4.50
1993/94	15.00	10.19
1994/95	18.00	48.00
1995/96	40.00	45.00
1996/97	50.00	53.00

Source: Smallholder Coffee Authority.



ANNEX B

MALAWI AGRIBUSINESS STRATEGY

Jonathan Greenham

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INTRODUCTION

USAID has limited resources, and Malawian agriculture has many problems at this transitional point in its development. USAID should focus on the high-potential interventions, using its experience in working with the private sector, in policy reform, and in organizing groups of farmers. Other donors stand ready to pick up the relief-orientated activities, such as free fertilizer distribution, and to build on USAID's catalytic initiatives in agribusiness. By carefully selecting its targets and designing a program of inter-related activities attractive to donors, USAID can leverage its resources and thus have the greatest impact. The situation is exceedingly fluid; new opportunities are continually arising; and, with a consistent effort in the policy arena, i.e. the macro-economic, financial and agricultural policies, the enabling environment for agribusiness will continue to improve. Good information is a scarce commodity in Malawi. USAID should continue to expand its activities in the provision of data for decision-makers, with the understanding that, in such a rapidly changing environment, uncertainties will always persist and therefore flexibility needs to be incorporated into the program planning.

This strategy proposes an approach that will identify those opportunities that USAID can support as pilot activities. The strategy builds on USAID's experience in the agribusiness field and further establishes USAID in the eyes of the Government of Malawi and the donor community as the important donor promoting and supporting change and growth in the agribusiness sector.

This annex examines the environment in which such a market-opportunity-focused strategy has to operate. It proposes preliminary areas of focus, based on the current potential. It puts these proposed activities in the context of the past efforts and of the government's declared strategy for the sector, and ends with recommendations for further study. The recommendations are based on documents, combined with limited field visits, and discussions.

BACKGROUND

Malawi is a landlocked country, lying along the western edge of the Rift Valley. The country is geographically diverse, with escarpments, plateaus, and high mountains, and the altitude ranges from sea level to 3,000 meters. The climate, soils, natural vegetation, existing land use, agricultural crops, and infrastructure development all vary widely. Malawi has the resources and the potential to grow a range of dry land crops.

Landscape Types

The country can be divided into high mountains and plateaus, plains, the escarpment along the Rift Valley, the lakeshore plains, and the Shire Valley. The plateau areas occur at Mulanje (3,000 meters), the Shire Highlands at Zomba (2,133 meters), the Kirk range, Dedza, Vipahya, and Nyika (1,500-2,400 meters). The lower slopes of these areas are often

used for growing tea and coffee. Highland areas are also found on the east side of the Thyolo scarp, and the western edge of the Rift Valley scarp. The largest area of plain in Malawi is found at around 900-1,200 meters in Lilongwe and Kasungu districts, which are a gently rolling plain with meandering drainage lines. The region around Lake Chilwa is another large plain. Tobacco and maize dominate the landscape in these areas, while cattle, sheep, and goats graze, and winter crops are produced in the valleys (*dambos*). The plateau falls away to the Rift Valley via an escarpment. Timber is the main product of the scarp slopes, with some coffee, tea, and rubber in the north around Nkhata Bay. The floor of the rift is dominated by Lake Malawi, while the lakeshore plain is an area of fertile alluvial soils, around 500 meters, which grows rice, cotton, and sugar. South of Lake Malawi is the Shire Valley, at the same altitude, where sugar, rice, and cotton are grown.

Climate

The wet season (*dzinza*) starts in November/December and lasts until April, then there is a cool dry season (*masika*) from May to August, followed by a hot dry season (*malimwe*) until the rains start again. The rains start first in the south and move northward. Total rainfall varies from 600 to 3,000 millimeters and is strongly influenced by orography. The wettest areas are the high slopes facing southeast (Neno, Zomba, Mulanje to Blantyre, Salima, Nkhotakota, Nkhata Bay, Chilumba, and Mwangulukulu) and the driest areas are the rain shadows to the northwest of the highland areas, (lower Shire, S. Rukuru and Chitipa plain). Central and especially southern Malawi has light winter rains, *chiperoni*, in June and July. The plateau areas can get over 1,500 millimeters of rain, the highlands get 1,000-1,250 millimeters, most of the plain area gets 750-1,000 millimeters of rain, and the Shire Valley gets 500-750 millimeters. Malawi has comparatively good rainfall, with 90 percent of the country usually getting between 750-1,600 millimeters.

Altitude dominates rainfall and has a significant effect on temperature, with the Rift Valley floor in the lower Shire Valley being the hottest and the mountain massifs the coolest regions. Annually the temperatures range from 13-20°C on the high plateaus, through 15-24°C on the plains, to 20-35°C in the valley. June is the coolest month, November is the warmest month.

The country has considerable variations in mean annual rainfall. It has one rainy season, which starts in November and ends in April. The agro-meteorological data reveal an erratic rainfall pattern. Since 1985/86, above normal national average rainfall (over 1,000 millimeters/annum) has been experienced in 1985/86, 1987/88-1989/90, 1992/93, and 1995/96 - 1997/98. Drought conditions (less than 800 millimeters per annum) have been experienced in 1991/92, 1993/94, and 1994/95. During this period, the lowest amount of rainfall occurred in 1993/94, with a national average of 729 millimeters; the highest rainfall in 1988/89 with a national average of 1,233 millimeters.

Soils

Good agricultural soils occur around Mzuzu, west of Lilongwe, east of Ntcheu, and from Thyolo to Zomba. Uneroded areas of the high plateaus have black topsoils and red-yellow subsoils. Forestry is the recommended use there. The plain soils are divided between inherently fertile red clay loams, (ferruginous red latosols) found in the higher rainfall parts of Lilongwe District and around Nkhata Bay, and less fertile yellow-red sandy loams, (weathered ferrallitic soils) more frequent in the north and west of the country. Maize, tobacco, and groundnuts all do well on the red soils; maize can be grown on the yellow soils if fertility is maintained with fallows and inputs. The *dambos* have clay soils, often black or grey, and difficult to cultivate. The Rift Valley has grey soils, occasionally sandy and poorly drained, but generally fertile. Cotton, cowpeas, and sorghum are the main smallholder crops in the Rift Valley.

Population

The September 1998 census reduced the estimate of Malawi's population from over 11 million to less than 10 million people. In 1987, 48 percent of the population was less than 15 years old. Probably 85 percent of all Malawians live in the rural areas, and most of them rely on agriculture for their livelihood. Population density averages a relatively high 117 per square kilometer for the whole of Malawi, ranging from 47 in the Northern Region, through 127 in the Central Region to 173 in the Southern Region. By way of comparison, the population density in Rwanda is 300 per square kilometer.

Infrastructure

Transport costs are one constraint to expanded agricultural production. The primary road network is moderately good; bridges may be washed out in the wet season, but are usually replaced quickly. The secondary road system is poor and maintenance is a problem. Timely availability of inputs and access to markets is constraining growth in some areas. Malawi Railways is being privatized. Access to the ports of Nacala and Beira is via the railway. This is the main option for bulk commodities. It runs from Mchinji to Nkaya, where there is a spur to Nayuchi onto Nacala, then south to Makoko and on to Beira

Electricity is generated from the Shire River. A 132 kilovolt line runs along the lakeshore from Nkula Falls via Salima up past Mzuzu, with spurs to Mtunthana and Lilongwe. Electricity and telephones are important parts of the infrastructure needed for agribusiness, particularly in terms of rural processing and to access export markets. The urban centers have adequate electricity and telephone services.

Land Use

Maize and tobacco are the two major crops. Other crops grown depend on the climate, the soils, and the historical background to investment in agriculture. Land use varies with location and is changing. Important issues to resolve are the extent and nature of the underutilized land in the country, especially on the leasehold estates. Anecdotal evidence suggests that this may be one important source of potentially untapped growth. The main areas of large-scale commercial agriculture are the Karonga lakeshore, the Kasungu-Lilongwe plain, and the Shire Highlands.

Mechanization is rare outside of the larger estates. Most land is cultivated with hoe and axe, severely limiting both the efficiency and extent of the cultivation. Labor is likely to remain the main way of cultivating for the foreseeable future, because of the price of labor and because only a small proportion of the farmers have the scale of operation needed to make mechanization financially viable (about 40 hectares for tractors and 3 hectares for oxen).

The GoM estimates that between 200,000 and 290,000 hectares are potentially irrigable. The main potential large-scale areas are along the Shire River and the lakeshore. Irrigation covers about 25,000 hectares now and is currently being used mainly to grow sugar and some rice. As tobacco estates in the Central Region turn to new crops like coffee, they are installing irrigation facilities. Along the lakeshore, the established government irrigation schemes are under-utilized, probably due to social factors. There is some talk about converting them to small-scale farmer managed schemes. JICA is funding the Bwanje Valley Smallholder Irrigation Development Project, with a dam irrigating 800 hectares. The FAO has reviewed the potential for small-scale irrigation, and Danida is funding activities that look at irrigation projects and policies. A number of NGOs are working with informal, i.e., non-engineered, irrigation in the *dambos*. There is growing encroachment on these margins of the seasonally flooded land for cultivation. Schistosomiasis is endemic in Malawi.

Land Tenure¹

The History

At one time all, land in Malawi was customary land and was held under the authority of the various chiefs. Starting in 1881, concessions conferring use rights were granted by chiefs to individuals and companies to establish coffee and tea estates. The Commissioner for British Central Africa was also making land grants. Following the declaration of protectorate status in 1893, the demand by settlers for a clarification of their rights led to certificates of claim being issued by the Secretary of State. These were assumed to provide freehold title. Out of 3,705,255 acres of land thus treated, 2,700,000 acres belonged to the British South Africa Company.

¹ Much of the information in this section is taken from the "Preliminary Report of the Presidential Commission of Inquiry on Land Policy Reform," April 1998.

All unalienated land title became vested in the British monarchy, and the original inhabitants had occupation rights only. In 1951, the Land Ordinance was passed, which defined land as public, private, or customary. The latter was a sub-set of the public land, ownership remained with the Crown, and its use was regulated by the State. At independence in 1964, the customary land policy was examined. Customary tenure was seen as an impediment to development, so adjudication and registration of land rights started under the Ndunda system, and customary land was also converted into leasehold land, driven by the expansion of tobacco and other Special Crops. The total land area under estates, mainly leasehold, increased from 1960 onwards, while the average size of these estates decreased. The repeal of the Special Crops Act in 1994 finally separated tenure type from the rights to grow a particular crop.

Until the 1980s a dualistic approach was taken to agricultural development, with food (maize) production in the smallholder areas and capital intensive export production in the estate areas. The estate sector flourished via alienation of customary tenure land, access to inexpensive capital, transfer of surplus products from the smallholder via ADMARC, commodity price control, and cheap labor. The sector grew at over 5 percent per year for 20 years and helped more than double agriculture's contribution to the GDP. Over 1,148,000 hectares of land was occupied by estates in the early 1990s. This is the historical setting in which any agricultural sector strategy has to operate.

The Present Situation

Customary land is accessed by virtue of membership in a community, and access rights can be inherited, use does not lead to rights, and some chiefs can allocate use rights. The title for customary land is vested in the State, and the Minister for Lands can grant leases for up to 99 years. There were 30,000 such leaseholds in 1994. In the Lilongwe Land Development Project Area, an experimental tenure system was introduced into customary land, removing it from the jurisdiction of both the Minister and the Chief. The Ndunda system also attempted to change the status of customary land.

Freehold land derives from certificates of claim made and approved after 1893, direct grants by the Crown after 1902, and Presidential grants after 1964. This land is by and large owned or controlled by non-Malawians, and grows tea, coffee, tobacco, and macademia. Rural freeholds are common in the tea-growing areas of Mulanje and Thyolo, and owned by corporate entities with foreign capital or ownership.

Leasehold land tenures are found mainly within customary land. Burley and flue-cured tobacco were established on much of this land. In Mchinji and Kasungu districts, large areas of customary land have been converted into leasehold tobacco estates. Informal leases are common.

On the customary land, population pressure is causing distant relatives to be evicted, and spouses to dispute their customary eviction on the death of their partner. Fraud and

corruption are also leading to leasehold tenures being granted preferentially. Leasehold estate lands have been and still are frequently granted in excess of requirements leading to subsequent underutilization and abandonment. The customary land management systems are breaking down, and there is little or no incentive for individuals to invest into customary land. In the Mulanje and Thyolo tea estates and the Kasungu tobacco estates, where there is population pressure, smallholders are encroaching on both leasehold and freehold lands.

Matrilineal inheritance is the most common system in Malawi. Some of the northern areas have a patrilineal system. Leasehold inheritance, survivors losing the right to use land, and questions of jurisdiction are complicated by these systems. A woman's sole tenure on the death of her spouse is not assured. In the past the husband's brother would take over the responsibility of providing for the spouse of the deceased.

The insecurity of land tenure in Malawi is a major constraint to long-term investment in agricultural lands. Three measures are needed to correct the situation. First, ground rules for the granting of leaseholds must be established and annual lease payments increased. Second, the problem of the breakdown of the customary land tenure system must be addressed. Third, owners of freehold land must be assured that the title to their land will be assured in perpetuity.

ENCOURAGING DIVERSIFICATION

Policies, Prices, and Credit

Without the proper enabling environment, market-led agricultural growth will not be possible. The GoM should play a facilitating role to encourage further crop diversification. To do this they will need to have a reasoned, and politically and internationally defensible, position on such issues as tax holidays, freedom from import taxes, priority access to foreign exchange, Export Production Zones, specific financing mechanisms, joint ventures, expatriation of profits, etc. They also need to have clear policies and strategy regarding SADC.

The Estates

There is a good deal of uncertainty about the size of the estate sector. The following tables are derived from the Estate Land Utilization Study. The report estimates that in 1996 there were about 29,000 estates on 917,000 ha. Twenty three percent had freeholds, 33 percent leases, 33 percent were at the offer stage, and 5 percent only had a sketch map. Sixty seven percent were less than 20 hectares, 21 percent were between 20 and 40 hectares, 7 percent were between 40 and 100 hectares, 4 percent between 100 and 500 hectares and 1 percent over 500 hectares.

	North	Central	South
No. of Estates	3,656	23,713	1,686
Area (hectares)	97,445	677,653	141,718
Number > 500 ha.	65	123	85

Labor and the Estates

Many of the tobacco estates in the past did not employ direct labor to produce burley. The tenant system was preferred because it provided a way to avoid the minimum wage, and tenants also provided family labor. The cost of recruiting tenants, especially in the North and Central Regions, was high. Many of the tenants on these estates came from the Southern region. Larger estates had an advantage in providing the conditions that resulted in tenant stability. The larger tobacco estates often also had good management and extension, hence tenants benefited in terms of higher returns. With the liberalization of burley production, more seasonal labor being used, and many estates have stopped growing tobacco.

In the tea estates, over 42,000 people are employed making the industry the largest private sector employer. The tea estates have typically provided housing, food, clinics, schools etc for their labor. Labor use by both the tobacco and tea estates is seasonal, resulting in an unemployed or under employed labor force for 6-9 months of the year. For example, because of the unimodal rainfall, the tea bushes are in flush from November to April, and so from December to May eighty per cent of the tea crop has to be picked. Plants may operate twenty-four hour shifts during the rains, and some factories close down during the off-season.

Labor employed by estates includes paid and unpaid family members of leaseholders and managers; tenants and their unpaid family members; permanent laborers, (hired for a few months to year round); and casual (*ganyu*) laborers, (hired on a weekly or monthly basis). In the past, tea and burley tobacco have relied more on tenants, while sugar and flue-cured tobacco have relied more on permanent laborers. The majority of the casual laborers are women. Until they returned to Mozambique, refugees did much of the tea picking. Furthermore, in the past much of the burley tobacco was produced on estate land by "tenants" using supplied inputs. In return, they received food or land on which to grow their food from the estate. The tea estates also feed their laborers during the picking season. Many of the small estates produce tobacco with labor paid with maize flour produced on the estate. Labor relations on the smaller estates, less than 40 hectares, are likely to be different from the medium sized estates, and different again from the larger corporate estates. The smaller estates are likely to be using more family labor, less tenant labor.

Linkages between the Smallholders and Estates

Until 1994, the Special Crops Act restricted the growing of cash crops to certain areas and individuals. For tobacco, for example, a system of quotas and registered growers controlled the quality and quantity of production. The marketing of many crops was controlled and

dominated by ADMARC. By the early 1990s, this system was already starting to break down, and the introduction of the intermediate tobacco buying system and the liberalization of burley production mainly formalized and encouraged what was already occurring informally. One relict of this historical system is the Smallholder Crop Authorities, which had the mandate to encourage smallholder production of some of the "estate" crops such as the Smallholder Tea Authority in Blantyre, the Smallholder Coffee Authority in Mzuzu and Karonga, the Smallholder Sugar Authority in Salima, the Flue Cured Tobacco Authority in Kasunga, and the N.W. Mzimba Flue-cured scheme.

Outgrower schemes for coffee, macadamia, cashew and seed production are already operating in Malawi and linking smallholders and estates.

Tradeoffs between Growth and Equity

The implicit assumption underlying a market-driven strategy is that working through the price system and liberalizing the private sector will result in improved markets and increased efficiency, leading to growth. A major problem in Malawi is that this laissez-faire approach toward optimality does not take into consideration the initial distribution of assets, inequitable access to resources, and differing abilities to absorb risk. Is equitable market-led growth possible in Malawi, given the starting point? Another implicit assumption has been that a smallholder-orientated strategy would harness the apparently greater per-hectare productivity resulting from their intensive farming practices, as compared with the extensive farming practices of the estates, and also provide strong growth linkages with the rest of the economy via consumption, savings and investment.

Smallholders are assumed to use their land more productively because of greater labor inputs per hectare. However, in Malawi with its tradition of *ganyu* labor, estate tenant farming, and risk-spreading strategies, labor may in fact be a limiting factor to productivity. It is almost certain that skilled labor and entrepreneurial skills are a limiting factor to expansion of the agricultural productivity of Malawi. Because of the single growing season, whatever time is devoted to production of subsistence crops is also likely to divert labor from cash crop production.

Comparison of the per hectare productivity of estates and smallholders is complicated by the sole versus mixed cropping nature of the two types of farms, home consumption, measurement of labor inputs vs. mechanization, fertilizer use etc. A study by Uma Lele and Manmohan Agarwal for the World Bank in the late 1980s in Malawi and Kenya concluded that, because of the ability of larger farmers to absorb risk, they were able to use higher levels of labor and other inputs and thus produce higher yields per hectare. The smaller farmers had restricted access to inputs, and labor was often a limiting factor at key times during the growing season. They concluded that for a smallholder-led strategy to succeed, the following were needed:

- A greater knowledge of how farmers mobilized labor, through market and non-market forces;

- Government provision of information, inputs and credit, until private markets for those services developed. Moreover, as the recurrent costs of those services are high, donors need to commit to their continuing support, if they wish the smallholder sector to develop; and
- A land policy that allows equal access to land, as well as production policies that allow all farmers to grow all crops.

The Future Role of the Estates

Agricultural growth in Malawi in the 1970s and 1980s came mainly from the estate sector. This growth was to a large degree achieved by transfer pricing between the large and the small farm sector. An important issue to resolve is the role that the estates are playing now and the role they should play in the future. The distribution of land between the sectors and the productivity of the "larger" farm sector are key to land policies, USAID's development strategy, and Malawi's future growth. How much of the growth in the past was based on access to cheap labor and preferential markets, and what does this imply for their ability to grow in a competitive environment?

What role can the estates and companies play in developing alternatives to tobacco and providing infrastructure that enables smaller farmers to enter these new markets?

- Higher productivity combined with higher marketing costs is to be expected from the small farm sector. If the barrier of distrust could be broken down, the estates could play an important role in the bulk purchase and distribution of inputs and in the marketing of outputs, as well as value added processing employing rural labor.
- For the smallholder sector to enter the cash economy en masse, Malawi needs either sufficient export crop production to allow it to import food on the regional market, or a strong local food production capability to complement the smallholder production. As smallholders shift out of subsistence farming into the cash economy, with a concurrent increase in purchasing power, part of their food needs will have to be met either from estate production or from imports, depending on Malawi's comparative advantages.
- There is a clear role for the larger smallholders and estates to play in providing employment opportunities in the rural sector. The agro-processing sector, both small-scale rural and larger urban based is also another possible area of expansion of employment opportunities.

The high transport costs, highly competitive markets, and general low level of investment into the non-tobacco export sector will limit the expansion of exports in the short run. Access to the growing markets of South Africa and Zimbabwe, and comparatively low labor costs, will allow expansion of regional exports in the medium term. Press Agriculture is looking at ways to diversify away from tobacco, and private investors are entering agriculture. Although Malawi is unlikely to become an exporter on the scale of Kenya, there are some opportunities

and comparative advantages. Malawi will need to improve the productivity of its land and labor. In both Zambia and Zimbabwe, small farmers currently plant only a portion of their arable land. Labor is probably a more limiting factor.

Conclusion

Opportunities

There is a large corporate estate sector that operates reasonably efficiently and makes significant contributions to foreign exchange earnings, mainly through tobacco sales. There are the smaller estates that have significant amounts of underutilized land and are operating at a range of efficiencies. These mainly leasehold estates grade into the smallholder commercial sector. Mechanization is found only on the larger estates and the subsistence smallholders are a major source of labor to the larger landholders, deriving significant portions of their income from this source. Historically, the parcels occupied by the estates are likely to be in the better-endowed areas of the country. The sizes of these landholdings allow commercially viable volumes of product to be grown. Estates frequently provide access to inputs, processing, marketing, transport, and other necessary infrastructure to the smaller farmers. Smallholders are currently producing coffee, chilies, and paprika for export, and supplying cashew, macadamia, cotton, pigeon peas, and soya beans. The marketing and processing systems for crops other than maize/tobacco are either revamping, developing, or expanding. Imported inputs, such as fertilizer and chemicals, are available in the main centers, although they may be expensive relative to producer prices. Seeds and improved varieties of a number of crops are available at the research stations.

Constraints

Small to medium-sized estates lack capital for investment in infrastructure and may lack basic amenities for workers. Labor and/or capital for inputs are frequently limiting productivity in this sector. In the past, estates had preferential access to factors of production, markets, and prices. The sector has operated in this protected environment for a long time, and many of the managers are not used to making decisions in a competitive environment.

The ownership of the mid-sized estate lands is heavily biased toward government and political functionaries. The existing infrastructure of the government and the parastatal sector is still somewhat biased toward supplying the corporate and larger estate sector, and credit, fertilizer, and other inputs are likely to remain in short supply in the smallholder sector. The inertia to change within the whole system should not be underestimated. Those currently operating are likely to be opposed to allowing new entrants to the system, who would undermine their oligopolies.

STRATEGY RECOMMENDATION

The Problem

Malawian agriculture is characterized by a large number of small farms, a variety of microenvironments, and a declining resource base. The majority of the population is rural and consists of resource poor subsistence farmers, who currently do not have the land, credit, or labor to shift from subsistence to commercial market production. Undeveloped markets combined with smallholder inability to respond to market signals are resulting in low producer prices; seasonal gluts and scarcities; and, in the end, a growing disparity between the rural many and the urban few. There is also an estate sector that is struggling to deal with the liberalized environment.

The Context

There is widespread agreement in Malawi among all concerned that the situation in the agricultural sector is not viable in the long run and has to change. However, there is only limited agreement on what changes are needed and how the required growth can be achieved. Whether through government intervention and reliance on the estate sector, as in the past, or through broad-based growth linking smallholders and estates, and using the private sector and the operation of the market to allocate resources.

The Government of Malawi's strategy for the rural agricultural sector is still being refined. However, a common theme in their documents is the need to diversify the agricultural base and promote a wider range of exports. In their agricultural and livestock development strategy and action plan, they also recognize the problem of unproductive leased lands and the importance of policy measures and incentives.

In Malawi Vision 2020, a conceptual framework is put forward that aspires to increased industrialization. An agribusiness strategy can assist in the achievement of that goal by promoting agro-processing, vertical integration of production to marketing chains, and increased volumes of production, to allow establishment and expansion of value-added processing industries in the country. The authors of 2020 cite export promotion, export market information, and export incentives as important parts of their growth strategy. Agricultural diversification, especially of high value crops, better use of underutilized land, making the private sector a partner in development, and building a business culture are all seen as ways for Malawi to achieve its development goals. It must be recognized that these are tremendously ambitious goals requiring a level of effort, determination, and political will not yet demonstrated in Malawi.

Malawian agriculture is dominated by tobacco. USAID policy recognizes that some economies, including Malawi, are highly dependent on tobacco production and sees an urgent need to identify alternative cash crops. Any agricultural strategy in Malawi has to address that need. However, although diversification away from tobacco is clearly the long-

term goal, in the short run burley tobacco is one of the best cash crops available to smallholders. It can generate the cash required to increase the use of improved maize seed and fertilizer by smallholders, thus increasing their food security and their labor availability.

Resources are limited, and the problems are many. USAID needs to take an approach to the sector that builds on its comparative advantages and complements other donor activities, rather than duplicating them. The World Bank is working directly with the Ministry of Agriculture and Irrigation (MOAI), the Land Commission, and Malawi Rural Finance Corporation. USAID has been able to cooperate with the Ministry, while developing a private sector focussed program that works outside of the Ministry and the World Bank should continue this approach. Another major donor, the European Union, is working with maize, both production and imports, as well as fertilizer. Their approach to subsidies frequently conflicts with USAID's approach. Therefore, although maize is an important crop, it is suggested that USAID confine its interventions in this area to encouraging better policies. Germany is working on the development of the entire horticultural sector, and Taiwan has a horticultural development project. USAID should confine its horticultural activities to encouraging better integration between smallholders, estates, and agro-processors, focussing on specific geographic areas and products, both for domestic use and for exports.

The Proposed Approach

Most of the donors are working primarily with smallholders. USAID should concentrate on those members of the smallholder and estate community that are, or want to be, commercial producers, whatever their land size, from the chillie and coffee producers that NASFAM has been working with, to the potential commercial pulse producers on the underutilized leasehold estates.

USAID has already shown leadership in the fields of policy reform and of private sector agribusiness development, with its successful smallholder agricultural development project. This strategy proposes that that experience should be built on and that resources should be allocated to nurture the burgeoning private agribusiness sector, by working through existing organizations. There is also a clear perception that the events of the last 100 years have resulted in an acute shortage of individuals and organizations with entrepreneurial skills. Many of the people engaged in agriculture, both within and outside government, have a marked lack of experience with operating in a competitive environment so innovative and appropriate training programs need to be developed. There is also a general problem of access to good agricultural information for planning purposes. Projects should have appropriate mechanisms built into them for the collection and sharing of strategic data. Finally, USAID needs to continue its efforts to encourage policy reform directed toward better macro, financial, and agricultural policies that build the enabling environment for agriculture.

USAID can and should help the GoM be realistic in its expectations for agribusiness-led growth, help it recognize the time lag between investment and return and the risks involved.

Programs implemented now are likely to make a significant difference in the area of agribusiness some time in the future, all other things being equal. The role of policy in creating an enabling environment, encouraging factor mobility, and creating economic opportunities is key to the wider success of the agribusiness sector and its growth into a wider range of producers, marketers and processors, whatever their farm sizes.

A large number of smallholders will not benefit from these interventions during the time frame of the USAID strategy. These smallholders, who will remain subsistence farmers, will have to be introduced to improved land management practices as proposed in Annex D to enable them to better meet their basic needs from on-farm production. There will also be a number of resource poor and landless people who will never benefit directly from agribusiness programs, hence a concurrent program providing a food security net is needed. The exact size of this population remains unclear and a subject of debate. A strategy and specific interventions to meet the needs of this population are proposed in Annex F.

Given the nature and number of the constraints facing the smallholder sector, it will not be possible for the government to fund smallholder-led growth throughout the country. As part of its agribusiness program, USAID should help the government target its resources to areas with the least constraints and the most opportunities. In these target areas, improved input and output marketing, roads, communications, land policy, credit and dissemination of technology should be the focus of government and donor interventions. Appropriate links with the larger estates and the agro-processors should be fostered.

Specific Recommendations

1. Build on USAID's current agribusiness activities; SADP, Land O' Lakes, ICRISAT/SARRNET, IITA.
2. Continue close collaboration with GoM and other donors in the long-term goal of developing a vibrant private agribusiness sector.
3. Remain opportunistic and flexible to take advantage of the changing environment.
4. Work with the policy makers to assist in the creation of an enabling environment.
5. Collect specific information to contribute to policy and planning discussions.
6. Primary target/client group: aspiring commercial farmers and small businesses.
7. Goal: Improve the linkages between smallholders, estates, processors and exporters.
8. Support crop diversification, by helping farmers test and evaluate their options.
9. Refine targeting of USAID's scarce resources: choose key pilot locations, specific client groups, and concentrate on key crops.

10. Work mainly with the pulses, root crops, coffee, paprika, and chilies; be prepared to assist with other emerging crops such as organics, niche herbals, etc.
11. Support germplasm production and distribution activities for selected crops.
12. Provide information and assistance in a demand driven fashion.
13. Examine ways to risk share at the village level, and experiment with reforms in limited geographic areas, such as land tenure.
14. Work with existing groups and establish new associations to assist in meeting the goals of improved marketing and input supply, and to help build an improved institutional environment for agribusiness.
15. Promote skill development and knowledge at all levels in the agribusiness sector, through workshops, training courses, seminars, and networking.
16. Closely monitor the SADC regional market opportunities.
17. Encourage the production of crops for agro-processing, such as cassava, groundnuts, and pigeon pea.

ATTACHMENT 1: ASSESSMENT OF DIVERSIFICATION PROSPECTS BY CROP

Malawian Agriculture at a Glance	
<ul style="list-style-type: none"> ■ Total land area 94,080 km² ■ 53,070 km² cultivable ■ Of which 14,450 km² cultivated ■ One season, November -April ■ About 25,000 ha. of formal irrigation 	<ul style="list-style-type: none"> ■ Population 9,947,000 in 1998 ■ 85-90% rural ■ 71% of the export earnings from tobacco ■ 90% of export earnings (tobacco, tea, sugar)
<ul style="list-style-type: none"> ■ 95% of the food production comes from maize, beans, sweet potato, cassava, and Irish potato. 	<ul style="list-style-type: none"> ■ Maize is grown on 75% of the cropped area and provides 65-70% of the calories.
<ul style="list-style-type: none"> ■ Population density is 117 per km² ■ Majority of farms are < 1 ha. ■ 80% of farmers are smallholders ■ 25% of the GDP is from crops ■ Livestock generates 7% of the GDP ■ Agriculture is 30-40% of GDP 	<ul style="list-style-type: none"> ■ 80% of the labor force works in agriculture ■ 50% of the paid employment comes from agriculture

Extracted from GoM, FEWS, FAO and USAID documents

Malawi grows a range of crops besides tobacco and maize. Some are grown only by estates like rubber, some are grown only by smallholders like sweet potato, but many others are grown by both. There is often in some sort of sharing arrangement, like the tenant system on tobacco estates, or smallholder sugar, tea, coffee, macadamia and cashew production where the estate provides the processing infrastructure. As crops are selected for expansion, It should not be forgotten that farmers throughout the region are looking to diversify from tobacco, and any program to expand the production of a particular crop, particularly aimed at the regional and international export markets needs to look very closely at what is happening in Malawi's neighbors.

Food Crops

Maize (*cimanga*) dominates the food crops, planted in November/December it is harvested in April/May. Average area planted is about 1,300,000 ha, or which only 75,000 ha. is on estates. Seventy five percent of the total production comes from Machinga, Lilongwe, Kasungu and Blantyre ADD's. However, maize is grown everywhere, even in the low altitude hot dry regions. Average yields vary from year to year, but 1,250 kg per ha. is certainly possible, 2-3,000 tons/ha. would be a good yield, and researchers and efficient estates can get 5-6,000 tons/ha. Small shifts in the relation between fertilizer and maize prices have the capacity to significantly impact maize production. Given the low fertility of many areas, the response to fertilizer justifies its use for maize production for domestic consumption. The timeliness of planting and fertilization is critical, delays have a significant influence on yield. USAID should continue to monitor the marketing and fertilizer supply

issues, and work with maize via its policy program, but leave the production issues to the GoM and the other donors.

Sorghum (*mapira*) is grown, often interplanted with other crops, in the lower and drier areas, such as the Shire Valley, and on the poorer soils, such as north of Lake Chilwa. Average area planted is 65-70,000 ha. by smallholders. Blantyre, Machinga and Shire Valley ADD's produce ninety percent of the production. It is used mainly for beer making, occasionally for *nsima*. The tall, late maturing local varieties produce c. 700 kg/ha., vs. 2,000 kg/ha. for improved early lines.

Small amounts of **wheat** (*tirugu*) are grown in the Kirk range, around Neno, south of Ntcheu. Blantyre ADD has around 2,000 ha. all grown by smallholders, and the yields are low. Most of the wheat and wheat flour is imported. Because of its cool, dry season, and the lack of irrigated high altitude areas to grow wheat, Malawi apparently does not have a comparative advantage for wheat production, and therefore should import it. If the price relations change, and the demand for bread continues to increase, then irrigated production on estates around Neno may be an option worth exploring.

Rice (*mpunga*) is grown on the lower lands, mainly by small farmers. The lake shore plain around Karonga, Limphasa, Dwangwa, Nkhota Kota and Salima, plus the lower Shire and around Lake Chilwa are the main producing areas. About 45,000 ha. are grown annually, mainly as a rainfed crop. Yields are about 1.5 t/ha rainfed, 4 ton/ha. irrigated. Machingas and Salima ADD's have 60% of the production. Supply does not equal domestic demand. There is a preference for particular Malawian rice varieties, such as Faya from the Lake shore and Kililombero from Karonga, in the region, and a premium can be demanded, over cheaper varieties imported from Asia.

Groundnuts (*mtedza*) are grown as both a cash crop and as a food crop throughout Malawi. Between 140,000-170,000 ha. are grown. The main area of production is the Central Plain, with Kasungu and Lilongwe having 50-70% of the production. The Mzimba plain, the Shire Valley and the Lakeshore plains are also important producers. They are grown as pure stands and also as an intercrop with maize. Yields of 1-1,500 kg/ha are possible, most farmers are getting 4-500kg/ha now. When rosette, a virus disease occurs, it severely diminishes yields. In the past, Malawi had a reputation for large confectionery peanuts, but size has declined and the market for varieties such as Chalimbana is gradually being lost. Some oil has been produced, but the main local use is groundnut flour being used as an additive in local cooking. Lever Brothers, Capital and NSCM Milling have all been involved in oil production. GTZ experimented with local groups and small-scale oil extraction, the capital costs and organizing the groups were a constraint. Improved varieties are available, but choices have to be made about how wide a range of types to encourage; those with rosette resistance; confectionery or processing types, e.g., Chalilimbana vs. Manipintar, which have different blanching and oil yield characteristics. Two advantages groundnuts have as sources of oil, are that they are already a widely grown and familiar crop, and that smallholders can grow them. Multipurpose varieties such as CG 7 are available. Seed supply is an important issue as bulking up is very slow. Again, larger estates could be involved, perhaps in a partnership with the processors. Grown for oil production, they are one potential import

substituting crop, whilst for export as large seeded confectionery they had a reputation and an established market, which perhaps can be built upon and expanded.

Other oilseeds such as sesame, (750 ha., mainly in the Shire Valley and Machinga), soy, and sunflower (3,750 ha., mainly in Blantyre) have been tried. Lever Brothers was processing sunflower. This oil competed with imported soybean oil. The mixed local seeds did not produce well, (400 kg/ha.), and the encouragement of the higher yielding hybrids has not worked very well.

Cassava (*cinangwa*) is a major food crop along the lakeshore among the fishing communities. Its production and use by smallholders is growing rapidly elsewhere, particularly in the drier areas and on the poorer soils. The country grows 140-150,000 ha. annually. The main areas of production are Mzuzu, Machinga and Blantyre with about 50% of the total tonnage. Bacterial blight and cassava mosaic are constraints. Elite virus free lines are being propagated and made available with USAID assistance, using the Extension Service, NGO's and the rural communities in a cooperative effort to multiply and disseminate improved material at the village level. Input use is low and the returns per ha. to growing improved varieties are high.

Cassava is grown for both household consumption and market sales. Fresh harvested cassava has a very short shelf life, a continued expansion of production would require increased chip and flour production. Only limited processing is occurring now. IITA designed chippers and graters are available to assist village entrepreneurs to detoxify the root and produce flour. These have already been manufactured locally in Zimbabwe and repeating this in Malawi would increase the options for village level employment, both in the manufacture of chippers and in the processing of fresh roots. Another option for off-farm employment is chips as a snack food. Estate level production of high yielding varieties combined with processing would also open the possibility of using sun dried chipped cassava as a livestock feed, or in other industrial uses such as for starch extraction or as size in the pulp industry, either locally and/or in the region. South Africa is importing c. 100,000 tons of cassava chips every year. Consistency of supply and sufficient volume would be key to entering this market.

Sweet potatoes (*mbatata*) are another smallholder crop, whose production and use is expanding. It is widely adaptable and often grown as a relay crop with maize. The area has been growing and about 130,000 ha. are grown, mainly in Machinga and Blantyre ADD's, which have about 55% of the total production. USAID is supporting the dissemination of improved lines. It is important that biodiversity is encouraged in this program. There is a growing area of the single variety Kenya being grown. Maintenance of the plants during the winter season and the bulking up of cuttings for planting at the start at the rains are probably limiting its spread. It is increasing being grown in the *dimbas*. Sweet potatoes play an important role in filling the hungry season gap, one estimate by SAARNET suggested the period of food scarcity could be reduced from five months to two months, if sweet potato were relay cropped with maize. These are also becoming increasingly important as a breakfast food in the urban centers, replacing the traditional wheat buns.

Irish potatoes (*mbatata yacizungu*) are a smallholder cash crop. They are grown in the cooler higher areas such as around Ntchisi, Dedza and in the Kirk Range. About 12,000 ha. produce 125,000 tons.

Pulses are particularly important in Blantyre ADD which together with Lilongwe has almost 60% of the total production. The area under pulses exceeds 400,000 ha.

Beans (*nyemba*) are another important food crop, grown mainly by smallholders. They occupy thirty percent of the total pulse area. Lilongwe and Blantyre have 60% of the production. They are planted as an intercrop, as a mid-season relay crop from January to March, or occasionally as a pure crop in the uplands, or in the *dimbas* during the winter. Yields range from 200 kg./ha in intercrops to 600 kg/ha. in pure stands. Beans are popular in Malawi. During the season, the market at Ntcheu is said to trade tens of tons of beans every weekend, with buyers coming from all around the region. Taste preferences are a possible constraints to the expansion of the improved varieties. There is very limited interest by seed companies in producing open pollinated legume seed. Selected estates could play an important role in the multiplication of particular lines, working with the researchers, and then selling the crop to the smallholder sector.

Pigeon Peas (*nandola*) are an important crop, with over a third of the total pulse production. They are grown as an intercrop with maize, particularly in the south. Over 90% of the production comes from Machinga and Blantyre. Yields are 5-600 kg/ha. Mozambique has been a major supplier of pigeon pea to Malawi in the past. The seeds are harvested at the end of the dry season, and either consumed on farm or sold. The seed is further processed into dhal, and either sold to the tea estates for their feeding programs, or exported within the region or to India. Between 10-25,000 tons of seed equivalents are exported annually. The main traders and processors of pigeon pea are based in Blantyre and have formed the Dhal Millers Association Ltd. There are ten mills in Malawi about a third to a half of the exports are processed into dhal, the rest exported as whole peas. India apparently has differential duties on whole peas versus dhal, which is intended to encourage imports of whole peas. The harvest there is in November.

Mainly indeterminate, long season varieties are grown. The determinate short duration varieties tend to suffer from pests and diseases, as do ratooned crops. Seed can be bulked up rapidly, (1:100) and due to the only partially open pollinated nature of the crop, improved fusarium wilt resistant varieties only need replacing every three years or so. ICRISAT is working on the crop in Malawi, and have varieties that yield 2-2,500 kg/ha in trials.

Cowpea is another important pulse crop, with approx. 70,000 ha., grown mainly in Machinga, Blantyre and the Shire Valley, which produce 90% of the production.

Vegetables are mainly grown during the winter in the dimba gardens. The main types are cabbage, tomato, onions, pumpkin, okra. There is some commercial production around the urban centers of Blantyre and Lilongwe. Seasonal gluts and shortages are common and handling and transport are a problem. Tomatoes and onions are imported. Every year, once the tobacco and maize crops have been dealt with then the vegetable production expands.

Bananas (*ntochi*) are grown everywhere as a minor food crop, and as a cash crop around Thyolo and Mulanje. Plantains are found at Karonga and Nkhata Bay. Black Sigatoka, and banana weevil limit production. **Mangos**, usually unimproved varieties, are found scattered everywhere. They are used as both subsistence and a minor cash crop. **Citrus**; oranges are grown at Salima, Mangochi and Karonga; tangerines are grown at Mwanza, Ntcheu, and Ntchisi. Processed citrus products are imported from South Africa and Zimbabwe.

Export Crops

Tobacco (*fodia*) is the most important cash crop in Malawi. Grown throughout the country, it dominates the agricultural economy, with strong influences on credit, input availability, labor supply, transport, incomes etc. in the rural areas. Nurseries are prepared September/October, and transplants are put out in December after the rains start, topping is done in February/March, and picking of leaves as they mature occurs in April/May. Curing is done in May/June. Burley and fire-cured tobacco is grown on the Lilongwe plain. Fire-cured is also grown south of Zomba, and near Ntcheu. Air-cured tobacco is grown in Kasungu and Mchinji districts, and flue-cured around Namwera and Kasungu.

Tea is produced mainly in the higher rainfall areas above 800 meters. In the south at Mulanje and Thyolo, and in the north around Nkhata Bay. It is produced mainly on estates, using laborers. The total area on tea estates in Malawi is more than 40,000 hectares. Thyolo has almost 20,000 hectares, Mulanje more than 17,000 hectares, and Nkhata Bay 800 hectares. 24 companies control these estates and the industry has 26 processing factories. The estates have about 18,300 ha. of tea, and there is 2,400 ha of smallholder production, together they produce about 40 million kilo per year. The Smallholder Tea Authority, with funding from CDC and ADMARC established the Malawi Tea Factory Company to process their tea. In 1990, 4,904 smallholder growers had an average holding of 0.48 ha each. Smallholders in 1989/90 produced 14 million kilo of green leaf.

Malawi is not ideally suited for tea production as the hot and dry period reduces the production and 80% of the tea has to be picked between December and April. This has obvious consequences on the seasonal availability of labor in the area. The estates are replacing old tea with clonal tea and increasing the population densities on old plantings. Clonal tea can raise the average yields from 2.5 ton of made tea/ha. to 5 ton.

Sugar cane is grown commercially using irrigation on two estates, 5,000 ha at Dwarangwa on the lake shore plain and 9,000 ha at Nchalo in the lower Shire valley. Both factories also process smallholder produced cane of about 2,500 ha. There is growing production of smallholder sugar cane for Nchalo from a nearby converted rice scheme at Chikwawa. Also, many small farmers in or around their dimba gardens grow sugar cane (misale, nzimbe).

Cotton (*thonje*) needs high temperatures, so it is mainly grown from Salima to Nsanje. Different varieties are grown along the lake shore plain (Karonga, Nkhatakota South, Ulongwe to Mangochi), in the medium altitude areas (Mwanza/Neno, Machinga, Ntcheu,

Balaka, Liwonde, Phalombe Plain, Henga/Kisitu Valley and Bolero) and in the lower Shire (Nsanje and Chikwawa). About 50,000 ha are grown, mainly in Salima, Machinga and the Shire Valley, which produce over 90% of the production. Ginneries are located at Balaka, Salima and Bangula. They are running under capacity. Yields are constrained by the incidence of pests, and chemical use is an issue. This is one of the few cash crops grown only as a smallholder crop. It is quite labor demanding. There is one local buyer for the lint, David Whitehead, who frequently imports lint. Cottonseed oil production requires removal of the gossypol, so cotton is not particularly appropriate for local small scale processing.

Arabica coffee is grown in Malawi. It is an important smallholder crop in the north in Rumphu district, in the Misuku Hills, and around Mzuzu and Karonga. Robustas are grown with irrigation on the Central Plateau, and coffee is increasingly grown on the tea estates in the south. The coffee and tea industries have always been closely linked, with the slumps in profit from one industry being frequently buffering by higher prices in the other commodity. For high quality washed arabica, the pulping may be done on the farm, hulling is usually done elsewhere. The Smallholder Coffee Authority owns a coffee factory at Mzuzu. CDC established a large coffee estate at Kawalazi. Approximately 6,000 ha. is also grown on estates in the south around Thyolo, Mulanje, Namwera and Zomba. Mbabzi Estates Ltd. (Barrons) is establishing an irrigated coffee estate on the Central Plain. Coffee has replaced tung on many of the tea estates. Yields vary considerably with the estates producing 1 ton/ha and smallholders 150 kg. Coffee berry disease is a growing constraint, with the costs of spraying fungicide rising, smallholder yields are falling. Resistant varieties are available and are being propagated around Makanjila. The Coffee Association of Malawi funds coffee research at the Tea Research Foundation, Central Africa, especially at the Nsuwadzi station in Mulanje.

There are approx. 3,200 ha. of established plantings of **Macademia** in Thyolo, in Mulanje and Nkhata Bay. Smallholders have planted 150 ha around Ntchisi. Total area is c. 3,500 ha. The returns are good, but the crop takes a long time to come into bearing. Yields are increasing as the plantings mature, 5 ton/ha nuts in shell are possible. The two processing factories are located at Naming'omba estate in Thyolo and at Kawalazi in the north. The Tree Nut Association represents the growers, both large and small. Bvulumba Research Station has developed IPM techniques that have a significant effect on the yields of harvestable product. The AfDB did a study of the markets in the early 1990's. Mwanza and the Shire Highlands and Viphya Plateau and the Misuku hills have been identified as potential sites for smallholder production.

About 600 ha. of **Cashews** are produced on Press estates at Mangochi and Salima. There are apparently numerous scattered trees in Salima, Blantyre and Karonga ADD's. The current processing plant at Mangochi is obsolete, and yields are low, 1-2kg/tree. Raw cashew is sold to Kenya for export to India for processing there.

Rubber was grown on 2,000 ha in the north at Kawalazi.

Soy acreage is expanding throughout Malawi, from 40,000 ha in 1998, to an estimated 80,000 ha. in 1999. More than 50% of the production comes from Blantyre ADD. There is a

self-nodulating variety, Magoye, and soy can be inter-cropped with maize. A major limitation to expansion of this crop is the viability of the seed. It is very difficult for a smallholder to keep their saved seed viable. Soy needs roasting before it can be eaten to destroy certain chemicals that interfere with digestion. Processing of soybeans for oil requires solvent extraction, and a reliable electricity supply. Currently this is done in Zimbabwe. Purchasers from there arrive in Malawi during May/June to buy the local crop. The market in Malawi has fluctuated with a variable demand from the donors for weaning foods being one reason for the price fluctuations. Good spring rains in the US are causing the international soy oilcake and soy oil prices to drift lower. The derived farm gate price in South Africa for soybean in April 1999 was R991/ton.

Guar is being produced in the south, south of Bangula, in the Shire Valley region, with a very small amount in Machinga. The area under production varies considerably with the price and the marketing arrangements. It competes with cotton for land, but requires much fewer inputs. Even with low rainfall, 1 ton per ha. is possible. The current farm gate price is only 2K/kg. Production from 1997 to 1998 increased from 600 to 1,500 tons. Malawi has produced 5,000 tons in the past. Markets are the key issue. Transglobe Produce Exports has installed machinery to process splits, and is trading guar. The estimated area in 1999 is 3,000 ha. There is a market in South Africa for about 10,000 tons. The extracted endosperm is used in the uranium mining and petroleum exploration industry. Smallholders can clean and grade seeds, but the plant to process the seeds to gum is expensive. India is supplying the South African market now. The other major supplier on the world markets is Brazil. This is mainly a candidate for import substitution. Exports outside of the region are likely to meet fierce price competition.

BirdsEye Chillies are grown mainly around Zomba, Mulanje and Blantyre, (60% of the area), as well as Machinga (25%) and Salima (14%). This niche crop is grown by smallholders, and requires care in handling, not only because of the capsin, but also to maintain the quality that buyers demand. Yields are 2-500 kg/ha. Bulking up of volumes to achieve the 7.5 tons required for a container is being done by the USAID supported project in Mulanje. The world birds eye chillie market is currently stable, with demand not increasing. A farmers cooperative in Zimbabwe is a major competitor on the world markets, producing about 200 tons per year, and harvesting several months earlier than Malawi. The regional market for mild chillies is small, perhaps 500 tons per year, and Zimbabwe and Zambia currently supply much of the regional requirements. Nali Sauce provides a local market and processes those chillies not up to export standard.

Paprika started to be grown in Malawi in 1994, and is now grown on about 3,500 ha. mainly by smallholders on the Central Plain in Kasungu and Lilongwe. It is used as a flavouring and a colorant. In 1997 about 2,000 tons were exported. The world demand is between 40,000-60,000 tons, South Africa and Zimbabwe have producing about 20,000 tons in the past. They are increasingly moving to contract production elsewhere in the region. Malawi can probably only realistically hope to supply up to a maximum of 10,000 tons, given the nature of the production systems in Zimbabwe. Cheetah (Malawi) is working with smallholders aiming at reaching 6,000 tons exports, of which they would like to handle 50%. The field production and handling of the crop is somewhat similar to tobacco, and Press grew paprika using a

tenant system. This has failed and has had a negative demonstration effect. The Malawi Export Promotion Council has worked with the crop and produced an opportunity profile. Yields vary with the husbandry and the weather at harvest and can range from 1 to 6 tons/ha (under irrigation). They demand a lot of labor, particularly in the nursery stage and at harvest. Pods, seeds, and stems all have a market. Malawi produces a unique deseeded pod. The main market for paprika is Spain, which is the historical producer and the centre of the trade, around Murcia. Currently further processing of Malawi's paprika into powder and oleoresin is being done mainly in Zambia, Zimbabwe and South Africa, and there is clearly excess regional processing capacity.

Cut **Flowers** are being produced around Lilongwe and foliage around Muchinga. Up to recently there were three operations growing about 10 ha of greenhouse roses, plus larger areas of other field grown species. Lingadzi Farm Limited was founded in 1987, and Zikomo Flowers Limited in 1992, both of these firms received financing from IndeBank. Lingadzi also received funding from EDESA, a Swiss Development bank, and its joint venture partner. A third company, Maravi, was started in 1996 by an ex-employee of Lingadzi, with funding from IFC, and MDC, and Zimbabwe joint venture partners. In the past, Lingadzi and Zikomo were producing tea and sweetheart roses, mainly for supermarkets, and exporting several million dollars worth of product per year. Sales were to the Dutch auctions and South Africa. Both companies have recently closed down and stopped production. Maravi continues to grow and export a range of flowers. There is currently oversupply in the world rose market, and it is highly competitive. Zimbabwe and to some extent Zambia are regional competitors who already have the volumes, infrastructure, knowledge base and capital investment required to be successful. Investment by USAID in this segment of the horticultural industry is likely to have only a limited impact on Malawi's agricultural growth.

In Kenya, smallholder driven growth of the **horticultural** sector was fueled by private sector inputs of expertise and inputs, rather than Government led programs. The role of the GoM should be to provide the enabling environment that will encourage joint venture investments, as well as partnerships between smallholders and international export marketers. USAID can assist that process.

Minor industrial crops allow the possibility of import substitution and are often suitable for smallholder production. They include Annatto (*Bixa*), a perennial plant, the dried seeds of which are exported, and the alkali extract is used as a food coloring. World trade in seed is about 6,500 tons annually. Yields are 1-1.5 ton/ha. There is a small local demand, and about 10 tons are exported annually from the region. The demand is likely to shift to extracted product with time. Multinationals are the main buyers. Castor bean (*Ricinus*) produces an oil which is currently imported into the region from Brazil and India. The Malawian demand is for about 250 tons per year, South Africa imports about 1,500 tonnes. Current regional production of castor beanseed is small. Seed yields are from 200 kg to 2,000 kg/ha. and this drought resistant crop can be harvested by smallholders for 2-3 years before yields start to fall off.

Steady markets, access to processing facilities and competition with established suppliers are the main factors limiting expansion or establishment of these crops. These crops may be

good candidates for import substitution, or targeting the regional markets. They are suitable for production by an estate to get the volumes needed for export, and then supplementary smallholder production alongside the estates.

Non-timber Forest products are being looked at regionally by ICRAF. Indigenous fruit trees such as *Uapaca kirkiana* (masuku, katoto), *Strychnos cocculoides*, *Azara garckeana* (matowa) and *Parinari curatellifolia* (mbuwa), are found throughout the region in the miombo woodlands, and are widely used by communities. There is the possibility of using these species in any agroforestry program USAID funds. *Moringa* is another possible minor crop, it is used for water purification. Some organic production is occurring in Zomba and Blantyre, and some exports of medicinal crops such as *Echinacea*, *Calendula*, and herbal teas such as lemon verbena, hibiscus, and chamomile. Although high value/low volume products, exports quantities are small at present and never likely to be significant export earners, or have their impact on a large number of Malawian producers. There may be a niche market for environmentally friendly products.

Livestock

Chickens and eggs are produced in Malawi under a variety of systems, free range in the villages, small scale commercial production at the village level, and large scale commercial broilers and layers. According to estimates made by the National Livestock Development Task Force, in 1997, 7% (900 ton) of the poultry meat consumed was imported, and 15% (1,430 tons) of the eggs. The majority of the 11,500 tons of poultry meat produced came from village free range, (7,000 tons) or commercial broilers (3,100 ton). Out of a total egg supply of 8,200 tons, commercial layers dominated the production with nearly 6,000 tons.

The commercial chicken industry in Malawi is currently experiencing a decline. As income levels rise the demand has increased for poultry and eggs. At the same time producers are cutting back or closing. The supply from within Malawi is down to 25% of what it was a few years ago, and it is not sufficient to meet demand, so imports are coming from Zimbabwe. Press and Charles Stewart which used to be major suppliers of broilers to PTC have closed down. So PTC and Kandodo are currently importing 37,500 dressed birds and 60,000 units of eggs per week from Zimbabwe. If these import volumes continue at this rate, which is probably unlikely, there are already claims that the supply is starting to diminish in Zimbabwe, Malawi will require approximately \$6 million of foreign exchange to pay for them.

The main cause of the uncompetitive nature of the local commercial industry appears to be feed costs. Feed costs are 75-85% of the operational costs of broiler production, and assuming that the hybrids, disease control and the flock management are right, then feed prices and conversion rates determine profits. As the maize market is liberalized, the indirect subsidy that this industry was receiving from the maize farmers is declining. Feed ingredients such as soy, fish meal, premixes, vitamins etc are being imported and have duties of 5-10%, plus a surcharge of 20%. The recent devaluation increased the costs of these items. The Malawian industry is being forced to become more competitive. Press has closed down its

Central Poultry and Press Poultry, which controlled 70% of the local industry. They claim that the Zimbabwe competition has an unfair advantage as there they produce in Export Production Zones with no duties or surcharges on feed.

Broiler production is the hardest hit by the feed costs, and this is having a knock-on effect throughout the industry. Production of day olds is down to about half capacity, but Charles Stewart and Valley Chicks are still producing about 30,000 birds a week. There are certain parallels between the vertically integrated commercial chicken sector and the cut-flower industry, in both the whole industry benefits from a certain scale and volume of production.

Cattle have declined in numbers and theft is said to be a serious problem. Population pressures are causing the dambos to be converted into dimbas causing conflict between livestock and crops. There is a growing demand for beef from the urban elite. Cattle are traditionally important around Mzimba and Lilongwe.

There is an estimated demand for 22,000 MT of milk per year, only 8-9,000 MT are currently being produced in Malawi. Approximately 50% of the domestic supply comes from estates, 50% from smallholders. Smallholder dairies produce milk for Blantyre, Lilongwe and Mzuzu dairy plants, as well as for direct local consumption in the smaller centers. USAID is funding an initiative here.

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ANNEX C

**POVERTY, FOOD SECURITY, AND COPING STRATEGIES IN
MALAWI: A REVIEW OF THE HISTORIC CONTEXT,
METHODOLOGIES, AND DATA**

Naomi Ngwira

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SUMMARY

The poverty and the food insecurity situation in Malawi are complex. Effective strategies for dealing with the problems should recognize this complexity rather than try to rely on stylized facts. To do this requires more careful data collection and analysis for purposes of policy design and program implementation. Some of the stylized facts concerning food security in Malawi are: nearly half of Malawians experience short-term household food insecurity (acute, transitory) or chronic food insecurity; the food insecurity problem is primarily one of incomes and poverty, not production; and food security planning has been hampered by political interference, ideological preferences, and inadequate information and policy analysis.

The evolution of food security policy making has reached a point where the synergy of production, incomes and markets in addressing food insecurity is recognized. Emphasis is now on household food security with national food security being kept in view. Although there has been this progress in conceptual approaches to food security, the main interventions are still oriented towards production. This may be in part due to the agriculture-dominated nature of the economy. But it also indicates a lack of aggressive search for innovative approaches in the off-farm and export sectors. Addressing non-agricultural employment creation is a critical issue for reducing poverty and food insecurity in Malawi.

Safety net programs are being accepted as necessary to protect those households who can not get enough incomes to buy food. The safety net programs need to give more attention to the needs of women and female-headed households, and households with orphans who tend to be more vulnerable to food insecurity and poverty. The safety net should build in activities to aid transition out of poverty and reduce dependence on government handouts. Safety net activities should also be of the type and scale that do not confound market mechanisms.

Such types of safety nets build into the options identified by the Vision 2020 for reducing food insecurity, and contribute to achieving the Vision 2020 aspiration of attaining a vibrant culture marked by increased self confidence of Malawians and their reduced dependence on government and donors

BACKGROUND TO FOOD SECURITY POLICIES AND PLANNING IN MALAWI

The extent of poverty and food security has been understood for a long time to be the primary criterion for judging the progress of development. The slang term for living a good life is *kudyabwino* (literally 'eating well'), and is distinct from *kulemera* (being rich). Dr. Banda stated over and over again that household food security and national self-sufficiency were the more relevant indicators of economic development than government budget surpluses or other macro variables.

"That there is prosperity can not be denied by anyone, not even our bitterest enemies: no matter what part of the country one may choose to go, no matter how remote, people look well fed and dressed." *Daily Times* March 9, 1979.

He proclaimed that his was a war against hunger, poverty, and disease, and that whatever else Malawians may not have, they had to have “food, clothing and houses that did not leak”. Before the opening of each parliament session he conducted crop inspection tours, and in his parliament opening speeches he always boasted of having looked at the primary budget of the country. However this did not lead to the formulation of well-informed policy making relating to food and nutrition. Public discussion of food insecurity issues was taboo. There was strong political pressure to portray the picture that Malawians had everything they needed and that political independence from Britain had brought significant material benefits to everyone.

Political demagoguery had it that Malawian households had bursting granaries and lacked nothing. Thus anybody who was not well nourished lacked knowledge of how to prepare the food that they had. If they went hungry they were lazy and were exhorted to work hard in their gardens. In this kind of political environment, policy making and approaches to food security¹ emphasized nutritional education and rehabilitation for the malnourished and supplementary feeding for at risk groups. (Msukwa 1982)

This began to change when the work done by the Center for Social Research (CSR) with the help of UNICEF in the early to mid 1980's began to influence advocacy for review and reorientation of food security and nutrition policies. The printing of posters showing the incidence of malnutrition using NSSA data was the major catalyst. A Principal Secretaries conference on food security was held in 1988. Problems of hunger and malnutrition began to be discussed more openly. Many studies and initiatives began to re-examine food security policies. A Food Security and Nutrition Policy was published in 1990.

The advent of multiparty democracy, for all its virtues, also brought the vices of election campaigns. Aspiring politicians needing to criticize the previous government promised people that the new government they would form would ‘give to the people’ and ‘not take from the people’. People are now able to voice their discontent and feel free to describe their poor living conditions and then demand that the government help. During the same time several natural disasters and droughts occurred which led to experience with huge relief operations. The fallout of this process is that people feel absolved of the need to provide for themselves and expect help from the government in terms of food distribution programs. This has led to a culture of dependence on food aid. It has also led to exaggerated expressions of food insecurity, and blaming the government for any poverty and food problems. This behavior may have been partly opportunistic: trying to get as much benefit as possible from upcoming politicians trying to consolidate their image. But it may also be due to a genuine experience of frustration from failure to cope due to inflation that followed the removal of subsidies, devaluation of currency, and the poorly sequenced liberalization of economic activities and privatization of parastatals.

Just when household food security concepts were becoming accepted with national level food self-sufficiency being kept in perspective, policy making was beginning to be dominated by

¹ Food security had not yet become common parlance in Malawi

structural adjustment programs and the emphasis on market approaches to development. The market liberalization approach to food security argues that market forces if given free reign will raise smallholder incomes by increased value of crops such as tobacco, soya bean, and cotton. Critics argue that liberalization policies have increased economic differentiation. The higher input prices that have followed devaluation, decontrol of markets and removal of subsidies exclude the poor from taking advantage of higher output prices, even as higher food prices threaten food security in net food purchasing households. The pressure towards full liberalization in on, even with evidence pointing to the weakness of the private sector, which is neglecting or exploiting smallholder farmers in remote areas. The counter argument is that the presence of ADMARC, the maize price band, the SGR and some macroeconomic policies are a large part of what is keeping the private sector from becoming vibrant.

It is now being accepted that the approach to achieving household food security should be three pronged -- incomes to purchase enough food, markets to permit specialization and exchange; and productivity to increase food production and household incomes -- although there is disagreement on the relative importance of these factors. There is also acceptance of the need for safety nets to protect and possibly empower those household who cannot take advantage of markets. Although safety net types of programs have been implemented by many organizations in the past decade, including the World Food Program (WFP), the Government and NGOs, it is only in the last six months that the GOM and its donors have initiated a process to put together a national safety net policy and strategy.

This history of food security policies and planning indicate the need for advocacy (with donors and politicians) and social mobilization to enable the formulation and implementation of effective food security and safety net policies and programs. Each regime or political dispensation can have positive and negative effects on food security. People and their leaders need to be made aware of honest realities and effective approaches to reducing their poverty and food insecurity problems.

The GOM completed the Vision 2020 process which identified food insecurity as a strategic issue constraining accelerated GDP growth. The following strategic options have been emphasized for achieving food security: increasing agricultural productivity and production, improving efficiency of markets, reducing post harvest losses, improving disaster management, improving land utilization and management, economic empowerment of vulnerable groups, and improving the nutrition status of the people.

The safety net program that is proposed here, the kind that aids transition out of poverty ,is in line with the food security strategic option of Vision 2020 to empower vulnerable groups. It also fits with another aspect of the Vision, which is creating a vibrant culture, whose major component is reducing dependence on donors and government.

DEFINITIONS, CONCEPTS AND MODELS OF POVERTY AND FOOD SECURITY

The definitions of poverty and food security are diverse and shift over time depending on social and economic and political developments and the purposes to which they are put. It is

possible to struggle and spend too much time and resources to understand and define poverty and food insecurity and what causes them. Much of this effort is usually academic in nature and has not gone far in assisting in the design and implementation of programs. However it is recognized that the concepts, definitions and models of food insecurity determine the kind of policies and programs that are recommended.

Defining Poverty

Poverty is lacking the material, biological and environmental resources that make living a certain normative standard of life difficult or impossible. Poverty is both relative, when seen as the inability to achieve a certain standard of living, or absolute, when seen as the inability to meet basic needs. Absolute poverty is what concerns us here.

Malawian concepts of poverty include the terms: *umphawi*, *usiwa*, *kusauka*, *kudyabwino* all which have different meanings but tally with some of the definitions and hence solutions to food insecurity that are found in the current literature. *Umphawi* refers to situations of endemic lack of resources of all types including those needed for mere survival. *Usiwa* refers to lack of clothes or bodily adornments.(Chirwa and Ngwira 1998). *Kusauka* means the lack of resources, usually those needed for asset accumulation and the implication is that this is due to exogenous causes. There is also the connotation of the necessity to struggle against a situation or elements to succeed in exiting *kusauka* as in sayings like *kusaukila*(to struggle for); “*kuche kuche osauka satopa*”(literally” from dawn to dawn the poor do not get tired). There is the notion then of a person *osauka* to have the means or capacity to struggle. A large minority of the vulnerable households does not have the means to cope. They are *umphawi* *Kudyabwino* literally means “to eat well”, and the *anamadyabwino* are those who do not have to worry about food. *Olemera* (literally heavy) are those with wealth (*chuma*). *Chuma* is an archaic word for metal. In the old understanding when coin money could buy assets, *kulemera* meant to be heavy with valuable metal. *Kudyabwino* is a term which indicates the recognition that eating well (as distinct from asset accumulation) may be all that is possible and important given current economic circumstances. However it is also used to mean rich.

In terms of this rural sector assessment, safety nets target *umphawi*, while programs to increase smallholder productivity target *osauka*, and agribusiness programs target primarily *anamadyabwino* and *olemera*. The precise criteria for deciding which households belong to which groups and what activities can be planned for them may vary between one area of Malawi to another. PRAs would have to be done to develop the criteria and activities appropriate to local situations.

Defining Food Security

- Food security for a group or an individual is having access to safe and nutritious food to maintain a healthy and active life.

- Household food security is having physical and economic access to food in sufficient quantities and quality by all members of the household to meet their dietary needs for a productive and healthy life without undue risk of losing it.
- Food availability is part of food security and is achieved when sufficient quantities of all necessary types of food from domestic production, commercial imports, or donors could be physically near the group when needed.
- Food access for a group is when the group or individual has sufficient income or other sources to grow, purchase, or barter food to meet their dietary needs for a productive and healthy life.
- Food utilization for an individual is when food is available and accessed, in the context of appropriate dietary, food storage and preparation practices, and personal health to absorb the nutrients for a productive and healthy life.

These definitions are location or economy neutral. The way that food security planners look at solutions to food insecurity and organize interventions depends on knowledge that goes beyond definitions to conceptual or analytical frameworks (models) that are used. These are location/economy specific and can vary within one country. Food security can be modeled in many ways. The main defining variables are level of analysis and broadness of concept:

The three levels of analysis are: spatial (national or regional), the household, and individual. These levels have implications for what are understood to be the causes of the problem. The emphasis of the national or regional level of analysis is production or capacity to import; household food security emphasizes ability of households to access food; and the individual level emphasizes utilization. The household level analysis of food insecurity is more relevant than spatial concepts with the erosion of social capital, i.e. the lack of communal social security, because the availability of food in an area no longer guarantees that all households in the area are food secure or even that, within an extended family, every member is food secure.

For increasing effectiveness of food security programs the two approaches should actually be seen together. Even when food is available, the food habits of people can make some members of households food insecure. For example, excessive reliance of bulky maize meals, which are eaten infrequently, may mean that younger members of households may not be nutritionally secure. Low meal frequency may be caused by the inability of women to prepare three meals and weaning foods in the context of few labor saving technologies and other labor demands, including income generating activities.

The broadness of the concept, refers to whether we look at food security strictly from the standpoint of food production or consumption, or include the whole gamut of causes of food security i.e., livelihoods. There are thus many possible permutations of these variables that yield different models. For example the FEWS VAM models vulnerability to food insecurity as an outcome of social resources, agricultural production, agricultural risk, income, markets and health. This approach is comprehensive and deals with utilization concept of food security. FEWS VAM also cluster Malawi into 5 economies for purposes of its analyses. The approach is spatial, it summarizes the household level data at the EPA level. Narrower

models only look at incomes and food, those that are narrower still focus only on own food production.

The approach adopted for this rural assessment focuses on household access to food in a context of food security having been achieved at the national level. This makes household income the major variable of concern. As we shall illustrate, most of the food insecure have access to only limited land. They do not have the means to grow their own food and also grow cash crops to meet other basic needs.

THE FEATURES OF FOOD INSECURITY IN MALAWI

Causes of Food Insecurity

Most published material and analyses of primary data on food insecurity concur that the proximate causes of the problem are low incomes (from own production, and all other sources) and poor health. A shorthand expression of the ultimate causes of food insecurity is poverty: referring to not only inadequate household income or purchasing power but also the lack of resources. These resources include arable land, capital, knowledge or education, technology, access to preventive and curative health care, and the supply of household labor.

Income as opposed to food production has now gained acceptance as the major determinant of food security. One reason for taking this approach is the recognition of the limits of resources, especially land, to increase own production. Another is the recognition of the importance of non-farm income earning opportunities to improving food security. A third reason is the observation that enough food is produced in the country in most years: the problem is one of access. A fourth reason is that higher and stable incomes from agricultural or non agricultural sources enable not only the purchase of more food, but also the production of more food through lowering the risks associated with adopting productivity increasing technologies (Ngwira 1994). The approach to addressing the food security problem should be market based: assuring a vibrant market place, and the growth of a productive economy. A market-based approach to food security takes food production and availability as only one component of the problem. More important are relative prices, incomes and income distribution.

Descriptions and analysis of causes of food insecurity can be dichotomized as follows:

- Those that use subjective and objective methods or introspective and retrospective methods. Introspective methods are those that ask people what they feel are the major causes of their food security problems. Many participatory research methods fall in this category. Retrospective methods are where the analysts collect data on all variables and do statistical analysis to see which ones are significant.
- Safety net snapshot analysis versus the longitudinal approach.
- Household food insecurity versus national self-sufficiency

These distinctions in methods and levels of analysis are important because they, together with the models used, influence the magnitudes of the various food security indicators, the causes of food insecurity that are reported, and what needs to be done to deal with the problem. However, the various models may come up with similar findings. Safety net snapshot analyses are good at capturing the factors determining endemic or chronic food insecurity, while longitudinal studies illuminate more on the cause of transitory food insecurity. The following summarizes the findings of some analyses of national level data.

FEWS VAM Baseline Report 1996

FEWS VAM used data from various sources (collected over ten years) to compile and conduct analyses of causes or determinants of vulnerability to food insecurity. Using the principal components statistical method, poverty, food deficiency, and malnutrition were identified as the main components of vulnerability to food insecurity. This finding supports the hypotheses that food insecurity in Malawi is primarily an issue of poverty and income, and secondarily of food production.

The EPA was used as a unit of analysis. Five clusters, namely, Urban, Mixed, Estate, IGA and Maize were used in a safety net snapshot analysis, and separately in a time series analysis. Using the safety net snapshot method, the causes of vulnerability to food insecurity were found to vary by cluster, but overall they are: low prices of maize and cassava; large family size; high % of female headed households; small land holdings; number of coping mechanisms; lack of drought resistant crops; few calories available; and limited income generating activities relating to fishing.

In the Maize cluster (34 EPAs) average length of cropping season (-); drought resistant crops (-); mean household size (-); mean distance to a private trader (+); average yearly NDVI (-)²; mean land holdings (-); proportion of female households (+) and average calorific value of production (-) were the statistically significant explanatory variable for vulnerability.

In the mixed agriculture cluster (41 EPAs), mean size of land holding (-), number of livelihood strategies (+) and proportion of female headed households (-) were significant. Three variables namely, coefficient of variation of maize production (+), proportion of female headed households (+), mean distance to local market (+) were important on the estate influenced cluster (13 EPAs). The income generating activities cluster (54 EPAs) also had three important factors: Mean household size (+); net school enrollment (-); and proportion of female headed households (+).

In the urban influenced cluster (12 EPAs), mean price of cassava, and maize (-), proportion of livelihood derived from fishing activities (-), mean distance to a local market (+); and proportion of livelihood derived from sale of own production apart from maize (-) were important.

² This is a normalised vegetative index.

The relative ranking of the various cluster with respect to proportion of EPAs that are vulnerable showed that the urban and income generating activities clusters are worse off. This may be because they depend on the vicissitudes of the market. This is important because if more and more households are going to rely on markets and purchased food for their food security (as the market approach to food security would recommend) then market forces should be well harnessed (through national level policies and locality specific activities) to avoid increasing food insecurity.

Time series analysis showed the following factors to be the main causes of the problem: devaluation of currency, the low price of maize; insufficient rainfall; liberalization/SAP; little coping mechanism diversity; few calories produced; and low maize production

The FEWS findings are one illustration of the complex nature of the prevalence and causes of vulnerability to food insecurity. The range of variables both exogenous and endogenous (to the policy making arena) is wide. *One important finding for the targeting of safety net programs is that, although there are factors affecting vulnerability common to various clusters, there are differences. Thus, criteria for targeting need to be location-specific, developed with the help of local people. There is also the indication that some of the causes of food insecurity may not be easily perceived by local people e.g. household size.*

NSSA (1984) Analysis

The analysis of 1984 NSSA data by the CSR emphasizes the income and food factors, as distinct from health factors in understanding the causes of malnutrition. This is due to the bias in the data base used. The analysis took food stocks as a proxy for food security. The lasting of food stocks is a good proxy for food security because production is still the main way that the majority of households get most of their food requirements.

The CSR analysis of NSSA (1984) showed that households that deplete food stocks early have less land, lower total cash income, and more income from selling labor. The last is consistent with the finding of many studies of the importance of *ganyu* as a food security strategy. Households who deplete food stocks early also have less expenditures on farm, livestock, non-durables, durables and transfers while having higher expenditures on food crops. This indicates low asset creation.

NSSA(1993)

Konyani(1998) used logistic regression analysis to isolate factors that determine the odds of moving up from one income quintile to another. He found that household cultivated area is the most important factor influencing transition out of poverty. The probability of remaining in a lower quintile drops by increasingly larger percentages as the households cultivated area increased from one level to another. Sex of household head and household size have some impact although it varies in its influence from one quintile to another.

The study recommended land redistribution or resettlement as a way of aiding transition out of poverty. Let alone the political and logistical problems of doing this, the conclusion is not totally accurate because it assumes other things constant e.g. technology and that Malawi would follow an agriculture and rural based development path infinitely. Secondly this is a retrospective study. Other studies that use introspective methods have found that households do not perceive land as constraint to production, but rather inadequacy of labor or inputs (Pearce, Ngwira, and Chimseu 1996). This supports the view that targeting criteria for safety net activities should be location specific.

The important fact coming from these reports is that the causes of food insecurity vary from one area to another. This implies solutions may vary from one area to another. For example interventions to reduce thinness of the maize market may greatly help reduce food insecurity in some areas through availability and price impacts.

Extent of Poverty and Food Insecurity

How poverty and food insecurity are conceptualized inevitably affects the estimated magnitude of the problem.

Extent of Poverty

Poverty can be measured by income per capita. This is US\$230 for Malawi and is considered to be too low to lead a life with human dignity. But this datum masks serious income inequalities that are measured by a gini coefficient of 0.62. Another way to measure poverty is to find the proportion of people who have less than enough income to buy basic needs. For Malawi this datum is MK915, and about 50% are below this line.

Poverty can also be measured using quality of life indices like HDI,³ and GDI⁴, or other social indicators. The HDI value for Malawi is 0.320 compared to 0.380 for Sub-Saharan Africa and 0.576 for other developing countries. The GDI is 0.310 and compares with 0.374 for Sub-Saharan Africa and 0.555 for developing countries. The HDI is ranked number 161 out of 175 countries; the GDI is number 133 out of 146. (See table 1). Other poverty indicators are infant mortality which is 135 per 1000 and child mortality rate which is 243 per 1000. These are higher in comparison to other sub-Saharan countries.

Yet another approach to looking at the poverty issue that is relevant for targeting of safety net is to answer the question, which households are poor? Studies show that they are concentrated in the southern region; they tend to have little land; they are net buyers of maize; use fewer inputs and lack assets; they grow cash crops in very small quantities or not at all; they get a higher share of their incomes from off-farm employment; they have less education and higher dependency ratios; and are likely to be headed by women.

³ The HDI combines life expectancy, adult literacy rate, enrolment ratio and real GDP per capita.

⁴ The GDI adjusts the HDI for gender differences in these variables.

One important point about these poverty indicators is that they reveal the need for safety net that is most likely beyond the capacity of government to finance, and the scale of which could also distort markets if implemented. Thus, only a small proportion of the vulnerable should be targeted by safety net. The larger the safety net the more important is the need to use activities that do not confound market forces.

Table 1: Poverty Indicators

Human Development Index Malawi	Africa	Countries	Sub-Saharan Developing Countries	Industrial
HDI	0.320	0.380	0.578	0.911
Life Expectance at birth(Years),1994			41.1	50.0 61.8 74.1
Adult Literacy(%) , 1994		55.8	55.9	69.7 98.5
Combined 1 st , 2 nd , and 3 rd level GER ¹ (%),1994				
	67	42	56	83
Real GDP per capita(PPP\$)			694	1,377 2,904 15,986
Gender- related Development Index				
GDI value	0.310	0.374	0.555	0.856
Life expectancy at birth(years), 1994				
Female	41.5	51.5	63.5	77.8
Male	40.6	48.5	60.6	70.2
Adult Literacy(%)				
Female	40.4	44.4	60.3	98.5
Male	71.7	64.3	78.4	98.5
Combined 1 st , 2 nd , and 3 rd level GER(%),1994				
Female	63	38	52	84
Male	71	47	60	82

1 Gross Enrollment Ratio

Source: Human Development Report (1997)

Both the HDI and GDI indicate that, on average, Malawi's population compares poorly to the rest of Sub-Saharan Africa and to the developing world as a whole.

Extent of Food Insecurity

Food Availability Indicators

Calories produced. Per capita calorie produced have varied over the years. Using FAO estimates for 1961 to 1988 for only twelve years were enough calorie requirement per person produced, that is 1969-71, 1972-74, 1974-76, and 1976-78.(See Table 2). On average during these decades, only 90% of the requirements were produced. This is a good record. When a lower level of aggregation is used (EPA), then the data is more revealing of the food security situation. For 1995, FEWS estimated that 35EPAS were food deficit and needed food aid to

bring their supply of calories to 1800 calories per person. Thirty per cent of households have incomes that can not buy enough calories (Brown et al 1996).

The fact that national average calories supply is nearly adequate but that there are regional and household variations reinforces the view that it is household food security, not national food security, that is the more relevant food security problem.

Table 2: Per Capita Calorie Supply (1961-1988)

1961-63	1964-66	1969-71	1972-74	1974-76	1976-78	1979-81	1982-84	1984-86	1986-88
2046.0	2228.0	2360.0	2425.0	2395.0	2355.0	2263.0	2232.0	2213.0	2097.0

Source: Johnston (1996)

Maize production. Maize production is projected to increase over the next five to six years but demand will continue to exceed supply. For example, one estimate is that deficits will be 255,220 tons by the year 2005 [Johnston 1996]. Maize supplies only part of the calories required. It is estimated that the deficit in production of the other foods⁵ is 375,820 tons. The confidence one can put in these calculations is not known. This could be based on wrong projections of population. For safety nets planning it is important to know these short falls so that importation can be planned in advance to increase effectiveness of the programs.

Depletion of food stocks. Food security can be proxied by how long food stocks last, although food security is not the same as food stocks. Households can maintain food security even in the face of depleted stocks if other sources of income are sufficient and reliable. And food stocks may be depleted not only due to inadequate production but also because some produce may be sold to meet other essential cash needs. Thus knowing the spatial occurrence of the low own production of food indicates where to concentrate IGAs for enhancing food scrutiny.

The NSSA 1984 showed that 17 percent of all households depleted own produced food stocks 4 months after harvest, and 54 percent between 5 to 8 months after harvest. A report published in 1993 by the MoALD found that 70 percent of households in all ADDs except Karonga had depleted their 1990 food stocks by December. The situation was worse for Liwonde (Machinga), Mzuzu, Ngabu and Salima ADDs where the proportion was 80 percent. Tsoka and Mvula (1999) found that 26 percent of female headed households and 13.8 percent of male headed households in rural Zomba had produced enough maize for only four months. Peters, reporting a Zomba rural study, estimated that 39 percent of households of the 119 sample had run out of food by December in 1996. Using a food deficiency index, FEWS estimated that about 31 EPAs were "very vulnerable" to food deficiency. Most of these EPA's had a very high proportion of female-headed households.

The data on depletion of food stocks provides another example of why an incomes approach to food security is appropriate. These households earn money to buy food either from ganyu or petty businesses or receive remittances or make dietary changes to meet their food requirements. The evidence that the purchasing power from these sources is totally

⁵ These other foods are rice, sorghum, millet, wheat, potatoes, cassava, groundnuts, and beans.

inadequate to meet even minimum food needs, combined with the observation that the majority of people do not actually starve to death, indicates flaws in data collection methods. However, the data do show that there is a high incidence of malnutrition, indicating that on-farm food production combined with what is earned from other coping mechanisms including informal safety nets still leaves a food gap.

Market-based or Access Indicators

Purchasing Power. According to the 1992/93 NSSA, 30 percent of households have less income than necessary to calories needs. It is also estimated that about 50 percent of people cannot buy the basic subsistence goods and services including food, clothing and shelter (Brown et al 1996). These are people who have less than MK915 per year (based on income distribution data that was compiled by the World Bank using the NSSA 1992/93 data.)

Prices/Welfare. The difference between real changes in incomes and real changes in the price of maize or basket of food is used to calibrate the change in welfare (access to food or maize) over the years. Such studies (e. g Chulu et all 1998) have concluded that, over time, the urban population has experienced a decline in welfare, but not the rural population.

Food Utilization Indicators

The 1992 DHS reported a 48.6% rate for stunting among under five-year olds. The NSSA 1994 showed that 54.6 of pre-school children suffered chronic malnutrition. It is highest in Kasungu and Lilongwe ADDs at 58% and 57%. These are areas with high concentration of estates. Acute malnutrition, that is low weight for age is highest in Blantyre ADD at 8%. Low birth weight as an indicator of maternal malnutrition is high being on average 14% with little regional variation.

Low meal frequency has been singled out as an important cause of malnutrition especially among preschool children. Reducing meal frequency is part of a strategy to make food last longer especially in the lean period. But it is also due to labor constraint of mother who has to work in the field as well as other IGAs. The problem of firewood also compounds the situation. For example, for households in estates of Kasungu, Mulanje and Mangochi, Ng'ong'ola et al (1996) reported a mode meal frequency of two.

An important observation is that these data on the prevalence of poverty and food insecurity have limitations in each of the dimensions that are important for assisting in the planning of safety nets. These dimensions are: the location of the vulnerable, the degree of their vulnerability, the causes of their vulnerability, and responses most likely to diminish vulnerability.

COPING STRATEGIES

Definitions/Typologies of Coping Strategies

Coping strategies are activities or behaviors used to tide households over below normal production or incomes, or to deal with chronic shortfalls in production and incomes. There is need to understand the prevalence, types and social organization of coping strategies of the various groups of farmers so that programs dealing with safety nets and food security policies can augment positive coping strategies and deal with negative ones. The current literature on coping strategies typifies livelihood strategies as follows:

1. Accumulation Strategies
2. Diversification Strategies
3. Depletion (coping) strategies
4. Destitution (survival) strategies

Since coping is at various resource levels one can use other words to label various types of coping as, say, denoting coping strategies by the destitute survival strategies. Care International has a functional way of typifying livelihood activities. Defining a livelihood as comprising capabilities, assets (resources and claims) and activities, it puts livelihood security activities on a continuum from those that do mere *provisioning*, to *protection* and to promotion. Examples of provisioning activities are government and donors providing handouts to prevent starvation and malnutrition [these would be the responses to the destitute]. Protection activities prevent the further deterioration of assets, linked to CFW/FFW, savings, and storage activities. Promotion activities concern building responsiveness and capacity of local institutional structures, and implementing programs based on local priorities and opportunities.

Another approach is that of looking at the level of vulnerability and then defining the kinds of coping based on the levels of vulnerability. For example, FEWS has grouped levels of vulnerability into five as follows:

No Vulnerability

- accumulating assets
- adequate food on a continuous basis

Very low vulnerability

- either maintaining or accumulating resources,
- possibly seasonal variations in food consumption or supply.

Mild vulnerability

- drawing down assets
- minor stress-related change in overall production/income strategy

Moderate Vulnerability

- liquidating investment but not means of production
- Coping measures have costly effects on lifestyle, environment, production strategies

High Vulnerability

- liquidating means of production
- seeking non-traditional sources of income, employment, or production that preclude preferred/usual ones

Extreme Vulnerability

- destitute
- coping strategies exhausted
- no significant assets resources wealth income or production

The FEWS levels of vulnerability can be regrouped into three. If the concept of vulnerability is taken at a household level, one can talk of *not vulnerable* households, *moderately vulnerable* households and *very vulnerable* households. A general profile of these categories can be made based on 1) size of land holding; 2) livestock held, 3) type of dwelling unit; 4) use of inputs; 5) extent of cash crops cultivation, 6) number and types or size of off-farm businesses (livelihoods); 7) labor use patterns; 8) own maize production; 9) sex of household head, and 10) coping strategies. The defining characteristics of these groups will vary from area to area. For example the World Bank (1997) using PRA techniques to categorize farming families in various EPAs found that well-off farmers were defined by size of land holdings that varied from one hectare in Mulanje EPA to six hectares in Mzimba West.

The implication of this for targeting with community assistance is that the criteria should be derived based on a PRA in that EPA.

Not vulnerable (Well-off)

- 1) have 1 to 6 ha of land ⁶
- 2) have cattle for power or milk or beef.
- 3) have burnt brick houses with iron sheet roofs
- 4) buy inputs for cash and also get them on credit
- 5) grow nearly half of their land with cash crops which would be 0.5 to 3ha
- 6) # of livelihoods tend to be less but larger
- 7) employ permanent laborers
- 8) self-sufficient in maize when there are no droughts
- 9) mostly male headed
- 10) selling livestock, trading in groceries and utensils/second hand clothes

Moderately vulnerable (Moderately Well-off)

⁶ The land component varies from one area to another depending on the local economy, and, of consequence, the nature of livelihoods. Those EPAs that are IGA influenced tend to have smaller holdings in all categories, and their livelihood strategies are very diversified. For example in land-constrained Mulanje well-off farmers have cattle, but these are dairy cattle whereas in Mzimba the well of farmers have beef cattle using free range feeding.

- 1) have 1 to 3 ha of land
- 2) have some livestock mostly goats and chickens
- 3) may own brick houses but not well roofed with iron sheets
- 4) buy some inputs cash and others on credit
- 5) they grow the popular cash crops in the area but on a small scale.
- 6) livelihoods are more in number to spread risks
- 7) they use family and *ganyu* labor
- 8) own produced maize stocks last an average of six months
- 9) more male than female headed
- 10) businesses for coping and general livelihoods: women do petty trading; sell cakes trading food crops e.g. *kupikula* beans for sale in urban areas, beer brewing

Very Vulnerable (Poor)

1. 0.5ha to 1 ha of land
2. have chickens;
3. mud and thatch houses
4. very little or no inputs used
5. If they face a complete shock like drought, they can always sell some of the livestock
6. May grow cash crops like burley but with little fertilizers and other inputs, and they are not usually registered growers, they do it on contract for well-off farmers
7. They sell labor as normal part of their food security strategies
8. Usually maize eaten whilst in the field (*chitibule*⁷)
9. Female headed households are a higher proportion of these households than the other vulnerability categories.
10. They do *ganyu* as part of their coping strategy, and engage in serious dietary change to stretch food resources.

Upon examining these vulnerability groups it will be apparent that the coping mechanisms are different between the groups. Safety nets planned for one level of vulnerability in various localities may be different because they have different amounts and types of resources, in particular land. A group that is considered very vulnerable in one area may have such land holding sizes that it is possible to design safety nets that are land based. In other areas, off-farm activities may be more relevant.

Adoption of Coping Strategies

Studies conducted on poverty and food insecurity coping strategies have varying findings mostly due to different methodologies used, but they have recurrent themes and findings.

Ganyu. The main coping strategy is *ganyu*. According to a report from MEPS(1996) *ganyu* is as much a coping strategy as it is a general livelihood strategy. It accounts for 21 percent of the income or livelihood maintenance per month (See Table 3). Mvula and Tsoka(1999)

⁷ Maize flour made from green maize

found that ganyu was a coping strategy for 59 percent of rural households they surveyed in Zomba, and 19 percent of urban households in Blantyre. Ng'ong'ola et al (1996) reported that hiring out labor was used as a survival strategy for 43 percent, and 51 percent of households on estates in Kasungu and Mangochi respectively. The main disadvantages of *ganyu*, the competition it creates with crop production labor demands and the low wages paid, have been recorded by many studies. It is thus a corrosive coping strategy and safety net interventions need to reduce the need for *ganyu* in the long term. In general, those households with smaller holdings sell more labor as part of their food security strategies

Changing dietary patterns. During the hungry season food insecure households change their food consumption/preparation habits, have fewer/smaller meals use cheaper ingredients and less wasteful food processing methods or eat inferior products. For example women and children may eat a low quality meals at lunch, and have a good one when their husbands come back from work (Tsoka & Mvula, 1999). In reality men may have more frequent and higher quality meals than women/wives because they tend to have *m'memo*⁸ at work on which women/wives miss out. Decreasing the number of meals was reported as a survival strategy by 37 percent and 16 percent of household on estates in Kasungu and Mangochi respectively (Ng'ong'ola et al 1996). This proportion was 46 percent in Blantyre urban and 91 percent for Zomba rural households (Tsoka and Mvula, 1999). The corresponding proportions for shifting to less expensive food was 73 percent and 93 percent.

Changing spending patterns. Some households decrease the expenditures they make on other sundries like wood or paraffin to buy more food.

Cross-border activities. Cross border activities lead to increased market availability of food and improved access to food through sending members of households as *ganyu* workers across the borders, as well as cultivation there, and increased incomes from trading.

Household demography. Some members of the household may be sent away either to increase income (sending wife or children to the village to cultivate or to do *ganyu* or work as domestic help). This may also involve reversal of gender roles. Sometimes members of households are sent away to live with relatives to reduce consumption requirements. This may disrupt the lives of the members to be moved or engaged in *ganyu*, particularly the children in school.

Livestock sales. Livestock are sold in times of need by those who have them. Tsoka and Mvula reported that 11% and 15% of households in Blantyre urban and Rural Zomba used this as a coping strategy. But in recent years livestock keeping has decreased due to increasing theft.

Help from relatives. Cash or in kind transfers or remittance are important for those who actually get them but account for smaller proportion of all the coping strategies.

⁸ This is local term for group meals that are organised at lunch hour usually by unskilled wage earners

Other coping strategies include renting out land and borrowing money from relatives and local money lenders.

Some evidence as well as the typifying of the coping strategies indicate that some of the chosen levels (scale) and mix of coping strategies can be sub-optimal for a given set of household food security targets, the level of household resources, production technologies and markets (prices). FEWS VAM reported that having too many diverse coping strategies is positively related to vulnerability. Thus having more coping strategies is likely to mean that the coping strategies produce very marginal incomes.

Coping strategies that are less corrosive of livelihoods and wellbeing may include the following: mild rationing of food; use of income from business to buy food; sell surplus livestock; rent farm land; and migrate to find work. The more erosive strategies are skipping meals; going for *ganyu* to buy food (neglect own farm); borrowing at very high interest rates from local money lenders; selling breeding livestock; sell farm land; and migrating out of the village permanently. Coping strategies are sequenced in order of corrosiveness and non-reversibility of the strategy as poverty deepens or becomes chronic and the crisis continues (Devereaux and Gladwin 1999).

Table 3: Coping Strategies for the Average Smallholder Household in Malawi

Coping Strategies	Survival Days	% Value of Contribution
Nutrition Strategies		
Reduced number of meals	2.1	7%
Consumption of wild fruits	1.2	4%
Consumption of seed	0.3	1%
Economic/Income Strategies		
Ganyu	6.3	21%
Selling possessions to buy food	0.3	1%
Sub-total	10.2	34%
Social Strategies/Informal Safety nets		
meal sharing with relatives	1.2	4%
loans of money or food	1.2	4%
Formal Safety nets		
free food from govt., church, donor, NGO	1.2	4%
TOTALS	13.8	46%

Source: in Anon: Coping with Poverty in Malawi, Proceedings of Workshop held in Lilongwe March 1999, as compiled from MEPS et al 1996.

In some localities coping mechanisms, e.g. *ganyu*, could be transformed into food security transition strategies to the extent of actually achieving food security by, for example, paying higher wages. This can be achieved by introducing competing employment opportunities into the area. (Public works programs do not serve this purpose because of the low and intermittently paid wages)

The literature and approaches to coping strategies reflect biases or prejudices as to what are coping strategies as opposed to normal livelihood activities. In many cases, activities that are

not farm-based or are done seasonally, or generate limited incomes, are considered coping strategies. A more useful approach would be to look at what is normal in the locality. For example, ganyu may be a coping strategy for some households but a normal livelihood strategy for some even though they are more food insecure or poorer.

It is necessary to understand coping strategies and informal safety nets⁹ so that formal safety net programs do not destroy them without replacing with viable alternatives. Most *ganyu* work that is done for relatives embodies an economy of affection, understanding that the poorer members of the extended family will be provided for, even for non-food needs. These relationships could be weakened by public works programs.

Examples of traditional support mechanism include *Chiwira*, *dima*, *chinjira*, *chibala* and *chidikiti*. (Chirwa and Ngwira 1998). *Chiwira* is a form of communal labor mostly practiced among the Chewa and Tonga of central and northern Malawi. It involves families in reciprocal labor in such tasks as weeding, harvesting and house construction. *Dima* is similar but is usually restricted to women and it practiced among the Chewa. *Chinjira* and *Chibala* are sisterhood and daughterhood between women who are not related. Usually it is between one woman who is well off and another who is not. The relation involves exchange of labor, advice, emotional and moral support. *Chidikiti* is a form of labor mobilization which can be used for charitable purposes like cultivating the fields of the elderly, or as a fund raising club in which members work for a fee.

The general safety net approach should be to reduce the corrosive impacts of coping strategies This may conflict with some of the organizational arrangements of safety nets that are necessary for efficiency. For example, in order to target properly it may be necessary to pay wages that do not attract those who have income alternatives. But this may mean that even the poor who have higher cash needs than can be earned in public works programs may participate in other types of employment that take them away from their gardens.

IMPLICATIONS FOR DESIGN AND IMPLEMENTATION OF SAFETY NETS

Food Security and Nutrition information systems(FSNIS)

FSNIS should provide an understanding of the context in which food and nutrition programs are planned and implemented in order to maximize the possibility that effective action is taken. Three types of information are needed for planning:

- a) historical, political economy data
- b) sociological/ethnographic data, and
- c) cause-effect statistical and analytical data.

⁹ Informal safety nets are defined here as non-market based transfers between households. They are a subset of coping mechanisms

The major gap is a national sample data base that concurrently addresses all the livelihoods (production, off-employment, coping strategies and informal safety nets) so that the income calculated is from all sources. This has been done in micro studies. There is need to improve some of the existing data collection systems and also data analysis to permit better informed policy-making. PRAs need to be designed for deriving area specific criteria for targeting, and more information should be collected on coping strategies to really understand the food security gaps.

Advocacy and Social Mobilization

- Politicians could be educated on the need for sustainable and productivity enhancing food security policies and safety nets. This effort seems to have gone as far as permanent secretaries only. USAID could also support IEC programs that increase understanding of well-planned market-based food security policies.
- The safety net programs should include strong messages on the need for self-reliance and emphasize the transitory nature of the programs themselves. This will assist in avoiding dependency. Without this type of education and advocacy safety net programs could play into the hands of politicians wishing to improve their images, which jeopardizes the effectiveness of programs.
- There is need to hasten the process of dietary diversification through advocacy. Political and traditional as well as local leaders have been through many advocacy workshops on population and family planning, democracy, environment etc. The same needs to be done for dietary diversification.

Gender Issues

Women, including grandmothers, tend to be left with heavy responsibilities of looking after orphans. There is need for broad-based programs aimed specifically at feeding orphans and developing them to be healthy and productive adults.

Promotion of Off-Farm Incomes

The majority of the households that are food insecure have very little land. This means that safety net activities that can help them move out of poverty have to involve off-farm employment. Good options include skills training for those who are young and have some education. Useful skills include carpentry, leather work (for those near urban centers), tailoring, bakery, oil pressing, tinsmithing, and various types of agro-processing. NGOs have implemented community-based approaches to skills training in these trades. Other, as yet untried, possibilities include thatching, specialized weaving and needle work, macramé and interior décor crafts. Some of these skills are more oriented towards urban and export markets.

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ANNEX D

HOUSEHOLD FOOD SECURITY AND SAFETY NETS IN MALAWI

Gacheke Simons

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INTRODUCTION

Malawi's food security strategy has over time changed emphasis from national food self-sufficiency and agricultural production to the enhancement of household food security through a freer market economy. It is expected that a free market environment will give a large part of the population opportunities to increase incomes through participation in market exchange and higher productivity. Attention has focused on household rather than national food security primarily because with a highly skewed income and resource distribution, as is the case in Malawi, national food security does not necessarily translate into household food security.

Certain elements of the national food self-sufficiency model are still being pursued actively; for example, last year's starter pack initiative aimed at distributing free fertilizer and seeds to as many households as possible. However, the Government of Malawi and many of its development partners are increasingly focusing on enhancing household incomes and agricultural productivity through market-led growth, and using narrowly targeted safety nets. The safety nets programs would make direct income transfers to those households likely to benefit only marginally, or not at all, from the market-led approach.

The aspects of increasing rural household incomes and agricultural productivity are addressed in separate sections of this report. This section focuses more on the safety nets aspects of household food security, and is divided into two parts. The first part examines the causes and levels of household food insecurity, and then the need for safety nets for Malawi's rural households. It then presents a food security strategy that puts safety nets within the perspective of the general market-led growth and shows the linkages. To increase these linkages, an improved approach suggests possible adjustments to the public works-based safety nets already in use in Malawi, or being considered for the near future. The longer-term goal of the suggested adjustments is to facilitate transition of safety net beneficiaries to higher livelihood status, while programs progressively and proactively help minimize the number of people needing safety nets.

The second part of the report provides information on the current programs and evaluation criteria for choosing among various safety nets options - such as direct feeding, food/cash/inputs for work, and targeted input subsidies. This includes choices depending on the group being targeted, but also other important considerations such as conceptual and operational suitability. This part also identifies several implementation issues, and makes recommendations on possible approaches.

BACKGROUND: NATIONAL EFFORTS AND PROGRESS ON HOUSEHOLD FOOD SECURITY

Progress on Food Security Activities

In early 1996, GOM and major agricultural donors began a process to refocus food security activities. This was followed by consultative meetings and by an assessment study (Brown et al. 1996) funded by USAID. This assessment concluded that the principal food security problem in Malawi is household level food security not national food security and that household food security is principally an income issue, and not a production one. It also concluded that Malawi households suffer from both chronic food insecurity due to low incomes, and occasionally from transitory food security owing to low production from supply shocks - and that these groups need different interventions. The need for safety nets was identified as an important part of the food security strategy.

This assessment was followed by a second study to develop action plans (The Oxford Study, 1997) funded by the EU. The identified action plans included increasing household access by 1), developing a market information system, 2), improving access to agricultural credit, 3), improving rural access and feeder roads, and 4), marketing capacity development. However, none of these activities have been implemented. On safety nets the action plan components included direct transfers for the destitute who cannot participate in productive activities and employment-based safety nets (primarily public works). The Oxford study also argued that the need to update household income and expenditure data was urgent, and that the impact of safety net interventions must be continuously evaluated. This would ensure that the programs are having the intended impact on the poor and minimize the impact of unintended consequences. None of this has been done.

Current Status of Safety Nets Activities

The current safety net activities are relatively small compared to the magnitude of the estimated problem. They are also disjointed and uncoordinated. The main national safety net programs are direct food provision (mainly WFP, Government and NGOs) and public works for cash (mainly by MASAF and Government) or for food (WFP). In addition, certain NGOs, for example CPAR, undertake smaller feeding and public works projects. Malawi's national strategy for household food security is still evolving both conceptually and operationally. A recent evaluation done for the National Economic Council, the World Bank and UNDP indicated that safety net programs have had some benefits and successful targeting, but there are also serious problems especially with government led efforts where impact is well below what was expected (CSR, Jan.1999) This is partly because of program design, but the major problem is the delivery mechanisms and limited capacity and accountability in the involved government departments (District Development Teams). Some of the projects (perhaps most) under these programs have faced serious targeting problems and misappropriation of resources by those entrusted to help the beneficiaries.

In addition, current public works programs (with the exception of some NGO-led activities), focus on a very immediate purpose of food provision, with the main longer-term productivity impact expected to come from rural infrastructure improvements. In general, many of these continuing safety net activities have not paid attention to the linkage between safety nets activities and the other aspects of the beneficiaries livelihoods, or how safety net activities link to the broader cause of fighting rural poverty through market-led income growth. Several studies (for example, Devereux, 1996 and 1999) with concern for productivity enhancing safety nets have recommended further examination of inputs for work, targeted input subsidies for certain groups, and use of vouchers instead of commodities.

Progress on Safety Nets National Strategy

This year has seen major efforts and progress in formulating a strategy for a safety nets national program. At the moment, a National Safety Nets Program Development Team (led by the NEC, World Bank and UNDP) is formulating an improved and coordinated long-term national strategy for safety nets aimed at addressing food insecurity among the poorest households. It has been suggested that the national safety net program should initially focus on the land poor, labor constrained female-headed households, and orphans - although it has also been correctly been suggested that rather than using demographic data, community identification of the poor may be a better approach to targeting the poorest households in a given community. The team expects to finalize the strategy in a number of weeks, and to start some limited activities in the coming lean period (Dec—March 2000).

The first year is seen as a transitory one that will principally include extending and adapting existing public works and feeding programs. This will include programs run by MASAF, WFP some EU planned activities, and a continued examination of the starter pack program. During this transitory period, the safety nets program will pilot various activities and approaches that still need to be better understood. The pilot work, for example, will include community-based targeting, inputs for work and use of input vouchers.

STUDY METHODOLOGY

This study has examined the results of various studies on food security and safety nets studies, program status reports and interviews with involved donors, NGOs and government staff. The study also included field visits to district staff and NGOs implementing feeding and public works programs, feeding centers and public works project sites, interviews with front line staff, community leaders, safety nets beneficiaries and other villagers.

CONTRIBUTION OF THE STUDY

The study includes an examination of the current food security situation and evaluation of current safety net activities. It analyzes the limitations of current programs, and suggests possibilities for stretching (within life of a given project) safety net resources so that safety

nets beneficiaries achieve more than immediate food needs and make a transition out of the need for safety nets. This means moving from the basic approach currently used to carefully building in activities that have a broader rural livelihoods impact; strengthening the positive linkages between the safety net beneficiaries and the better off households; and most critical, to be sure that interventions do not erode these often subtle linkages. This report provides some guidance on how to move towards such an extended safety nets approach. It also suggests criteria for evaluating and choosing the appropriate safety net program based on the target group, and conceptual and operational appropriateness. It then identifies certain critical implementation issues that any safety net program for Malawi must consider carefully. These issues include targeting procedures, delivery channels and scale of operation, cost effectiveness and the time horizon.

PART I: ASSESSMENT OF FOOD SECURITY SITUATION IN MALAWI AND RECOMMENDED STRATEGY

FOOD SECURITY SITUATION IN MALAWI¹

Definition of Food Security

This study uses a broad definition of food security. It considers a household food secure if all its members have economic or physical access to, and ability to utilize the amount of food it needs to remain productive, without the risk of losing it. This suggests that household food security interventions should be concerned with overall livelihood circumstances of the household, and a broader approach to mitigating the problem. That is, interventions should deal with not only the direct causes but also the proximate causes of household food insecurity.

Causes of Food Insecurity

The direct cause of malnutrition, poor health and related low productivity in rural Malawi is the consumption of inadequate and low quality or unbalanced foods. The major proximate cause of household food insecurity in rural Malawi is inadequate incomes, simply because low incomes reduce a household's capacity to produce sufficient and balanced foods items on its own farm, or to buy them. In some relatively uncommon situations, households may face difficulties of physical access to food supplies in their locality, for example when ADMARC or local stores lack food. But in most cases these situations can be overcome if income is not a constraint.

The main sources of food for the household are first, farm supplies; second, purchases (in cash or in kind); and then exchanges between relatives and friends as part of informal safety nets. The main causes of food insecurity can be understood in terms of existing vicious cycles affecting these sources of food.

Low farm supplies and food balance. The most important cause of inadequate food consumption is low production both from farm low supplies and low agricultural production incomes. Both land and labor (especially in small female headed-households) are significant constraints in household production. With increasing population densities and declining soil fertility, there is less and declining land available for food production or commercial agriculture. For example, about 30 % of Malawi's rural households own less than 0.5 hectares of land. Although it has been shown that with better management and intensification through use of fertilizers and high quality seed this size of land is sufficient to feed an average family of five, poor families lack the income to buy inorganic fertilizers and

¹ See details in an annex to this report entitled "Poverty, Food Security and Coping Strategies: A Review of Historical Context, Methodologies and Data" by Naomi Ngwira.

improved seeds while too few use the cheaper organic fertilizers. Households in this category continuing to depend on agriculture are inevitably trapped in a vicious cycle of poverty and hunger. In addition to this, a focus on maize production and consumption undermine food quality and nutritional value from use of land and labor.

Limited non-farm incomes. For many households, non-farm incomes are an important means for accessing food especially for those subsistence farmers who are net purchasers of food. A recent study on rural household income (in the process of completion) indicates that rural wages (agricultural and non agricultural) and off-farm income generating activities account for about 22% and 14% of rural household income respectively (APRU, 1999). Only 61% and 4% of income respectively come from crop and livestock production. While the number of households that engage in these activities is high and growing, this is done more as a survival strategy. Returns to labor are low with low wage rates and low profits in the income generating activities. Under these circumstances, rural Malawi experiences a second type of vicious cycle of poverty. Because of low rural incomes and lack of effective demand, enterprises are small, marginally profitable, and many remain one person businesses offering few opportunities to others. Extremely few people are involved in activities that add value such as storage and transportation, processing and marketing or anything more than minor activities.

Declining informal safety nets. These account for a significant proportion of household food security. Perhaps more important than the quantity or total value of assistance a household receives, is the timing of assistance being provided at the point of greatest need. Unfortunately, in spite of the fact that informal safety nets are talked about constantly, they happen to be the least understood aspect of household food security. Some studies on coping strategies (a part of which is informal safety nets) suggest that exchange of food among relatives and friends in the rural moral economy is declining as general rural poverty increases, and that better off households have less to share.

The dynamics involved in each of these three main sources of household food underscore the fact that low incomes, not just own production, is the major underlying cause for food insecurity in Malawi. With declining land holdings, improving household food security must be concerned with increasing agricultural productivity and diversification (of crops and livestock), as well as off farm incomes. This will be enhanced by market-led rural economic growth, especially the development of businesses that inject capital into poor rural areas and help break the existing vicious cycles of poverty. On the other hand, any sectoral or macro policies or programs that reduce the opportunities to generate agricultural or off farm income directly reduce the ability of the households to feed themselves.

Levels of Food Insecurity

Information on levels of food security in Malawi is inconsistent partly because different measures are used for assessment,, and partly because the type of household data needed for an accurate assessment (household income and expenditure data) has not been updated for a long time. However, many people have observed and argued that there are households that

are destitute and others that are chronically food insecure year after year. Many of these households are hungry even at harvest and many have food shortages for an average of four months a year. Another group of households is food secure in normal years, but are subject to transitory food insecurities resulting from supply shocks—economic or physical. However, at the moment, it is difficult to estimate the proportion of households that fall in each of these categories because of lack of good quality income and expenditure data. It is hoped that this situation will improve after the completion (expected to be Dec.1999) of the National Integrated Rural Households survey and with the APRU rural per capita income survey also nearing completion.

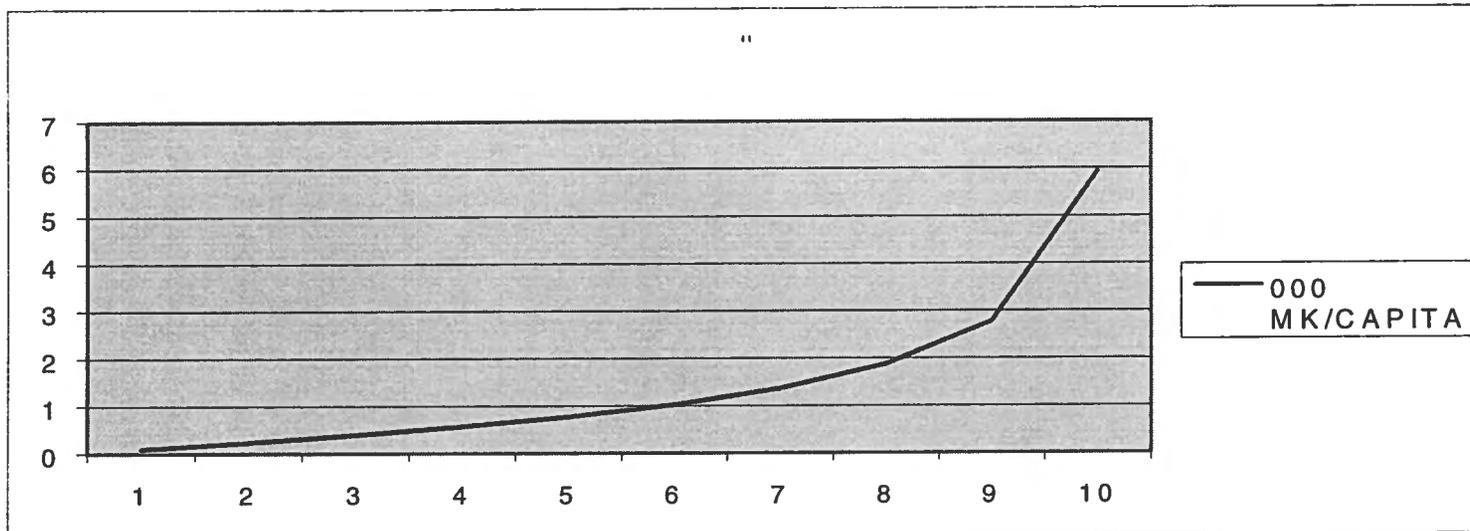
In the meantime, a recent income distribution analysis (based on a 1998 update of the 1992/93 National Sample Survey of Agriculture by the World Bank (1999) indicated that about 50 % of rural Malawi households live below the basic needs income line of US MK 915 per person per year, and that about 40% live below the minimum subsistence levels (see diagram 1). This data further indicates that 20% are only slightly above basic needs poverty line, and that only about 30% of the Malawi population might live in some decent level of material comfort. The likely situation is that NSSA estimated incomes were underestimated by probably not being defined broadly enough to include non-agricultural income. Otherwise, it is impossible to explain how the bottom 30% of the population can stay alive from year to year, and generation after generation, with incomes in the order of MK100-500 per person per year.

Income measurements and estimates of food insecurity levels. Because income is such an important determinant of food consumption, and because food is a priority household expenditure, we can expect income levels to be highly correlated to levels of food security. For example, using the adjusted NASA income data and a poverty line of US\$40 per person per year, the World Bank made a rough estimate that 40% (or about 4 million) of Malawi population might need safety because they live well below the subsistence minimum line, and may be chronically food insecure. Other national level studies have put the figure for chronically food insecure at different levels for example, 25%, others 60%, while still others argue that there are extremely few households in Malawi that are not food insecure.

According to the most recent APRU survey, the average annual per capita income in 1008 is MK 10,428 (US\$ 260?) which suggests a major increase from the NSSA 1992 estimate of MK 199 (US\$ 70?). Even taking account of distribution, comparing an average annual per capita income of US\$260 against the 1992 average of US\$ 70 and the World Bank poverty line of US\$ 40 further suggests an increased general standard of living.

While the APRU data suggests higher incomes from which higher general levels of food security can be assumed, some recent area specific studies have suggested that there are high proportions of chronically food insecure households in rural areas. For example, the SCF study (1996) examining coping strategies during severe drought estimated that 70% and 50% of households in Salima and Mchinji respectively are chronically food insecure. The lack of congruence may be explained by extremely skewed income distribution or by different ways of measuring income and food insecurity.

Diagram 1: Smallholder Income Distribution and Livelihood Status



(1992/93 NSSA data updated to 1998 by the World Bank)

MK/CAPITA	→	101 -570 ?	773	1029-1368	1880-2779	5930
LIVELIHOOD STATUS	→	Below Subsistence Minimum	Below basic needs	Just above basic needs	Well above basic needs	High
		(40%)	10%	(20%)	(20%)	(10%)

ESTIMATED BASIC NEEDS POVERTY LINE: MK 915 PER CAPITA

Income from own production is the least difficult to measure while off-farm income, and more so informal sources of livelihoods or coping strategies, are the most difficult. Most likely, the apparent underestimation of household income results from excluding these aspects of income, particularly the informal safety nets. Some studies categorize off farm-income and remittances from relatives and friends as coping strategies instead of as a regular way to enhance household food security—in some cases this is true but in others, probably the most, it is not. Understanding rural Malawi's household coping strategies may provide the key to understanding the level of household food insecurity and the best ways to address the problem.

Coping strategies have been much talked about and are increasingly becoming the subject for economic, social and anthropological research. For the most part what has resulted are long lists of the various types of coping strategies but without sufficient analysis to estimate their relative and total value, especially at the national level.

The need for safety nets. Until there is better understanding of off-farm incomes and informal sources of livelihood support (and hence more accurate measurement of total household incomes), estimating levels of household food insecurity and the need for formal safety nets will continue to be difficult.

What is clear is that there are wide income gaps and many rural households are still very poor by most standards. It is conceivable that many poor households especially the landless and land poor have not benefited much from the recent agricultural liberalization policies. Such households lack the resources and capacity to respond to opportunities presented by these policies and a market-led growth strategy. Some studies have argued that many households have become worse off and that the income gaps are widening, while others show the reverse. However, without some good sense of income levels at both end of the spectrum, knowledge of a widening income gap still does not help estimate the number of households needing direct transfers other than knowing that there is a group out there that needs it. For this group which is known to exist but the size of which is not known, a public driven safety nets program is justified and necessary. At the same time, the overall strategy for improving food security should remain the increasing rural growth and increasing opportunities for agricultural and off farm income generation.

RECOMMENDED STRATEGY FOR HOUSEHOLD FOOD SECURITY AND SAFETY NETS IN MALAWI

Some proponents of long run growth have argued that there are so many poor households in Malawi that it makes no sense to think of a large safety nets program. They argue that it is better to focus limited development resources on measures that will raise incomes and productivity in the long run. Others with concern for equality have argued that no matter what productivity and income enhancements take place at the national level, there will always be poor people who will need some kind of support; that at the moment there are many households living unacceptably difficult lives and they should be the targets of pure safety nets program. Making a case for safety nets, it is also pointed out that while there are

trade offs between pure transfers and productivity enhancement, high current levels of malnutrition and dire poverty undermine the capacity of future productivity of the affected groups. The long debates and numerous studies have concluded there is a need and desire for a safety nets program in Malawi.

Two-Pronged Household Food Security Strategy

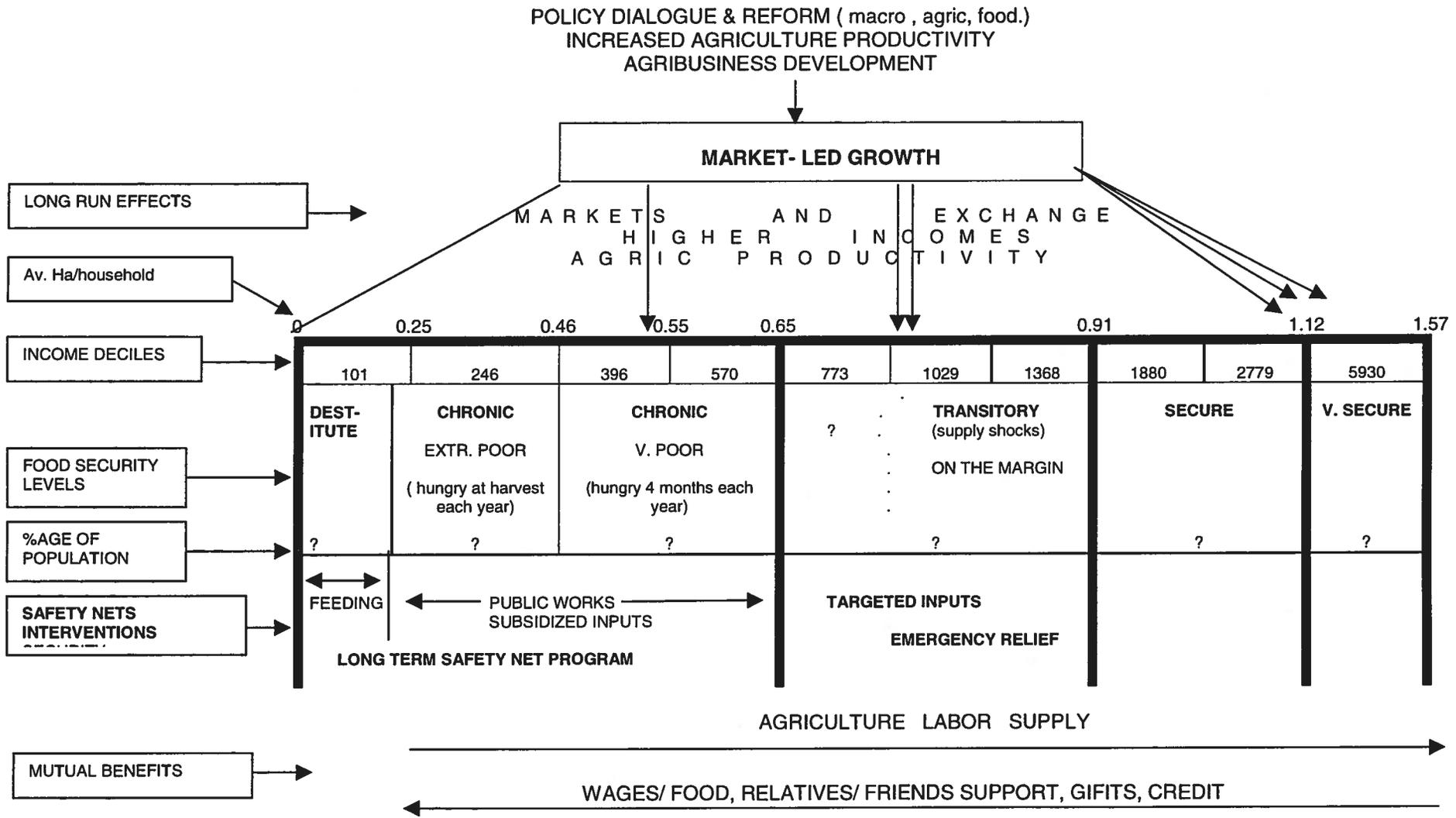
This study supports a two-pronged household food security strategy that includes market-led rural growth and carefully targeted and designed safety nets. However, this strategy excludes options for untargeted food or input subsidies (see diagram 2). Based on this approach, in the longer run households at both ends of the income and land scale will benefit from market-led growth. The main food security benefits of a market-led growth strategy will come from rural households' participation in market exchange and income and productivity increases. These processes could be enhanced by the four activities suggested by the Oxford study (1997). The prediction that poor rural households will benefit from development of markets is strengthened by findings that the majority of rural households, either dealing in cash or in kind, are active participants in rural market exchange.

However, it is recognized that market-led growth benefits better off households (to the right of the scale) proportionately more than the poor households (to the left of the scale). Some extremely poor households (categorized in diagram 2 as destitute or experiencing chronic food insecurity) may benefit only marginally, or not at all - at least in the short run. These poor households, many people agree, should be the targets of formal safety net programs. At the same time, it must be recognized that there are positive informal linkages between the households at the different ends of the scale. For example, as depicted in diagram 2, better off households help the poor especially through wage income and other types of informal safety nets, while poorer households provide agricultural labor and loyalty².

This implies that the benefits of market-led growth experienced by better off farmers, for example through increased agricultural productivity, enhanced incomes and labor demand, are to some extent indirectly passed on to poorer households through informal channels. An important message for a household food security strategy is that these linkages should not be severed by well intentioned formal safety net programs. In fact, they should be carefully guarded. While formal direct income transfers are critical for a certain proportion of the population, this intervention should constitute a relatively small part of the general food security base for Malawi. Thus, safety nets must be treated as transitory intervention measures while market-led rural productivity and income enhancement growth remain the main avenue for increasing food security in Malawi as a whole.

² Improved data on household coping strategies and informal safety nets should give a clear picture on the existence, types and the national importance of these linkages in food security for the poorer households.

Diagram 2: Strategy for Household Food Security and Safety Nets in Malawi



At the moment, the exact number of people that need safety nets is largely unknown, but this situation might improve soon. When the numbers are known, it is important to remember that given limited development resources, the larger the group that is food insecure, the more important it is for Malawi to focus on market-led development growth and food security through policy reforms. The market—led rural income growth and food enhancement strategies have been addressed in other parts of the same report (policy, productivity and agribusiness sections). The rest of the report focuses on the formal safety nets.

Safety Net Strategy

A safety net strategy must recognize that the poor fall in different categories of food insecurity and each group has different causes of food insecurity. Thus, each group needs a different intervention. Diagram 2 shows six different levels of food insecurity: the destitute (who cannot participate in productive activities); chronically food insecure throughout the year; chronically food insecure an average of four months a year; transitory food insecure from ad hoc supply shocks; a basically food secure group; and those whose incomes are sufficiently high for them to be very food secure. There is a general consensus that there should be direct feeding for the small group that cannot participate in productive activities and productivity enhancing public works for those able to participate.

A major shortcoming of the current programs (for example, MASAF and WFP) is that in the life of the programs the main benefits to participants are in form of immediate hunger relief. At the end of the projects the beneficiaries could be right where they were in the beginning. This, it is argued does not amount to a solution for chronic food insecurity—particularly because chronic food insecurity results from structural poverty. This study recommends extension of the basic public works program to programs which use safety net resources to accomplish broader livelihood gains, and to help beneficiaries make a transition to higher income levels.

The Recommended Safety Nets Approach

A fundamental aim of any safety nets programs for chronically food insecure people should be using safety net resources to help beneficiaries make a permanent transition to higher income levels. Unlike the experience with current public works programs, this means an explicit plan for a progressive and systematic reduction of the number of households needing safety nets. A program making such adjustments must be explicitly visionary about the future of safety nets beneficiaries. It should promote livelihood progress of the very poor by using safety nets resources not just for short run food benefits, but to permanently modifying their individual economic and social opportunities (within and outside agriculture), as well as their behavior and expectations.

It must also treat targeted people as important agents in changing their own cause; by encouraging them and building their choices and preferences into the program. Success of

this approach will hinge on the ability to think about every thing and every step in terms of rural livelihoods, a solid understanding of rural dynamics at the community (household and intra-household levels), and an ability to take account of constraints and capitalize on opportunities at all these distinct levels. The achievement of this objective can be enhanced by:

1. A distinct and carefully chosen safety net strategy for each of the distinct food insecure groups according to their resource circumstances. These programs should include options that have productivity enhancing public works such as roads, but also more immediate productivity enhancing activities such as community development activities such as schools, clinics, wells, forestry, irrigation and at the individual or household level, agricultural inputs and off farm income activities. This can be for the same group at different periods, or each type of activity may be done with a different group at the same time. Within certain bounds, the choices should be matched to the circumstances of the target group, and as much as possible be left to the communities and households involved.
2. A recognition of the existing positive linkages between food secure (right of diagram 2) and food insecure (left of diagram 2) households, capitalizing on them from both ends (market-led growth and safety nets), and at least not eroding them. This implies good information about community, household and intra-household level economic and social dynamics. Particularly important, but lacking, is quality information on economic and sociological aspects of rural labor and informal safety nets or coping strategies. This objective also calls for careful selection of type of safety nets and implementation procedures.
3. An explicit plan within the safety nets program to promote opportunities for safety net beneficiaries to graduate from safety nets programs permanently—otherwise the safety net programs are not addressing the *chronic* dimension of food insecurity. Participants may be left worse off if the program only creates dependency and/or high expectations rather than creating a capacity for self-reliance. While most studies have recommended productivity enhancing public works programs, a serious exit strategy means extending the basic objectives and activities of safety net resources and programs beyond providing income transfers and building roads. It means including exit supporting strategies as an integral part of the funded program—using more productivity enhancing safety nets aimed at increasing both on and off farm rural incomes, for example, through skills training and savings. In this regard, the CARE 's "secure livelihoods" approach is extremely insightful.
4. An approach that is innovative and even experimental. For example, safety net programs could use food/cash/inputs for work as incentives for increased agricultural productivity and risk taking—for example, use of organic fertilizers or diversification and the new experience rewarded with food, cash or inputs such as seeds (this has not been tried). A safety nets program could also use a group approach especially for women. Women favor this approach because it helps them pool resources and overcome problems associated with male control and undesirable expenditure patterns.

This approach to safety nets provides individuals and communities benefits that go well beyond food. For example:

- Extremely poor people who had never received much attention get psychological benefits such as confidence and ability to participate in different development and social activities—that is, if safety net projects have not just created dependency.
- At the community level, the created village institutions and leadership structures give a sense of ownership and will be useful long after the safety nets project and for other types of projects.
- Using women groups allows women (especially in male headed households) gain some control over their own resources and gives tremendous incentives to participate in activities and generate income. Such women are likely to stay together after the safety net projects.
- Involving safety net beneficiaries in a wider range of livelihood supporting activities, especially off farm, helps them develop a sense for the cash economy. Everything else equal, this helps them recognize and respond to market opportunities when they occur.

PART II: EVALUATING SAFETY NETS AND IMPLEMENTATION ISSUES

This section presents criteria for evaluating the conceptual and operational strengths of various safety net options. These criteria are then used to assess the safety net programs that are being tried in Malawi (such as direct feeding and cash and food for work), or being considered (such as direct feeding and cash and food for work) as future options. This section also suggests improved safety net options and approaches for groups at different levels of food insecurity, identifies key implementation issues, and makes recommendations.

CRITERIA FOR EVALUATING SAFETY NETS OPTIONS

At the conceptual level, evaluation criteria for each safety nets option should include the following considerations:

Economic sense: Whether it makes livelihood sense at the individual, household, and community levels, and whether it is cost effective at the program level.

Likely impact on the poor: Short and long term impact, measured against the needs of the beneficiaries and the objectives of the program.

Potential for target group transition to the next level up: Whether the program initiates processes that promote self reliance and the possibility for continued progress or sustainability (at the beneficiary level) after project resources are withdrawn.

Dependency creation: Whether it creates dependency or increases expectations that undermine ability for generating own incomes, and progress after project resources are withdrawn.

Sensitivity to inefficiencies: Whether the program can survive and continue to deliver a reasonable proportion of the planned benefits when inefficiencies such as delays in delivery and poor timing are common.

At the operational level the critical considerations are:

Targeting: Possibility and ease of targeting the desired group, for example, the poorest in a poor community, poor female heads of households, and the more difficult to reach women in male headed households.

Ease of operation: This includes handling, timing and vulnerability to misappropriation of project resources by implementing agencies and politicians.

Each safety nets option will present some difficulties in all these areas, but for each of these criteria some safety net options will score better than others.

PRELIMINARY ASSESSMENT OF BASIC SAFETY NETS ACTIVITIES IN MALAWI

The following table indicates relative strengths and weakness of various safety nets options being tried or considered for the envisioned safety nets program (see table 1). This is based on analysis of the principal concept underlying each option, interviews of agencies implementing various projects and visits to a few project sites.

Direct Feeding Programs

Conceptually, feeding programs have tremendous short-term livelihood benefits for the participating individuals because of their destitute situation. Access to food makes a big difference to their lives. However, it has little impact on the other members of the household, or the community. There may be some minor household and community benefits because other relatives who might have to feed the destitute now have more food for themselves. On the other hand, direct feeding has limited long run impact because it does not include investing in productive activities. Possibilities for target group transition to higher income level is unlikely, and is not typically expected. However, an argument can be made that direct feeding increased future human resource productivity especially if targeting children who might enter the workforce. Feeding programs have very low tolerance for delivery inefficiencies because it is dealing with desperate people, and has high possibilities for dependency creation.

At the operational level, direct feeding programs are relatively difficult to operate because they include handling commodities, and commodities can be misappropriated. However, it is relatively easy to target feeding program beneficiaries through administrative procedures (for example identifying malnourished children, aged, disabled, or orphans using quantitative measurements). It can also be easily done through community targeting because most people know who are the destitute in the village, and visual observation can be relatively accurate in identifying the aged, sick, disabled and malnourished children. Also, people may not be keen to be listed as destitute while they are not, unless the stakes are high.

Note: For inputs for work and input subsidies, Cost effectiveness and ease of operation are high if program uses vouchers instead of commodities, and low if commodities are used. When using inputs, potential for target group transition, will be high if produce has high value and increases incomes, but relatively lower benefits if benefits are only associated with on farm food availability.

However, in practice the major WFP/Government food distribution program (30,000 MT of maize in 1998 and continuing in 1999) experienced serious problems partly because poor implementation and partly because of the design. The program attempted targeting households (through communities) rather than individuals and offered 50 kilograms of free maize per month to each household. It also tried feeding through schools.

The community and school approach failed because of targeting problems and theft of food by parents and teachers who were supposed to help. The program resorted to using administrative targeting through health centers, but still targets households rather than individuals. It uses the presence of a malnourished child only as an indicator of household vulnerability to food insecurity. Now any household with at least one malnourished child gets 50 kg of maize each month of the lean period that may be 3/4-5 months (longer in the North). This ration can feed the whole family for the entire hunger period which makes it far too attractive (may even result in perverse incentives where a family may want to maintain one malnourished child), and subject to politics and corruption. It is more appropriate to feed just the malnourished children while the households get a chance to participate in programs such as food for work or other programs aimed at chronic problems. Feeding programs operating on a small scale and led by NGOs have done better in terms of targeting the destitute and malnourished, and in being generally more effective.

Cash for Work Programs

Cash for work scores high in livelihood improvement (especially if wages are high) because paying cash rather than commodities increases flexibility in consumption choices and hence utility from wage income—sometimes food is sold and money used to buy other things deemed to be more urgent. However, in practice, the impact on the poor is generally limited because wages are low (about MK 400 per month paid for working 4 hours each day), and able bodied people who might otherwise be engaged in other productive activities incur some opportunity costs. Programs transferring cash can be relatively cost effective because they do not involve costly operations such transport, storage and dealing with spoilage which is common when handling commodities. On the other hand, cash transfers are highly vulnerable to misappropriation of project resources and delays in payment. In practice this has been the major problem between MASAF financial management staff and the District Teams implementing cash for work projects, which in fact has minimized the progress and impact of this program.

While public works are good at targeting poor female heads of households, field experience (for example, with MASAF projects) has shown that it is difficult to reach women in poor male-headed households. This is principally because the projects allow for only one member of the household and men register arguing that their wives, and not they, should stay home and cook. However, they do not typically make this argument when the case is food for work. The extra incentive for men is being paid in *cash*. They can use it various purposes including alcohol. This reduces the food security impact on targeted households—but at least benefits brewers who are mostly women.

Food for Work Programs

Compared to cash for work programs, payment in food (typically maize) lowers flexibility in expenditure by the households (though some households sell food and buy other things). Provision of maize also discourages the consumption of other foods. However, the negative

effects of inflexibility may be balanced by the fact that food for work programs involves more women and this usually means higher household food security.

The major disadvantages compared to cash for work is cost ineffectiveness (high transport and storage costs , spoilage) and sensitivity to operational inefficiencies. This is primarily a result of logistical difficulties that prevent projects getting food out during the hunger months so that the project fails to serve its primary purpose. Delays in cash for work have similar effects but generally cash is easier to move unless it has been pocketed. Delay has been a major problem with food for work WFP programs. Transportation and storage costs (at ADMARC depots) are high and sometimes ADMARC reallocates FFW commodities to other purposes without warning. There may be some advantages of providing food payments in times of localized or national food shortage when people with money might go hungry, but this is a relatively insignificant problem compared to lack of income.

Inputs for Work Programs

Using inputs for work has the advantage (over food or cash) of enhancing agricultural productivity and improving livelihoods and farming skills of the poor within the life of the program. Using inputs such as fertilizer or seed for community development works such as construction of roads , schools clinics , wells, afforestation, etc. provides benefits both at the household and community level and presents a relatively high chance of helping safety net beneficiaries make a transition out of the need for safety nets. This approach also does not create dependency. Cost effectiveness and ease of operation will be better if vouchers instead of commodities are used. Use of vouchers also avoids distorting commodity markets. However, it will be more difficult target the poorest households that might lack land or have only very small holdings and there may be need for agricultural extension if targeting households with little modern farming experience. As in the case of cash and food for work, it should be easier to target female heads of households than females in male headed households. However, it can be expected that husbands will be more willing to allow women to work for inputs (as in the case of food for work) than for cash.

Use of inputs for work has been recommended by several studies on safety nets, but at the moment this is not part of a safety program. The major experience was a pilot fertilizer (vouchers) for work program implemented by an NGO in 6 ADDs in 1991 (communication with Stephen Carr who managed the program). That early experience was positive and provides extremely useful insight for future fertilizer (or seed) for work programs using vouchers as part of a safety nets program. Based on the experience of this program, earlier reservations concerning excessive need for supervision, the likelihood that poor people might not work earlier in the year only to get their benefits later, and that the output in terms of community works would be minimal, were not warranted.

The program followed a community based approach. It focused on community development works such as teachers' houses, clinics and wells. A negotiated amount of fertilizer was paid to a group of participants (mainly women) at the end of each project which took several months with little supervision was needed in between. The work was done in the months

between May and October when agricultural labor demand was low and people were relatively well fed and energetic following April/May harvests. The fertilizer vouchers were delivered in November to coincide with planting time and beneficiaries were happy with that. These vouchers were redeemed at local ADMARC depots. Now with more fertilizer dealers, the administrative aspect might require more work but can be done. It is also reported that the program was highly cost effective based on the output in terms of teachers houses, clinics and wells, and to have had high community development impact especially by focusing on education and health facilities.

The focus on community social development activities and allowing community choice was a major reason for success. This meant sustained interest and minimum supervision because the communities were well aware of the benefits, and were keen on them with or without the project. At field level the main problem was interference by the Ministry of Agriculture .

Subsidized Inputs Programs

Using subsidized inputs as part of safety nets program could have similar cost effectiveness (if using vouchers), productivity enhancing effects, and positive livelihood impact as in the case of inputs for work. However, if it is not done carefully and for limited periods, this approach could result in dependency creation. Also, it may be more difficult to target the poorest and women in male headed households simply because of the element of subsidized inputs not worked for.

At the moment subsidized inputs are not explicitly considered a part of the general safety nets program for Malawi. But there are some useful experiences with subsidized improved seeds under the community-based seed multiplication project implemented by Action Aid with support from DFID (evaluated by the author in March, 1999). This project used community targeting for the bottom 25% of the poor and was relatively successful in reaching the poor (70% women), and in using small community groups. Landless people obtained land from the chief or relatives or friends (especially if the targeted individuals welcomed a better off person in their group) and ended up with about 1 hectare for an average group of about 10-13 people. Women's only groups did slightly better than mixed groups but the overall result was encouraging in many aspects including: targeting poor landless or land poor households and women, improved seed multiplication within communities and neighboring areas, increased household food security (through sale and replanting of improved seed), increased savings through group bank accounts (availed by rural SACOs under MUSCO), enhancement of women's control over their income, and development of community social/institutional structures usable for other projects.

SUMMARY OF THE EXPECTED IMPACT OF PUBLIC WORKS PROGRAMS

In general, public works programs have a major advantage because they are self-targeting and do not increase dependencies. However, the basic public works approach excludes the destitute and the most needy. Among the chronically food insecure this approach does not

involve much more than providing immediate consumption income. As such, it has relatively low long run benefits; it offers little possibility for the chronically food insecure target group to make transition to higher income levels and to graduate out of the need for safety nets. The major long run community benefits of the basic public works projects are associated with roads (and to a lesser extent other community development activities such as forestry and irrigation) and their promotion of communication and trade in the community. However, if the chronically poor remain at their current levels of poverty (especially given the low wages), basic works programs participants are unlikely to share much of the long run benefits of the infrastructure they helped create - for the same reasons they are not able to respond to market-based incentives at this point.

Under these circumstances, it is conceivable that if the only productivity enhancing approach is basic public works, the targeted group will remain chronically poor. It is therefore critical for programs aimed at chronic food insecurity to include the more livelihood supporting approaches such as improvement of agricultural incomes through inputs for work and targeted input subsidies, as well as off farm income generating activities. However, other than public works based wage income (which must be kept low for targeting purposes), and studies recommending use of inputs for work, off-farm income generating activities for the chronically food insecure have not yet been examined as a possible option in the upcoming national safety nets program.

SUMMARY OF POSSIBLE APPROACHES FOR DIFFERENT GROUPS

The Destitute Group

There is a general consensus on direct supplemental feeding for this group (see table 2). Some health centers continue providing nutrition education during the period when supplemental feeding is not done, for example, soon after harvest and in cases where food aid has been withdrawn. Current experiences of feeding programs can be used to improve results.

Table 2: Possible Safety Net Interventions for Different Groups

LEVEL OF FOOD INSECURITY	DESTITUTE	CHRONIC	TRANSITORY
SAFETY NETS INTERVENTION	1. Food distribu-tion 2. Nutrition education	1.Public works using cash, food and inputs for work (roads, schools, clinics, irrigation, wells, forestry) 2.Off farm incomes, savings and credit, skills training 3. Group based subsidized inputs	1.Disaster preparedness in high prone areas 2.Emergency relief

Chronically Food Insecure Group

This poses a more complex situation. Programs could focus on self-targeting extended public works to target the poorest group in a given community. After a period, this known group could be directed toward income generating activities and related skills development and savings. They could be encouraged to form groups for purposes of pooling resources and managing risks, access to subsidized inputs, saving clubs and participation in rural savings and credit programs such as those offered by the SACO's under MUSCO. A given group of beneficiaries could make progression along these lines, or activities could be divided according to ability and interest.

Transitory Food Insecure Group

This may not be an important group for the safety nets programs because under normal years it can support itself. This group also benefits proportionately more from market-led productivity enhancement. However, safety net programs may consider investments in disaster preparedness for highly prone areas, or just providing emergency relief when needed.

IMPLEMENTATION ISSUES

For any safety nets program, issues such as targeting, delivery channel, scale and time horizon need to be considered carefully. Experience suggests that community targeting has merits. However, it has also been said that targeting is perhaps the most difficult aspect of safety net programs. Part of the targeting problem experienced by current programs can be explained by use of delivery channels that are large, government-led, and easily politicized. Several NGO's have been successful in targeting first because they work differently with communities, have a longer and more trusted presence in the communities, and have traditionally focused on the poor (especially religious NGOs). With new projects, NGOs are inherently more likely to use less publicized and overblown entries than the government and to target the poor more easily. This, together with current experience and evaluations of progress suggests that a community-based, NGO-led approach to safety nets provision is likely to be more successful. NGO experience and disposition is necessary if the relatively more complex safety nets with transition approach recommended for the chronically food insecure group is to work. This approach also implies taking a longer time horizon compared to basic public works projects which of necessity last in an area for only a season or two.

CONCLUSIONS AND RECOMMENDATIONS

At the moment, it is difficult to make an accurate assessment of the levels of food security and the size of population that needs public driven safety nets because of lack of good quality data on household incomes and expenditures. However, it is hoped that this situation will improve after the completion of the National Integrated Household Survey and the APRU rural per capita income survey. Both are now nearing completion. While it has been possible to obtain relatively accurate farm production income data, other critical information for assessing levels of food security such as off farm incomes and informal safety nets is relatively weak.

Nevertheless, it is known that there are households that are chronically food insecure and need direct income transfers through formal safety net programs. Such households have limited resources and lack the ability to participate significantly in a market-led economy. This study agrees that for this group, which is known to exist but the size of which is not known, a publicly driven safety nets program is justified and necessary. At the same time, the overall strategy for improving food security should remain increasing rural growth and increasing opportunities for agricultural and off farm income generation. However, recommendations (for example, the Oxford study of 1997) on activities and data for improving food security through rural growth have not been implemented.

There has been more focus on formulating a national safety nets strategy and program for food insecure households through a sub-committee led by the National Economic Council and the World Bank. This national safety nets program is expected to be in place in the coming season, and will start with limited activities including the improvement of existing safety nets programs. The major safety net programs now in place in Malawi are direct feeding programs and cash or food for public works. Unfortunately, these programs are small compared to the estimated problem, they are isolated and uncoordinated, and they have had limited impact. This partly from the low implementation capacity of the government District Teams responsible for the safety net programs. Low impact has also resulted from the public works programs' narrow focus on food provision rather than livelihood improvement for the beneficiaries.

This study has recommended a broader approach for safety nets that includes livelihood enhancement as an extension of the basic safety net programs. Such an approach includes activities that help beneficiaries make a transition out of the need for safety nets. This means that in addition to the common cash and food for work activities, safety net programs should move towards use of inputs for work and carefully targeted subsidized inputs to improve agricultural productivity. This, especially fertilizer vouchers for work, has been recommended by several other studies and tried successfully but on a limited scale by NGOs. For example, in 1991 one NGO undertook a pilot project on fertilizer for work and reported tremendous success. Action Aid of Malawi has since 1995 successfully implemented a subsidized seed project targeting the bottom 25% in selected communities throughout the country.

However, there has not been much analysis of the likely impact of various options and implementation mechanisms using inputs as part of a safety net program. Contributing to this purpose, this study has developed criteria for evaluating various options of safety net programs and used them to assess the various programs in place or being considered. The assessment concludes that inclusion of inputs activities is critical to a safety nets program with the intention of improving the livelihoods of safety net beneficiaries, especially those that fall in the chronically food insecure category. An additional possible intervention for this group that has not yet been tried in Malawi (but planned in CARE's "secure livelihood" approach) is involving beneficiaries in off farm income generating activities. This would include assisting them with the necessary skills training and encouraging them to participate in rural savings and credit clubs - particularly using women's groups. CARE's activities should be encouraged, progress monitored, and results used to inform safety nets designs in Malawi.

For these extended safety net programs to work, this assessment recommends using a community based, NGO-led approach. This approach has major implementation advantages especially in terms of NGOs' abilities to target beneficiaries and work with the poor. In addition, NGOs' strong grass roots presence, experience and flexibility places them well to implement the relatively more complex and innovative safety nets activities recommended here. Use of NGOs may mean that initially the coverage is low, but given the experiences of the government led public works programs, it is doubtful that a national wide safety net program led by District Teams could work without unimaginable changes occurring in the civil service.

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ANNEX E
NATURAL RESOURCE MANAGEMENT BY SMALLHOLDERS IN
MALAWI

Joe Tabor

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CONTEXT FOR THIS ASSESSMENT

This annex describes the natural resource management issues within the parameters of USAID's rural sector assessment. The assessment is limited to those natural resources that directly or indirectly pertain to agriculture production and agribusiness. Forestry and fisheries resources for the rural sector, although very important, were not considered.

The Natural Resource Base

Soils. Malawi has a relatively good soil resource base compared to the rest of Africa. Slope is the biggest natural constraint to sustainably managing this resource. A particular type of soil of importance to agriculture in Malawi is the *Dambo* soils. *Dambos* are riparian soils and usually refer to the headwaters of streams that occur in broad, grass covered valleys with no well defined channels. The term is used throughout the country to describe any permanently or seasonally inundated valley or depression (Department of Irrigation, 1997, p.12).¹

Mineral Wealth & Geology. Balaka and Chingalume limestones are the only agriculturally important mineral reserves in Malawi that are exploited. There are phosphate deposits in the Lisungwi Valley but they are not exploited. The predominant geology of Malawi is Precambrian and Cambrian igneous and metamorphic rock that usually produce poor aquifers for large- scale irrigation.

Wildlife. The wildlife sector is in very poor shape, in part, because the government has not had sufficient resources to assure its protection from poaching and habitat encroachment by agriculture. Unsustainable agricultural practices and low productivity coupled with increased competition for land resources among small holders and estates are creating economic and political pressures to degazette wildlife parks and reserves for agricultural use.

Forests. Malawi's wood resources are being depleted. Estimates indicate that even if all of Malawi's forests, woodland, and tree plantations were managed for sustainable harvesting, there would not be enough production for current demand (Seymour, 1998). Annual per capita fuel wood consumption estimates for the urban population is 2 cubic meters and 1.1 cubic meters for the rural population (Agricultural Sciences Committee, 1999). The Forestry Act 1997 signifies a major change in forestry policy from policing to extension putting emphasis on community managed forestry. The act offers hope that commercial wood production by the rural population can reverse the trend toward depletion.

Water Resources. Lake Malawi fishing industry is in decline only because the artisanal fishers are limited by their equipment to the near the shore shallows. This is the area of the lake experiencing over exploitation and threats to biodiversity of which the lake is an important world resource. There exist a significant untapped resource of demersal and semi-

¹ See Annex B for a summary description of Malawi's soil resources. For more detailed descriptions, please refer to the eight volumes of Land Resources Evaluation Project by the Food and Agriculture Organization of the United Nations and the Land Husbandry Branch of MoA(I) which was financed by the United Nations Development Programme.

pelagic fish along the shore but at greater depths than artisanal fishing can exploit. The pelagic resources are also significant but are considered too dispersed for commercial exploitation. Recent studies suggests that additional harvesting of 40,000 tons per year could be sustained with larger yields possible if the artisanal exploitation of the shallow shore line is reduced. Agricultural intensification and deforestation pose potential threats to the lake's resources through soils erosion within its watershed. The lake's nutrient sink is diatomic plankton that upon death sinks to the anoxic depths below 250 meters. Erosion of phosphate enriched soil into the lake is likely to upset the planktonic balance between diatoms and bluegreen algae. The threat to fish production and biodiversity are speculative at this point in time (Tómasson & Banda, 1996; Banda & Tómasson, 1996; Banda & Tómasson, 1997; Seymour, 1999).

Lake Chilwa is one of the most productive lakes in Africa, with average fishery yields of 20,000 tons per year. This accounts for 25 to 30 percent of all fish caught annually in Malawi. Lake Chilwa and nearby Lake Chiuta have no outlets. This makes them extremely vulnerable to agriculturally based pollution.

Agriculture related threat to the river systems of Malawi are considered to be accelerated soil erosion and the potential siltation of dammed reservoirs.

Climate. Average annual rainfall is about 1035 mm but wide variations occur between the Lower Shire Valley (less than 800 mm) to the high rainfall areas such as the Mulanje and Zomba mountains (greater than 2000 mm). The six month rainy season (November to April) is followed by a six month dry season (May to October). The long dry season and rainfall variability during the rainy season are the major constraints to agriculture. Agricultural systems and coping mechanisms must consider the possibility of mid-season droughts up to three weeks long (Department of Irrigation, 1997).

The Institutional Context

The following institutions are responsible for implementing programs to improve small holder management of natural resources.

Government and Community Structures

The government is promoting decentralization of government with the creation of the District Planning System for community level institutions. This system is comprised of District Development Committees, Area Development Committees, and Village Development Committees. These fledgling institutions may provide a means to work with local communities.

Village Natural Resource Committees (VNRC) may provide local level support in areas where there are not appropriate organizations to oversee development activities. These VNRCs are new and have limited knowledge of natural resources management and will need

guidance. The VNRCs and other community organizations need assistance and training in analyzing their environmental situation, prioritizing their problems, developing action plans for implementation, and preparing by-laws and goals for managing natural resources.

Non-Governmental Organizations

The Council of Non-Governmental Organizations in Malawi (CONGOMA) has 147 member organizations at the time of this consultancy. Many of these NGOs are not active, and some active NGOs are not members. Some of the more active NGOs include: Action Aid, Africare, Canadian Physicians for Aid and Relief, CARE International, Catholic Relief Services, Christian Services Committee, Concern Universal, Foundation for International Community Assistance, International Eye Foundation, Livingstonia Synod, Oxfam, Permaculture Network, Save the Children (UK and USA), Village Enterprise Zone Association, and World Vision.

Government Services: Agricultural Research and Extension

Agriculture research strategy has moved away from achieving the maximum yields possible to addressing actual on-farm conditions. High costs and limited budgets have constrained the speed of progress of on-farm research, but collaboration between national and international research organizations is producing useful results. "Best bet" options (Bunderson et. al, 1999; ICRISAT, 1999) consisting of green-revolution technologies that are accessible to the Malawian smallholder are being developed and adopted. Cooperation between agricultural research staff and NGOs appears to be a promising strategy as evidenced by South Africa Root Crop Research Network (SARRNET) and NGO collaboration to multiply and distribute improved sweet potatoes and cassava. Research organizations should consider contracting the private sector to multiply and disseminate plant material as well.

Contacts between extension agents and farmers in the past were largely confined to credit activities. Later, extension agent activities changed to include soil conservation and crop diversification but they maintained an attitude of teachers who lectured the farmers. The 1994 Agricultural Development Strategic Plan called for a participatory approach where the agents seek the invitation of farmers. However, less than half the staff has adopted this approach owing to lack of sufficient training and, for some, a fear of being placed in a situation where their clients are in control. Also, the agents' recent use of mini-plots for demonstration has only influenced a tiny minority of the population. The extension service lacks proof of widespread impact (Carr, 1997).

Field agents typically serve 1,500 farm families within their assigned areas. Only by using the numerous existing groups in the rural areas and eliciting the help of volunteers can the staff hope to increase the scope of their activities and broaden their understanding of the challenges facing farmers (Carr, 1997). MAFEP has negotiated performance-based grants with the extension service at the Agricultural Development District (ADD) level and their performance to date is impressive. This model was designed to streamline and increase the

impact of MAFEP grants, and to focus project investments on good performers and weed out the bad ones. The model has worked because it has a built-in reward system that encourages maximum results. (Bunderson et al., 1999b).

Donor Activities

There are many donor funded projects that support sustainable natural resource management with activities that include agroforestry, livestock production, crop research, irrigation development and management, soil conservation, and forestry. The following are the major donors and their major activities.

- African Development Bank's (AfDB) Rural Income Enhancement Project, Agricultural Services Project and support to Land Resources Conservation Department.
- Danish International Development Agency's (DANIDA) Karonga and Chitipa District Environmental Action Planning Project with activities in livestock and irrigation.
- United Kingdom Department for International Development's (DFID) Starter Pack Initiative and Support to Rural Livelihoods and Infrastructure project.
- European Unions's (EU) Agricultural Productivity Improvement Program (APIP) and Promotion of Soil Conservation and Rural Production Project (PROSCARP)
- Food and Agriculture Organization's (FAO) Soil Fertility Initiative.
- GTZ's work in irrigation development.
- International Fund for Agricultural Development's (IFAD) Smallholder Food Security Project.
- Rockefeller Foundation's soil fertility research and the Starter Pack Initiative.
- United Nation Development Program's (UNDP) Food Security and Sustainable Livelihood Program.
- World Bank's funding of Agricultural Services Project and FAO's Soil Fertility Initiative.

NATURAL RESOURCES MANAGEMENT FOR THE AGRICULTURAL SECTOR

Natural resources management strategies for Malawi must focus on the management of customary lands that are cultivated by small holders. Of the 9.4 million hectares of land in Malawi, 6.2 million hectares are customary lands, of which 2.6 million hectares are suitable for cultivation. At present, smallholders are cultivating an estimated 1.9 million hectares of the suitable land and 1.6 million hectares of the unsuitable land. In addition, Malawi has 1.2 million hectares of estate lands, of which about half are cultivated, and 2 million hectares of public lands. Nearly all of the public land is protected from agricultural development or urbanization (Orr, et al., 1998, p. 19).

Agricultural Systems

The smallholder sub-sector comprises 1.8 million farms involved mainly in rain-fed production of annual crops, and to a lesser extent, the production of livestock, irrigated crops in the dry season, and tree crops. Maize is the predominant food crop with much smaller areas planted in sorghum, millet, pulses, cassava, and sweet potatoes. Burley tobacco, groundnuts, rice, cotton, root crops, vegetables, soybeans, pumpkins, and maize are also grown for sale or barter. The particular crop composition that a small holder grows is quite variable and is dependent of climate, soils, markets, social and financial considerations. Most small holders grow two to eight crops, averaging around six (FAO, 1998; Pearce, Ngwira, & Chimseu, 1996).

Land quality, population pressure, and land management vary quite considerably throughout Malawi. This requires incentives and activities that are appropriately targeted. FAO (1998) has identified land management goals for the three regions of Malawi. Strategies to improve natural resources management by small holders should be flexible enough to address the constraints and opportunities of each region.

- *Northern Region:* Develop improved agricultural systems before rising population pressures force an abandonment of traditional fallow, and to provide a template for anticipated migrants (some 67% of 'suitable' land is as yet not cultivated annually);
- *Central Region:* Apply improved, more intensive agricultural systems that are applicable to the variety of landscapes and soil types in this area of high population density and short rotation fallow (some 20 to 50% of suitable land, depending on the definition of "suitable", is as yet not cultivated annually); and
- *Southern Region:* Confront significant problems associated with no fallow and very small farm sizes (15 to 39% of "suitable" land is not yet cultivated annually).

Land holdings for small holders generally range from 0.4 to 2 hectares and are usually divided into several, dispersed parcels that can be quite small (31% are less than 0.1 hectares) (BDPA, 1998c, p. 33-36). Project interventions must be adaptable to small land areas and dispersed holdings. The quality of the holdings ranges from prime farmland to rock land. Small holders with inadequate access to arable land are forced to cultivate land in an unsustainable manner as long as annual crops are their only option. The strategy needs to include sustainable uses for the 1.6 million hectares of smallholder lands that are unsuitable for cultivation.

Declining Soil Fertility

"Reliance on chemical fertilizer on its own is not a sustainable option over the long term" (Douglas, 1999). Increasing quantities of fertilizer must be applied each year to sustain the same maize yields, which means that soils are becoming less and less fertile (Conte et al., 1998). The main reasons are:

- Soil erosion;

- Secondary/micro-nutrient deficiencies;
- Low cation exchange capacity, brought on by declining soil organic matter;
- Loss of topsoil structure and resistance to erosion due to poor tillage practices and loss of organic matter; and
- Hoe pan induced restricted root growth and moisture stress.

Other causes of declining maize yields are pest problems (striga and termites), rapid weed growth, and degeneration of the local maize varieties as a result of due to mixing with hybrid maize seed (Douglas, 1999).

Soil conservation is essential to any activity seeking sustainable improvements in crop production. "Although there is no direct relationship between the soil loss and the extent of subsequent yield decline, the severity of the erosion situation is indicated by estimated average figures for soil loss for each ADD ranging from 13 to 29 tons per hectare per annum" (FAO, 1998, p. 9).

Agricultural projects showing impressive levels of adoption by small holders utilize an integrated plant nutrition systems approach. This approach "seeks to improve the exploitation of on-farm sources of nutrients through better integration of crops, livestock and trees, supplementing these as and when necessary with nutrients obtained from off-farm sources (forest litter, animal manure and purchased inorganic fertilizer)" (Douglas, 1999).

Agro-forestry

Agro-forestry techniques offer small holders a way to provide nitrogen and other nutrients to their crops and reduce their dependence on purchasing chemical fertilizers. They also add organic matter to the soil, reduce weed competition, and reduce erosion. "A maize trial at the ICRAF station at Makoka achieved yields in 1993 of just over four tons per hectare with 50 percent of the recommended fertilizer rate; by 1997 the same application of fertilizer produced a yield below two tons per hectare. Over the same time horizon yields of maize grown in a *Gliricidia* alley cropping system without any chemical fertilizer rose from 1.6 tons per hectare to 3.1 tons per hectare" (Douglas, 1999). Other research in Malawi shows significant increases in maize yields from a range of better land husbandry practices. For example, undersowing maize with *Tephrosia vogelii* can raise yields from 1 ton/hectares to 2.5 tons/hectares by the third year (Douglas, 1999). *Sesbania* or tephrosia undersowings also reduce or eliminate Striga, a yield suppressing parasitic weed that is difficult to control and becoming a problem in Malawi.

Livestock

Livestock has been an important feature in the farming systems and livelihoods of small holder farmers. However, current meat consumption levels are extremely low. Per capita annual consumption estimates for 1997 are: 4.13 kg of red meat, 1.13 kg of poultry meat,

3.10 kg of milk, and 0.87 kg of eggs. This is less than half the averages for Sub-Saharan Africa.

Estimates of the 1998 livestock population are: 618,800 cattle, 102,700 sheep, 1,597,500 goats, 428,000 pigs, 10,365,700 chickens, 358,800 ducks, 17,400 turkeys, 15,600 guinea fowl, 1,024,700 doves, 140,900 rabbits, and 2,500 donkeys (Agricultural Sciences Committee, 1999). A recent national survey (Mthindi et al., 1998) estimated that 10% of rural households owned cattle, 31% owned goats or sheep, and 44% owned poultry. Most of the income from livestock sales by rural households is used for food purchases. (Devereux & Gladwin, 1999, p. 22).

Livestock grazing and watering is an important activity in many of the *dambo* wetlands and floodplains. During the dry season, especially in the Central and Southern Regions, there is a shortage of forage except for the *dambo* areas where there can be serious competition for land and water resources. Severe shortages have led to conflicts (Department of Irrigation, 1997, p. 26). Theft of livestock is another constraint that small holders cite as a reason for not raising livestock.

Irrigation

Out of an estimated 200,000 hectares of potentially irrigable land, there are about 119,000 hectares under informal irrigation and 27,000 hectares under formal irrigation. Informal irrigation comprises those schemes that have been developed by the farmers themselves with little or no technical inputs in their design. Formal irrigation systems are those that have been planned, designed and built according to technical standards by professional trained staff (Department of Irrigation, 1997). There is abundant donor support for irrigation development and management. Informal irrigation schemes mainly produce rice and other crop such as maize, cabbages, tomatoes, rape seed, and carrots. Formal irrigation is composed of 62% commercial sugarcane, 11% commercial tea and coffee, 14% government small holder rice schemes and 13% in government self-help schemes (Department of Irrigation, 1997).

Genetic Resources and Planting Materials

“Lack of quality legume seed and/or vegetative planting material is currently limiting the ability of farmers to adopt many of the recommended low-cost, better land-husbandry practices. There is thus a need for programs that will increase the availability of planting material that can be used as components of agronomic and vegetative measures for combating soil degradation and enhancing soil productivity” (Douglas, 1999).

Small holders need access to the improved seeds and planting materials that international agriculture research centers have been developing for over 25 years. Much of this plant material does not provide yields as high as commercially available hybrids but can be more profitable because farmers do not have the recurrent cost of buying new seed every season.

Malawi is not in a center of genetic diversity for economically important crops so genetic erosion in Malawi is not of great international environmental concern.

Conclusion

Agricultural activity is concentrated in the rainy season production of annual crops, which is the main cause of declining soil fertility. Production needs to be spread out over the entire year and diversified into other agricultural products that utilize the land more productively and sustainably. This involves more than the increased use of modern inputs. Other improved practices must address problems of soil erosion and loss of organic matter and micro-nutrients. A more productive and sustainable agricultural production system can be achieved through a combination of crop diversification during the rainy season, agro-forestry, livestock production, and small-scale irrigation.

SOCIAL AND ECONOMIC CONTEXT FOR IMPROVED NATURAL RESOURCES MANAGEMENT

Income, Savings and Credit

“What none of the advocates of the high external input strategy for household food security satisfactorily explain is how resource poor farmers are to get the cash to buy hybrid maize seed and fertilizer on an annual basis” (Douglas, 1999)

Lack of cash is often cited as a reason why small holders do not use chemical fertilizer and hybrid seeds. Some small holders identify lack of income and unavailable or expensive credit as the problem (CARE, 1998a, p.52). Lack of savings is usually not expressed directly as a problem by small holders. However, instruments of savings are an important element of their coping mechanisms. Livestock is a common means of savings. Income from livestock sales in Malawi is used mainly for food purchases, then farming activities, followed by clothes, education, and health (Devereux & Gladwin, 1999, p.22). Livestock are considered an indicator of wealth and give the owners more options of managing their livelihoods.

Trees are another instrument of savings made available to small holder with the passing of the 1997 Forestry Act. This act allows holders of customary land to harvest and sell trees, both indigenous and exotic species, which they have managed for production without having to pay fees or receive permission from government agents. Small holders are starting to grow private woodlots. Implementing the policy will require increased efforts by forestry field agents to encourage the small holders.

Off-farm income is an important part the Malawian household economy. Maintaining an income stream throughout the year is essential for most Malawian small holders because incomes from agricultural production are below subsistence. Currently *ganyu*, or temporary labor, constitutes a ‘distress’ allocation of labor that entrenches the household in poverty

while helping to meet immediate needs. Potentially, in the context of a vibrant rural economy, it can be an appropriate adaptive strategy that can enhance livelihoods through income diversification and wealth accumulation. (Devereux & Gladwin, 1999, p. 19).

Malawi's single rainy season followed by a long dry season severely limits crop-based, year-round, income generation. "It has been reported that as little as 30-40% of many rural households livelihood needs come from their own agricultural production"(Douglas, 1999). Smallholder diversification of crops, particularly pigeon peas, sweet potatoes, and cassava which are harvested and sold during the dry season, indicates some success in increasing year-round incomes from on-farm production. Livestock raising offers dry season income generating opportunities but the increasing risk of theft discourages this activity.

Any rural development strategy in Malawi must give priority attention to promoting instruments of savings and year round incomes. Savings are what makes it possible for the wealthier smallholders to purchase the inputs they need to grow cash crops and increase their incomes.

Financial Incentives and Disincentives to Smallholders

"A study of different farming systems in the world showed that in the diverse, complex and 'resource-poor' farming systems farmers adopting better land husbandry technologies have doubled or trebled crop yields, often with little or no use of external inputs. However, farmers have to substitute knowledge, labor and management skills to make up for the foregone added values of external inputs" (Douglas, 1999). The challenge is to integrate interventions so the benefits outweigh the cost.

Farmers in high tobacco production areas invest less in land husbandry technologies than farmers in areas with limited or no tobacco production. An explanation is that the high uses of chemical fertilizers on rotated fields of tobacco masks the effects of unsustainable land management and reduces the perceived need to invest in more sustainable practices (Seymour, 1999). Although there are long-term economic benefits for good land husbandry with chemical fertilizers, the benefits can be hard to appreciate. The strategy to increase agriculture production by subsidizing the price of chemical fertilizers should consider the economic cost of decreased inherent productivity of the soil that the strategy may cause. Once the economy is 'jump started,' the financial opportunity costs of investing in more sustainable land management practices may become too high whereas at present for some families they may be close to zero.

In the past, a major disincentive to agro-forestry has been the insecure land tenure created by the overlay of customary, colonial, and post-colonial laws. The Presidential Commission of Inquiry on Land Policy Reform will soon present its recommendations to Parliament based on recent studies on customary, estates, and public lands. Future legislation based on these recommendations will likely remove most of these disincentives. Changes in land tenure laws, however, will have to be supplemented by resource tenure agreements (e.g., concerning

trees, water, and grass) negotiated and enforced at the community level. A CBNRM approach is essential to realizing the full economic and sustainable potential of the natural resources.

Social and Economic Benefits to the Nation

Public Health

Natural resource management and agricultural activities can have serious and tragic effects on public health and should be considered when creating development strategies and resulting interventions. Health problems usually center around water, livestock and vegetation. Water associated diseases of concern when implementing this strategy are the various dysentery related diseases, shistosomiasis, malaria, dengue and yellow fevers. Brucellosis (undulant fever) is bacterial disease contracted by humans from cattle, sheep, or goats. It can have devastating effects on dairy industries. Dense vegetation cover provides important habitat for the tsetse fly that acts as the vector for trypanosomiasis (sleeping sickness).

Economic Benefits

A strategy that supports natural resource conservation also support the GoM policies to encourage soil and water conservation. Conservation of soil and water will help maintain soil fertility improvements, maintain agricultural production potential, reduce siltation of dammed reservoirs and extend their functional life, and reduce agriculturally related pollution of Malawi's rivers and lakes. This last point is vitally important in conserving the fisheries and biodiversity of Malawi's lakes. Malawi is a very important center of fish genetic diversity and agricultural activities could seriously threaten this world resource. Soil erosion and the nutrients carried downstream are the greatest threats to the ecology of Malawi's lakes.

The use of agro-forestry will reduce the need for Malawians to import chemical fertilizers by providing crop nutrients through atmospheric fixation and deep soil mining. Agro-forestry will also conserve Malawi's forest resources by encouraging the production of small stock for fire wood and construction. This will help reduce pressure to consume larger stock which can be applied for better uses such as lumber and wildlife habitat.

Improving the livelihoods of communities around wildlife refuges, parks, and protected forests will reduce their dependence on these resources during hard times, thereby help preserve these resources for future generations.

RECOMMENDATIONS FOR A USAID STRATEGY

Approach

The objective to be achieved is:

Sustainable increases in small holder productivity throughout the year by promoting income-generating activities that encourage improved natural resource management and conservation.

Natural resource conservation in Malawi must involve small holders; they occupy and manage most of the land. Engaging them in sustainable natural resource activities requires that the activities have tangible and relatively immediate benefits. The strategy proposed below aims to improve their livelihood so that those with the desire, skills, and resources can enter the market economy. The objective is to stabilize and improve the natural resource base so that smallholders at the edge of subsistence do not slip into destitution.

USAID's rural sector strategy needs to encourage Malawi's transition from an extractive agricultural economy that is depleting resources to a sustainably productive one. The small landholders have by far the greatest direct impact on natural resource management so the strategy must directly address their livelihood needs. The natural resources most implicated are soils, vegetation, and water. The strategy must view the smallholders not only as farmers but also as managers of land, labor, and capital of which only part of the year is spent in agricultural activities.

Unsustainable practices in Malawi are decreasing smallholder productivity as demonstrated by decreasing maize yields on both fertilized and unfertilized fields. Our approach is to reverse this trend by disseminating improved natural resource management techniques and improved cultivars. This approach supports and complements government and donor efforts to increase smallholder productivity by increasing the use of modern inputs. The most ambitious of the modern input strategies would "kick start" the transition from traditional to modern agriculture by providing huge quantities of modern inputs free or at highly subsidized prices until their use is firmly established. That rationale has been used by some to justify the Starter Pack Program.

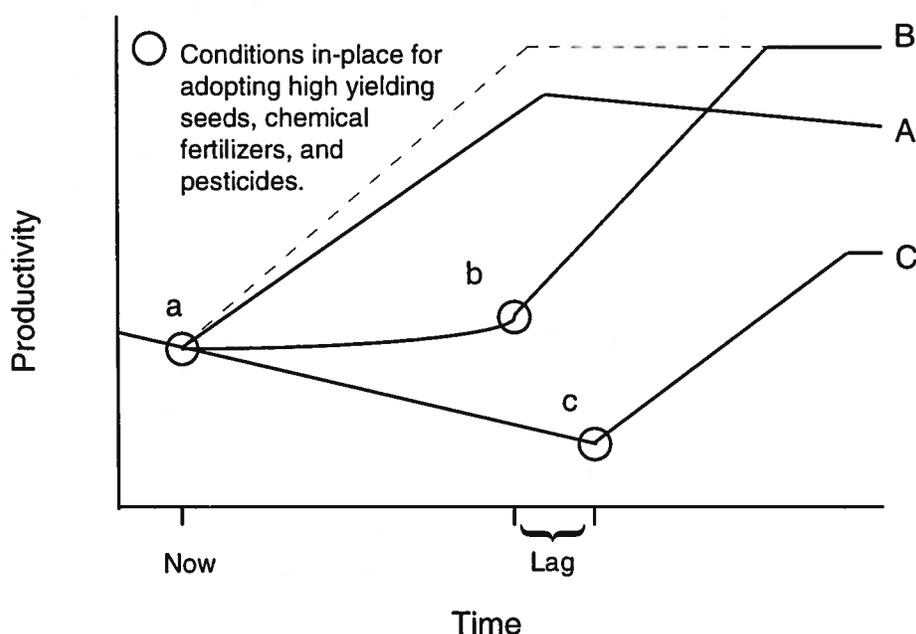
Figure 1 is a schematic presentation of possible productivity increasing scenarios with and without improved land management practices:

- Scenario 1: The "kick-start" strategy is immediately successful (point [a] on the time line) and is combined with sustainable land management practices. This would result in rapid growth in productivity (the dotted line) to the hypothetical maximum sustainable level (level B). This is the best case scenario.
- Scenario 2: The 'kick-start' strategy is immediately successful (point [a] on the timeline) but sustainable land management is not readily adopted because smallholders are too

busy making money. The impact of the modern technology will be less and will not be sustainable (the slope of the line leading to level A).

- Scenario 3: The “kick start” strategy does not work because the new technologies prove to be unprofitable under existing conditions, and improved land management practices are not adopted. Productivity will keep declining until market conditions for the profitable adoption of modern technology are finally met (point [c] on the time line). Production peaks at level C. This is the worst case scenario.
- Scenario 4: The “kick start” strategy does not work, but improved land management practices are widely adopted by smallholders. Under this scenario, productivity declines are halted, smallholders manage to increase incomes and, more importantly, savings. As a consequence, the conditions for the adoption of the modern technology by smallholders are in place sooner and the impact starts from a higher level of productivity (point [b] instead of point [c] on the timeline). Productivity increases to the hypothetical maximum (level B).

Figure 1: Scenarios for increasing smallholder productivity



We feel that the fourth scenario should be the goal of USAID efforts to increase smallholder productivity during the next five-year strategy period. Recent Government and donor experience in trying to introduce modern technologies to smallholders indicates that, at best, only a small percentage of smallholders are likely to adopt these practices during the time frame covered by the strategy.² This does not mean that efforts to increase smallholder use of

² See Annex A, Agricultural Production Systems in Malawi and Annex B, Malawi: Agribusiness Strategy, the Estate Sector, for an analysis of the many constraints that make the use of modern inputs uneconomic for most smallholders at this time and over the medium term.

modern inputs should be abandoned. It just means that scenarios 1 and 2 as described above are not realistic, and the large majority of smallholders are likely to experience continued declines in yields and agricultural incomes. Therefore, for the large majority of Malawian smallholders, the choice is between scenarios 3 and 4. This in a nutshell is the rationale for proposing a natural resource management-based strategy to increasing smallholder productivity over the next five years. The Government and other donors should continue the very important task of introducing the modern technologies that will one day enable many smallholders to rise significantly above the subsistence level. In the meantime, USAID's role could be to focus specifically on reversing the downward spiral in productivity and agricultural incomes that is being experienced by the large majority of rural households in Malawi.

Selection of Activities

The tangible and profitable activities that USAID should support, directly or indirectly center around: agro-forestry, livestock production, crop diversification, small scale irrigation, and community organization. These activities have been shown to work in Malawi as long as the enabling conditions are in place. These activities are widely applicable throughout Malawi, however the adoption rates are likely to be higher where there are the greater financial incentives. This will occur where competition for resources is greatest (around towns and estates) which is also where natural resource degradation is most severe. The implementation of this strategy needs to be flexible to take advantage of opportunities to support smallholders as the policy and economic environment changes.

Agroforestry techniques to improve soil fertility are just beginning to take hold after a long research and development period. The main incentive to use agroforestry is improved crop yields through better soil fertility, specifically increased organic matter and nitrogen addition to the soil. There are other tangible benefits: (1) protect the soil from erosion, (2) provide fire and construction wood, (3) act as instrument of savings, (4) production of food, fiber, and medicines, and (5) production of high protein forage for livestock. Numerous exotic and indigenous species can be used to provide fire and construction wood. Bamboo is especially desirable in that it has many uses. Grafted fruit or nut trees, such as citrus, mango, and avocado, can help meet household food needs and provide cash income if markets are developed. There are opportunities for growing indigenous fruit trees (e.g., *Strychnos cocculoides* and *Uapaca kirkiana*) that have potential regional markets (Kwesiga et al., 1998). Soil fertility is being improved with gliricidia and sesbania. These species also provide high quality forage for livestock.

Livestock production (ruminants, swine, poultry, and rabbits) by small holders is linked to their crop-based incomes. It provides opportunities for year round income, value added processing, and is an instrument of savings. Livestock production encourages the development of managerial and entrepreneurial skills. These skills are needed to fill the near vacuum of human resources required for small and medium size business development. Livestock production complements field and cash crop production by providing manure as an

alternative or addition to purchased chemical fertilizers. It also encourages the use of agroforestry that is needed to provide high protein fodder.

Increasing livestock production faces serious, but not insurmountable constraints. Theft by outsiders as well as members of the community is a significant deterrent to raising livestock. Organizing communities and reducing poverty will be necessary to stem the thievery problem. Strengthening the enforcement of laws and punishment of violators is a felt need by many communities and needs to be addressed by the government. Lack of forage during the dry season is a major constraint in some areas. The availability of surface water is another constraint. A community-based natural resource management approach and a market-based approach are both needed to help promote livestock production. The resource base and management capacity of small holders and their communities, and their access to markets, need to be determined before deciding on the amount and types of livestock for a community. In order for livestock production to be a significant contributor to the economy, public and private sector support services are required for extension, veterinary care, processing, and marketing.

Crop diversification is needed and in high demand by smallholders. USAID should contract for the multiplication of high quality plant materials that are not commercially available (for example, open pollinated varieties of maize and groundnuts). The international agricultural research centers can provide the plant material and oversee the multiplication by contracted farmers (smallholder groups or estates). The demand is high but the availability is low. Dissemination of the material can be through donors, projects, NGOs, or the private sector. In terms of improving smallholder access to commercial seed as well as other agricultural inputs, it is our belief that when the basic needs of smallholders are met they will purchase these inputs from the private sector through savings and increased incomes from dry season activities. USAID should support the multiplication and distribution of improved planting materials. In general, USAID should sell this material to donors, NGOs, projects, private input suppliers, to recuperate most of the production costs and to assure that only those materials in demand are produced.

Irrigated agriculture holds significant potential for expansion in Malawi. It is premature for USAID to support expansion of large scale irrigation until distortions in regional agricultural markets are removed. However, small scale irrigation development along drainage ways (*dambos*) can provide important opportunities for increasing dry season economic activity. *Dambo* development involves many community and production issues. Some of the more important ones are: access to land, access to dry season grazing, access to water, access to markets, environmental impact on wetlands, public health (e.g., shistosomiasis), irrigation engineering and construction, and agricultural extension. There are many small-scale irrigation projects financed by other donors. USAID should support irrigation development only as one part of an integrated approach to increase year round small holder productivity through the improved use of land and water resources. Small dam construction for irrigation, livestock water, fish production, and soil erosion control should be considered for those communities where site conditions are appropriate.

Community organization is the means through which these improved practices will have to be promoted. One of the more intractable constraints to improving the livelihoods of small holders may be Malawians' attitudes about their role in society. The culture of dependency previously alluded to in this annex dampens initiative and conflicts with a free market economy. NGOs, associations, and other community development organizations are well placed to encourage a changing of attitudes and empowerment. The level and breadth of poverty occurring in Malawi offers empowerment as an achievable goal, especially considering the natural resource base and climate of the country. To support the changing of attitudes and empowerment, USAID should finance NGOs and other community development organizations to disseminate resources and information provided by its activities. For those NGOs and community organizations provided funding, USAID should require appropriate levels of monitoring and reporting on the use and impact of the USAID resources they provide to smallholders.

Integration of Activities

The activities described above must be disseminated and adopted at the community level. They can either support each other or can be in conflict. For example, livestock production and small-scale irrigation compete for the same *dambo* resources. There is a symbiotic relationship among these activities that greatly increases their impact when they are adopted as a package. A community-based approach is also necessary because many of the natural resources are communally shared, and not all members of a community will have equal access to resources that are needed to benefit from the activities. A CBNRM approach will allow stakeholders to negotiate benefits among themselves.

USAID is already supporting these types of activities. For example, Washington State University's MAFEP support for agroforestry; Land O'Lakes' Dairy Business Development Program support for livestock; IITA's and CIP's SARRNET support for crop diversification; CARE's Central Region Livelihood Security Program support for community development and small scale irrigation; and DAI's COMPASS for community based natural resource management. The time has come for an integrated program that builds on the successes of these projects. USAID's current involvement with these activities, as well as the experience of other projects will help assure good project design. An evolution of MAFEP would be a logical and robust beginning. MAFEP is involved in most of the activities described above and has developed effective methods of dissemination and extension. We also feel that for COMPASS to succeed it needs to be closely coordinated with if not fully integrated into USAID's other community-based efforts to increase smallholder productivity. The new initiative should be a natural resource management based, agricultural productivity project that promotes the integration of agro-forestry, livestock production, crop diversification, 'best-bet' practices, and *dambo* irrigation.

Targeting of Activities

Proper targeting of communities will allow USAID to use its limited development resources more effectively. The challenge is to disseminate information in regions of economic opportunity and environmental vulnerability. The selection of activities for targeted communities should depend on the degree of community organization and their willingness to participate. Regions of economic opportunity are more likely to occur in areas of high population density where infrastructure is more developed and markets exist. These are also the areas where environmental damage is likely to be most severe.

Regions of environmental vulnerability include the watersheds of Lake Malawi, Lake Chilwa and Lake Chiuta where agriculture-based pollution could seriously damage important resources. Environmentally vulnerable regions also include the areas around parks, wildlife refuges, and protected forests. The communities around these areas need to develop livelihoods that do not depend on exploiting resources in the protected area and their livelihoods need to be more resilient to economic shocks.

One of the biggest obstacles to targeting is the lack of information. In order to effectively target regions, communities, and small holders, USAID needs to build on the Malawi Environmental Monitoring Program (MEMP) and Famine Early Warning System (FEWS). USAID should continue its support of environmental information collection, evaluation, and dissemination. Malawi has diverse natural resources but an inadequate institutional capacity to manage the opportunities that exist and make informed policy decisions that affect its resources. USAID's support of FEWS and MEMP has provided Malawi with a significant beginning to develop the institutional capacity but these programs need continued support until the government can fully fund them.

However, for these programs to be sustainable, they must be "demand driven". As a stopgap measure, USAID could contract monitoring services to meet the needs of USAID's activities, and also market these capabilities to other donors. For example, the Department of Surveys is contracting work from the private sector to partially finance its activities. For USAID's next 5 years they could develop Environmental Information System (EIS) capability in the soon to be created REPC (Rural Economy Policy Center) through USAID funding. As yet there is not an information component in the REPC. FEWS and selected personnel from the no longer funded MEMP could be placed with REPC. REPC could be structured to build capacity for both the public and private sectors. Also, as an institution building measure, USAID could provide hardware, software and training to the GOM so it can conduct the analysis of the monitoring data generated by USAID activities.

Dissemination of Resources

A key element of the strategy for community-based natural resources management is the means of distributing information and resources. For many projects, disseminating information through the agricultural extension service has proven to be inefficient. However, there are many field agents throughout the country who are able and willing to do their jobs

if provided with modest resources. MAFEP, for example, has successfully utilized field agents in its “internet approach” to dissemination. MAFEP uses NGOs, the private sector, other organizations, and performance based grants to ADDs³ to spread its activities. Information passes through the most efficient parts of their network of disseminators and if one line of communication breaks down there are others to take their place.

Several international NGOs have expressed a willingness to participate in disseminating CBNRM resources and information even if it is outside of their scope of activities. The capability of Malawian NGOs, however, is weak. Some are only post office box numbers and others have questionable motives. Peace Corps Community Based Natural Resources Management project is designed to access information and resources from organizations and work with government field agents to promote better resource management around and in public lands such as parks, wildlife refuges and forest reserves. Churches and mosques can also provide an efficient means of disseminating information and resources to small holders. The private sector and estates are also potential recipients of resources and information from USAID supported activities that are targeted for small holders.

Table 1: Incentives for proposed activities

Activity	Incentives
Agro-forestry	Livestock forage, improved soil productivity, food, fiber, and medicines, more efficient uses of land and labor.
Forestry	Private woodlots for firewood, construction wood and lumber, used for consumption or sale in deficit areas (instrument of savings), productive use of marginal lands.
Livestock	Income from livestock, manure for fertilizer, allows productive dry season activities such as dairy, eggs, leather and fiber production, acts as an instrument of savings.
Improved seeds and crop diversification.	Higher yields and improved quality (increased productivity), pest/disease resistance, drought resistance, longer period of income generation (e.g., pigeon peas, cassava).
Small scale irrigation	Dry season income where there are markets, increased food availability for consumption. Secondary use of water for fish farming and livestock.
Community organization	Improved access to markets, access to training, reduce resource tenure risk (transparent agreements), reduced theft, access to resources and infrastructure improvements, helps strengthen preferred organizational structure (customary or governmental), improved management of community resources.

³ ADDs are new additions to the MAFEP’s extension network. Through performance-based grants, ADDs that meet the grant requirements are contracted to disseminate MAFEP activities. Currently budgets of MK600 per farm family have been develop for a list of services to be provided. Results below the grant agreement result in reductions in future funding, likewise results above the grant agreement may increase funding.

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ANNEX F

**OFF-FARM SECTOR CONTRIBUTION TO THE RURAL ECONOMY
AND HOUSEHOLD TIME ALLOCATION**

Gacheke Simons

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SUMMARY

Over 80 percent of Malawi's population live in rural areas primarily depending on agriculture for their livelihoods. According to the APRU survey, from August 1997 to July 1998 Malawi's rural households on average had a *net* income of MK 13,483 (US \$539) with 73.8% of this accounted for by crops. By the standards of other African countries this is a relatively low level of subsistence. In addition, income distribution is highly skewed and there are significant regional differences with incomes in the Southern region being the lowest and the Central region the highest.

This study and others have found that the rural off-farm sector is an important contributor to the rural economy, not so much in terms of high contribution to household incomes but through creating employment for a significant and growing number of people participating in off-farm economic activities. For example, 35.7% of households are involved in off-farm work and 31% (compared to about 10% in 1992) are involved in rural micro enterprises including trade, manufacturing and services based businesses. Trade-based enterprises are the most common and seem to have grown significantly especially since 1994. Growth in trade is not so much in terms of business size or traded volumes but by an increase in the number of entrepreneurs, and to a less extent growth in profits.

It is also clear that participation in rural trade is more an alternative than an extension of agricultural production, and that the off-farm sector as a whole is as much a coping strategy for poor food insecure households as it is a strategy for household income diversification. It is also more important in the Southern region where the agricultural base is relatively weak and population density high relative to the Northern and Central regions. For example, in the Southern Region, the off-farm sector accounts for more than half of household incomes while in the Central and Northern region it accounts for 18 and 21 percent respectively.

The observed growth in the number of households involved in micro enterprises has been fueled by a significant increase in effective demand from rural households. The agricultural liberalization policies have resulted in many new entrants into local markets and more traders responding to supply-demand forces (Simons, 1997). The growth in effective demand reported by operators of small off-farm businesses comes primarily from increased incomes from production of burley tobacco by small scale farmers. These linkages between farm and off-farm sectors are identified by a number of recent rural studies including Pauline Peters' USAID-supported work in Zomba (1997) and a World Bank study on rural growth prospects by Janis Evans (1997).

While these positive trends in the off-farm sector and the linkages with the farm sector are easily identifiable, the off-farm sector remains relatively small in terms of its contribution to the overall rural economic development. The positive changes associated with liberalization and smallholder tobacco production have only started a positive process and trend which is still in its embryonic stage and whose impact on general levels of rural poverty is still relatively small. The main reason for this limited impact is the fact that the majority of people participating in off-farm paid employment are poor people working as casual laborers on neighbors' farms or in agricultural estates. With as much as 90 percent of the households

owning under one hectare of land, a growing population, highly skewed income distribution, and less than a third of the households growing tobacco, demand for agricultural casual employment exceeds supply, even in periods of peak agricultural activity. Its compensation, most commonly paid in kind, is extremely low. Relatively few people sell semi-skilled labor on contract basis or have access to salaried jobs in the government, NGOs or the private sector. Similarly, those owning off-farm enterprises operate at micro scales. Their trading activities are locally based, their manufactured products and services of limited range and generally of low quality, and primarily geared towards rural local markets.

The main factor limiting the size of businesses is the lack of operating capital. Most entrepreneurs reinvest very little of their earnings back into the business and consequently lose the benefits of the economies of scale. There is very little injection of outside capital into rural businesses, nor are the businesses usually linked to larger farms. Projects attempting to support rural micro-enterprises through credit facilities for specific groups have come up against major difficulties associated with inability of beneficiaries to earn profits that are sufficient to repay the credit at market interest rates. The experience of institutions (For example, MUSCCO and FINCA) supporting rural savings and subsidized credit schemes and micro-enterprise development have had better success in the urban or near urban areas where effective demand is higher and business conditions better.

Apart from credit, poor rural infrastructure and few vehicles operating in rural areas means high transport costs which further limits profitability and restricts traders to their local markets. In addition, trade policies have focused on large firms and neglected or even hurt small businesses. Malawi's people themselves have limited entrepreneurial skills and experience with aggressive competition while their culturally influenced attitudes further limit their business visions and progress.

INTRODUCTION

Background: Shifts in Malawi's Development Strategies

With the slow development results in the estate and smallholder agricultural sectors, the off-farm sector is receiving increasing attention. The issue is whether this sector could play a leading role in Malawi's economic development and transition out of poverty for the 80 percent of the population that lives in rural areas. In the first decade after independence Malawi's development strategy focused on smallholder agriculture. This was followed by a focus on the estate sector and now the emphasis shifted back to smallholder agriculture in a liberalized economic environment with most development strategies focusing on the transition of the majority of Malawi's population out of poverty.

The most encouraging results are associated with policies and programs encouraging smallholder burley tobacco production after the mid-1990's and the historical increase in smallholder trade activities and incomes. There has also been some appreciable increase in smallholder production of roots and tubers. Otherwise, the majority of smallholder

agricultural development efforts have been discouraging or changes too slow to be observed within the life cycles of most programs and projects. However, changes associated with liberalization and smallholder commercialization may have had direct positive impact on the less resource constrained households, for example with over 1 ha of land and able to grow tobacco. For many households the impact may only be marginal, for example, through availability of farm labor in neighbors' tobacco plots. It is possible that this process might all together have excluded benefits for the extremely poorest households that are not able to respond to market incentives or to work. By the standards of other East and Southern African countries, it can be said that for the majority of Malawi's population transition out of poverty has not occurred and this process is likely to be very slow. The more pessimistic observers have concluded that at best Malawi should hope for very minimal changes in the majority of its population depending on smallholder agriculture; that in the foreseeable future these households might make some minor improvement in their livelihoods but will most likely always remain at the margin of subsistence.

Even with the most optimistic projections, it is clear that over the long-term smallholder agriculture alone cannot continue to raise employment and incomes for the majority of the rural population. The main growth will eventually have to come from off-farm activities. At the same time, just as in the case of slow development of the smallholder agriculture, making the off-farm sector the engine of Malawi's growth and transition out of poverty presents tremendous challenges. At the moment the rural non-farm sector is extremely small and weak, especially in areas far from the urban centers. Recent efforts to identify a viable growth strategy for Malawi (for example, the World Bank, 1992 and 1997 studies on "long term growth prospects and transitional problems") have concluded that, while the ultimate destination may be a vibrant non-agricultural economy, the path to this destination leads through more emphasis on small-holder agriculture in the short run.

While the argument that development of the agricultural sector will ultimately lead to the emergence and growth of a vibrant non-agricultural sector is conceptually valid, observations at the practical level might suggest a more proactive support of the off-farm sector. This is especially true if employment and incomes from the smallholder sector are unlikely to grow substantially. In addition many rural households themselves do not necessarily follow the farm then off-farm order of events. For example, households or farmers with off-farm activities do not typically graduate from farming to businesses in manufacturing or services but engage in both farm and off-farm activities as it becomes necessary and possible. This behavior of the people who are the intended beneficiaries of rural development strategies, together with the slow growth of the farm sector, suggests that the off-farm sector needs to grow and offer opportunities.

The relevant question then is not whether it is necessary to have a non farm sector led strategy but whether given the current low levels of rural agricultural incomes, it is possible to stimulate a vibrant rural off-farm sector and increase off-farm based economic growth, and whether this channel can be used to help the poorest households. If this is possible, then which are the best options and paths for a non farm growth strategy, and can it be done without compromising the farm sector or in a strategy where these two areas are mutually reinforcing.

Answers to these questions must be based on a good understanding of both the farm and off-farm rural sectors and the linkages between the two. Unfortunately, while the farm sector has received relatively good attention in terms of information and has been the subject of many studies, there has not been comparable effort in the off-farm sector. Many rural or agricultural studies note the existence of the off-farm sector and suggest it needs attention but the documents typically include a small section or mention in the report. The extremely few sector specific studies on national employment or on rural enterprises have not included a comprehensive analysis of the off-farm sector within the context of a broader development strategy. This study contributes towards this purpose, and further examines the constraints to rural off-farm enterprise development, current efforts, possibilities and prospects for USAID support. The specific objectives of the study include assessing the importance of the off-farm sector in rural employment creation, household incomes and its significance in the coping strategies of the poor. It also examines rural household labor conditions and time allocation, and the implications for participation in off-farm micro-enterprises.

Study Methodology

The assessment of the current situation is mainly based on reviewing the results of other related studies, reports and secondary data, primary analysis of the 1997/98 national survey data collected by the Agricultural Policy Research Unit (APRU) at Bunda College, and interviews of Government Departments, NGOs and Donors involved in small and micro-enterprises. Where possible comparisons have been made between the results of the commonly cited National Statistical Survey of Agriculture (NSSA) and the APRU sample survey results to try and identify changes that might have occurred between 1992 and 1998. Unfortunately, while the APRU data could potentially be extremely valuable for understanding the rural off-farm sector, this study could not make the best value of it in the time available. The process APRU used for data entry and computerization has made it extremely difficult and time consuming to access and prepare the data for analysis.

While with more time it might have been possible, this study did not make as much use of this data as initially envisaged. Most of the time used for data preparation and analysis addressed the question of the relative importance and contribution of the off-farm sector to rural household incomes. It was not possible to spend as much time analyzing the off-farm sector employment and participation in specific off-farm activities and household time allocation. For these questions the results presented are less complete, focusing mainly on one survey round as presented by APRU (3 month period) rather than examining annual figures and trends. It was particularly difficult to examine the seasonal effects since the data entry is organized by survey administration rounds rather than in ways that make more sense for analysis. Once the data has been cleaned and better prepared for analysis it will be possible to complete the gaps in this study and the results of some of the sections analyzed less thoroughly may change slightly. It will also be possible to do comprehensive assessments of other aspects of USAID strategy such as crop and livestock production (levels, costs, sales and incomes) by different income groups, household income expenditure

patterns and food security, and to identify the size and characteristics of the poorest households that might be the targets of a safety net program.

This report presents the findings from existing literature and secondary data and the information that could be obtained from the APRU survey in the time assigned for this study. It starts with a section on the summary of findings followed by the main part of the assessment including: assessment of the off-farm sector contribution to the rural economy and its role in household coping strategies, rural off-farm employment and participation in off-farm micro-enterprises, and household labor supply- demand and time allocation. The last part discusses the key constraints to rural micro-enterprise development and notes the current plans for a national off-farm sector initiative and continuing work. The study finalizes by examining the likely impact of USAID's current agricultural strategy on the rural off-farm sector growth, and suggests possibilities for long, medium and short-term interventions. The data is mostly presented in graphical form with tables attached as an annex.

CONTRIBUTION OF THE OFF-FARM SECTOR TO RURAL HOUSEHOLD INCOMES

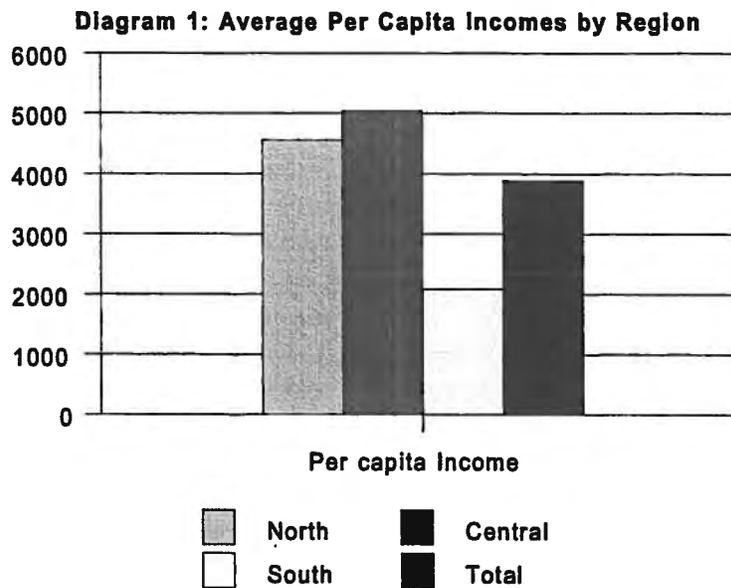
Levels of Household Incomes

Generally, rural household incomes are low compared to other African countries but there may have been some income growth since 1992. According to the APRU survey, on average Malawi's rural population has an annual *net* household income of MK 13,483 and a per capita net income of MK 3,885, which is equivalent to US \$155 at an exchange rate MK 25 to the dollar (see Diagram 1)¹.

Annual per capita income in the Southern region (MK 2,085) is only about 41 percent of that in the Central region and about 46 percent if that in the Northern region, and 54 percent of the national average.

At the national level, the 1992 National Sample Survey of Agriculture (NSSA) recorded an average rural per capita income of MK 147 (US \$ 43.3 at an exchange rate of 3.3). To the extent that a direct comparison can be done, this indicates that measured in US dollars, rural Malawi's annual per capita income in 1998 was 3.6 times higher than in 1992.

¹ The exchange rate in the period covered by the data (August 1997-July 1998) ranged from 15 to 28. An average of 25 is used.



This comparison should be treated cautiously in case the two studies had significant differences in the methodologies used for measuring income. The NSSA survey was agricultural based and therefore would have included agricultural incomes.

It also mentions off-farm incomes and most likely included these too but it is not clear whether it also included incomes from gifts and remittances and other income sources such as distress sale of assets and renting out land. It is also not clear whether the NSSA survey imputed agricultural production consumed directly by the household. The APRU survey included all these income sources.

Even if we assume that the NSSA data was only, or primarily, crop incomes, the APRU survey (estimating an annual per capita crops income of approximately MK 1,991 or US \$79.6) indicates an increase of about 84 percent in crop based incomes.² It also should be noted that typically, estimating production costs and imputing direct subsistence consumption of farm produce is a difficult and frequently subjective exercise. Examining these income figures along the household expenditure data that is less complicated to measure would increase the confidence attached to the current estimates of rural per capita incomes³.

Pauline Peters (1999) using 1997 household expenditure as a proxy household income found that around Zomba (in the Southern region) the average household expenditure was MK 3,123, (US \$124). About the same period, the APRU survey estimated that the Southern region average household income was MK 7,311 (US\$ 292). If we assume that the Zomba area is representative of the Southern region and that Peters' and APRU's estimations had no

² The per capita income of MK 1,991 is calculated from a household average crop income of MK 9,952 and the national average household size of 5.

³ The APRU survey questionnaire included a comprehensive list and measurement of rural household expenditures including food and non food items, farm inputs and expenditures on education but the data was not accessible at the time of this study.

significant methodological differences, then the difference in the expenditure and net income figures would suggest that on average rural households in the Southern region consumed 43 percent of their incomes and divided 57 percent between savings and gifts and remittances to other households.

However, since it is generally known that there is little saving among rural households, and that expenditure data is likely to be more accurate, it is also possible that the APRU survey overestimated net incomes by underestimating costs of production. If we use the Zomba expenditure data as proxy for household income and assume zero savings among rural households, and that in 1992 the Southern region's income was 54 percent of the national average (as in the case in the APRU survey), then we can conclude that at the absolute minimum, between 1992 and 1997 annual per capita incomes for the Southern region grew from MK 79(US\$24) to about MK 685 (US\$ 27) - that is, an increase of 12.5 percent.

The Zomba study also showed that the most important determinant of expenditure (or income) levels was sale of tobacco which in turn was highly correlated to land size. Other factors found to significantly increase household incomes, (but that were also more rare occurrences), included production and sale of large quantities of maize and other food crops (related to land holding), household head or son or daughter having a salaried job, and the ownership of a reasonable size successful business. However, the study also noted that successful businesses were rare, and only identified one of them (based on stall fed milking cows) in the area.

Household Incomes are highly skewed: The poorest 20 percent have extremely low incomes but it was difficult to estimate the exact level because of likely data problems in the APRU survey which indicated negative returns in the period of the survey (see table 1)⁴.

Table 1: Average Household and per capita by income group (Oct 1997 to Sept 1998)

Income groups (percentiles)	Ave. Household income (MK)	Per capita income (MK)
bottom 0-20	-1,500.8	-578.7
20-40	1,524.9	237.0
40-60	5,250.1	962.0
60-80	12,775.5	2864.3
top 80-100	45,740.2	14393.0
TOTAL	13,482.7	3884.5

Even the next group up has only an average annual household income of MK1524.9 which is only 3.3 percent of that of the top income group (45740.2). The draft APRU per capita report

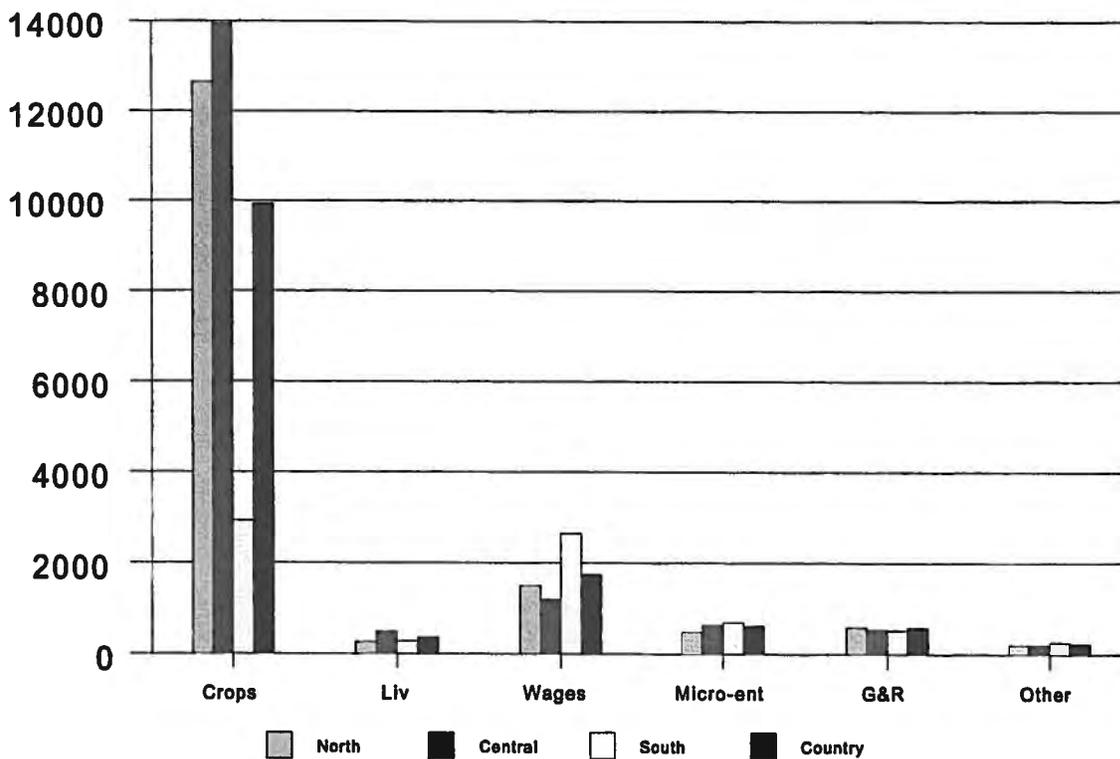
⁴ The income data for the poorest 20% needs further examination. The incomes included here cover two thirds of the year (1st and 2nd round) excluding third round in which the income variable seems to have data entry problems. Also, the negative income is not impossible but it is doubtful given that the very poor households typically grow local maize (or nothing) with hardly any use of farm inputs and therefore hardly incur any costs other than their labor which is not included in net income calculation. Also, in a good year such as 1997, some of these households will harvest some little maize from their plots, most likely eaten green early in the season.

estimates a gini coefficient 0.62. In 1992 the NSSA study estimated a gini coefficient of 0.62 for the whole country and 0.57 for the rural population.

Income Contribution of the Off-farm Sector

The Off-farm Sector contribution to rural household incomes is relatively small compared to Crop production: The major source of household income is crop production on average contributing MK 9,951 a year (see diagram 2). This amounts to 73.8 percent of average household income (MK 13,482), and is effectively the same as the 1992 NSSA estimate of 73 percent. Off-farm wage income is the distant second contributing MK1,740 (12.9% of household income) in spite of many households participating in this activity. This is especially because most of this is agricultural casual labor (ganyu) which is typically low paid.⁵ The other sub-sectors including livestock sales which contributes MK 367 (2.7%), micro-enterprises, MK 616 (4.5%) and gifts and remittances MK 582 (4.3%) are relatively small. In addition, households derive some minimal income from “other” sources, which are mostly accounted for by sale (usually distress sale) of assets and land rentals. These sources contribute about 1.6 percent of household average incomes.

Diag 2: Household Incomes by Source and Region



⁵ The APRU survey can provide information on wage rates in the different wage employment sub-sectors.

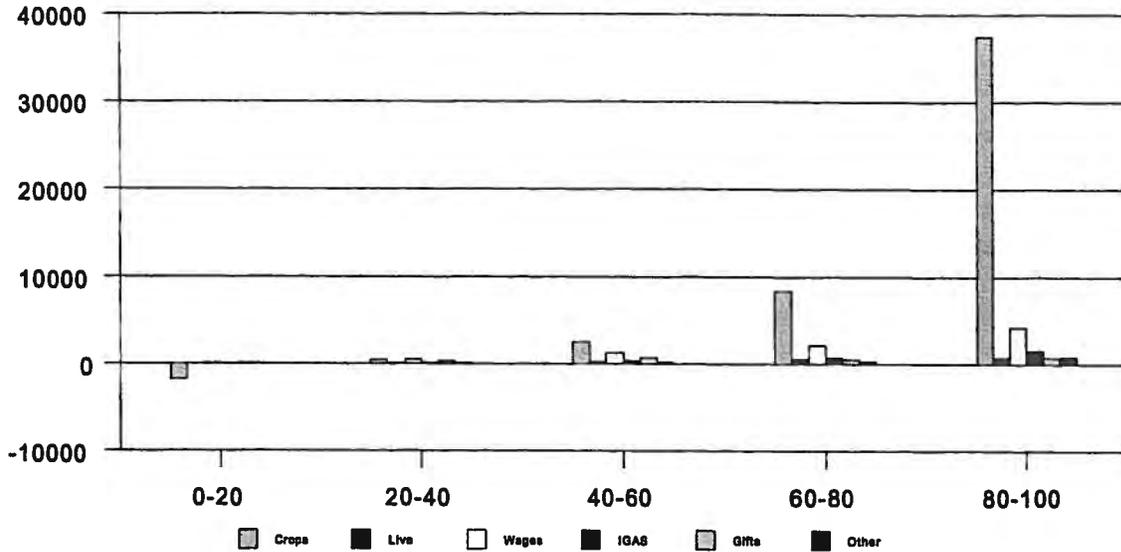
In the Central and Northern regions crop incomes are relatively high and off-farm incomes of little significance while in the poorer densely populated, Southern Region off-farm incomes are as important as farm incomes. The NSSA study estimated that the Northern Region had the highest agricultural incomes and wage incomes were equal to on-farm incomes in the Southern Region. The APRU crop income estimates the Central Region were slightly higher than the NSSA estimates, but its findings that households in the Southern Region derive relatively less income from crops and relatively more income from wages is consistent with the NSSA study. In absolute terms, the Southern region average household income from crops (MK 2,993) is only 10 percent higher than its wage income (MK 2,638). This is in sharp contrast with the other two regions. In the Central Region wage income is only 8.5 percent of crop income while in the North it is only 11.8 percent.

In the Southern Region, crop income is only 21 percent and 23 percent of crop incomes for the Central and Northern regions respectively. On the other hand, the off-farm wage incomes are much higher in Southern region. In the Northern and the Central regions, average household wage incomes (MK 1,197) are only 57 percent and 45 percent of the Southern region levels. This data makes it clear that while at the national level, and compared to farm production, off-farm incomes are relatively insignificant, in the Southern Region, they are just as important or even slightly more so. Taken together, incomes from wages and micro enterprises exceeds that from crops and livestock together by about 4 percent, and income from crops alone by about 14 percent.

In general, better off households earn higher incomes from all the main sources, including off-farm incomes, than do poorer households. For example, diagram 3 shows that household income from crops increases steadily from the lowest income group (bottom 20%) who in 1997/98 seem not to have broken even on crop production, to the top 20 percent who have as high as MK 37,383 from crop production alone. These farmers most likely grow and market tobacco.

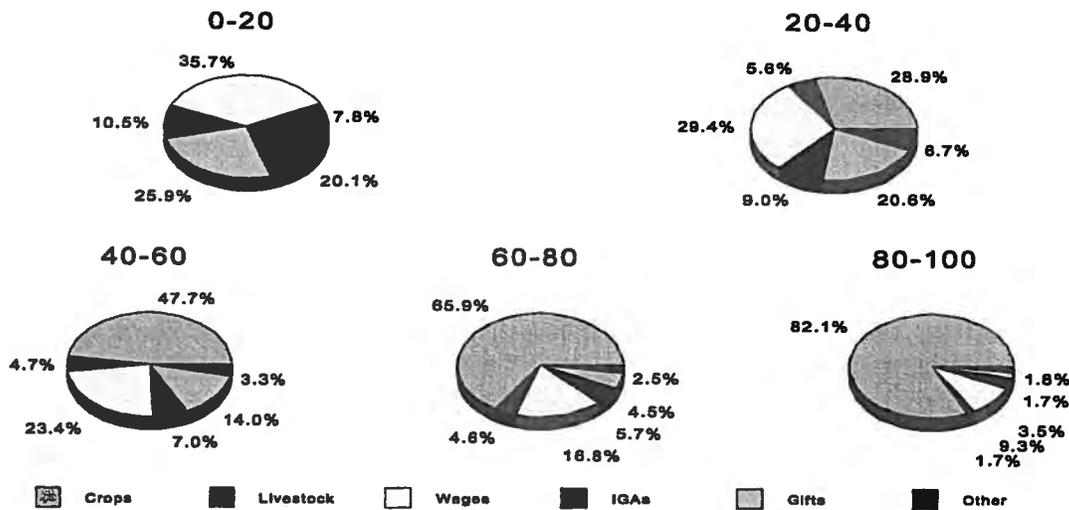
Incomes from all other sources also increase steadily from the lowest to highest income group, without any source breaking this pattern (see table 3 in Anex1). For example, in absolute terms the average incomes from wages for the poorest group is (for two thirds of the year including the peak labor season of Oct-Dec) about MK 97 while next groups up have an average annual wage based income of MK474, 1261, 2138 and 4226. Annual average household incomes from micro-enterprises increase from MK 28.4 for the bottom 20 percent income group to MK 145, 376, 720 and 1588 for the next 4 groups up. The main reason for this difference in wage income between the poor and better off households is that even though among the lower income groups more households participate in wage employment, this is mainly low paid casual agricultural labor, i.e., distress employment. The wage incomes for the higher income groups mainly come from salaried and regular jobs. The higher income groups are also more likely to invest more in enterprise development and to have larger and more profitable enterprises.

Diagram 3: Average per capita incomes by source and income group



As household income increases the proportion of their income accounted for by crops increases while that accounted for by the off-farm sector decreases. Diagram 4 shows that crop income for the poorest households is insignificant while among the next groups the proportion of income from crops increases from 29 percent in the second poorest group to 82 percent in the richest group. In contrast, the poorest 20 percent derive 35.7 percent of their meager incomes from wages (mostly casual agricultural labor) and 25.9 percent from gifts and remittances most likely from better of relatives or neighbors. The proportion of income from wages decreases as incomes increase with wage income accounting for only nine percent in the homes of the top 20 percent.

Diag 4: Proportion of income from various sources (by region)



Similarly, the proportion of total household income from micro-enterprises, sale of livestock and gifts and remittances all decrease up the income scale implying that while the absolute incomes from these more marginal sources of income are relatively low among the poor households, they are quite important to their livelihoods.

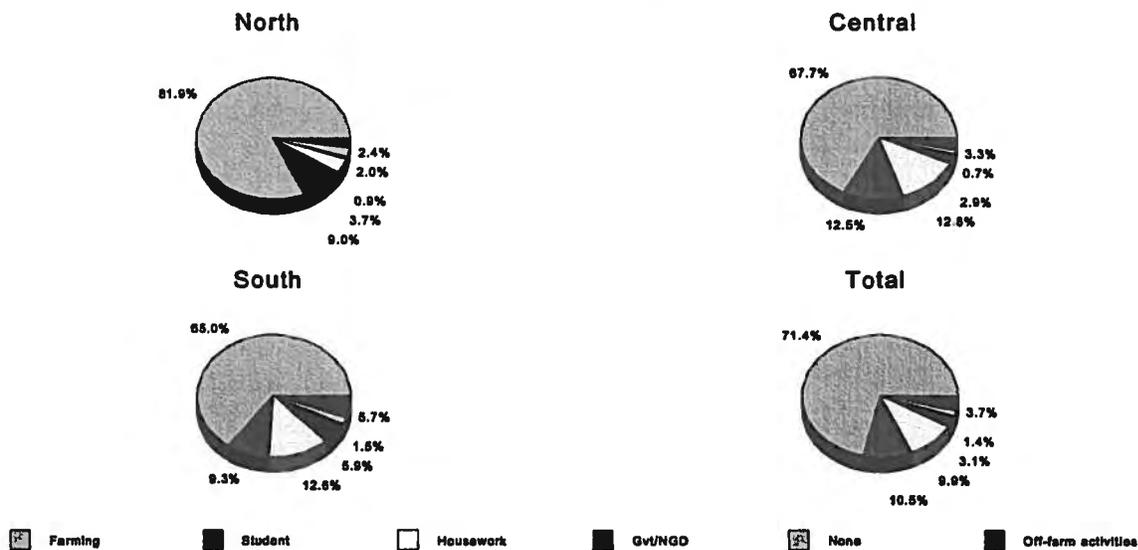
THE ROLE OF THE OFF-FARM SECTOR AS A SOURCE OF RURAL EMPLOYMENT

Rural Occupations

There are hardly any people for whom rural off-farm activities are a major occupation. As is generally known, agricultural production is the most important occupation for the majority (71.2%) of the rural population with very few people considering other activities as major occupations (see diag 5).⁶ The other major occupations are students (10.5%), housewives (9.9%), and employees. Together, the Government, the private sector and NGOs provide salaried employment for about 3 percent of the rural population. The number of salaried jobs are highest in the Southern region (followed by the Central Region) where most NGOs and government projects are located while casual agricultural labor is more important in the Central and Southern regions than in the North where more households consider farming their major occupation, and land holdings larger.

Only about 1.8 percent of the population considered casual labor of different types a major occupation. Similarly, the off-farm micro-enterprises are of little significance as major occupations. Taken together, crafts, groceries shops, rural services such as repairs (clothes, bicycles, radios), transportation, and commodity trade (crops, livestock and fish and non farm goods) were named as major occupations by about 3.7 percent of the population.

Diag 5: Major Occupations by Region



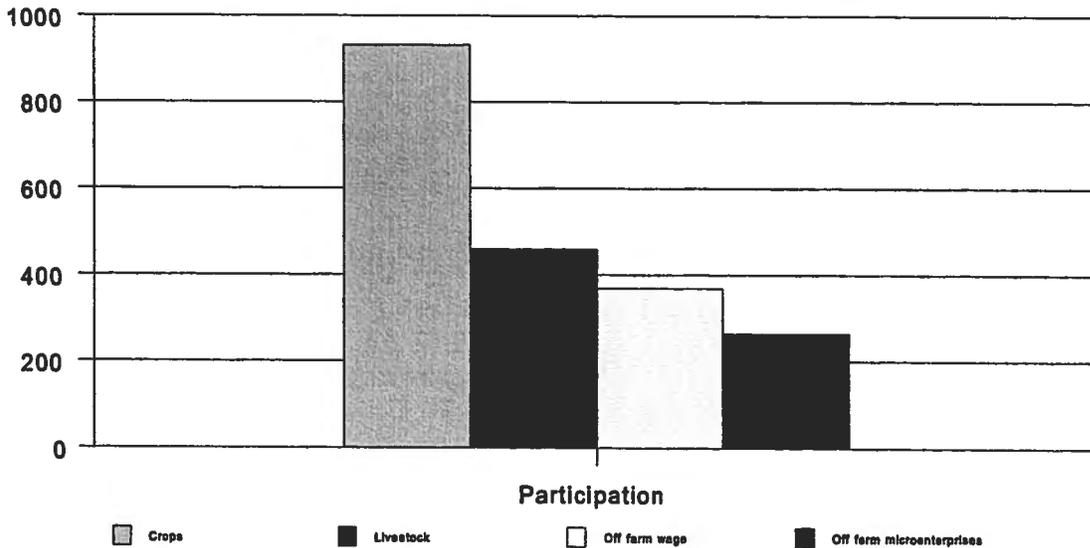
⁶ This data excludes economically unproductive people such as under age children and the chronically ill.

The rural off-farm sector becomes slightly more important as a second or third activity than as a major activity. For example, 3.2 percent and 8 percent of those with a second activity (85% of population) named rural casual (or contract) labor and micro-enterprises respectively as important second occupations. At the next level, about 16 percent of the people with a third activity (25%) named casual labor and micro-enterprises as important third activities. However, even though few people consider the off-farm sector activities as major occupations, there are relatively high numbers involved in both off-farm employment and micro-enterprises.

Participation in Farm and off-farm Activities

There are more households involved in on-farm activities than off-farm activities, and there are more households participating in off-farm wage employment than in micro-enterprises. The APRU data indicated that in the peak agricultural period (Oct -Dec), 92.3 percent of households were involved in crop production and 46 percent had livestock. At a lower level of activity participation, 35.7 percent and 25.6 percent of households respectively had at least one person involved in off-farm employment and micro-enterprises (see diagram 6).

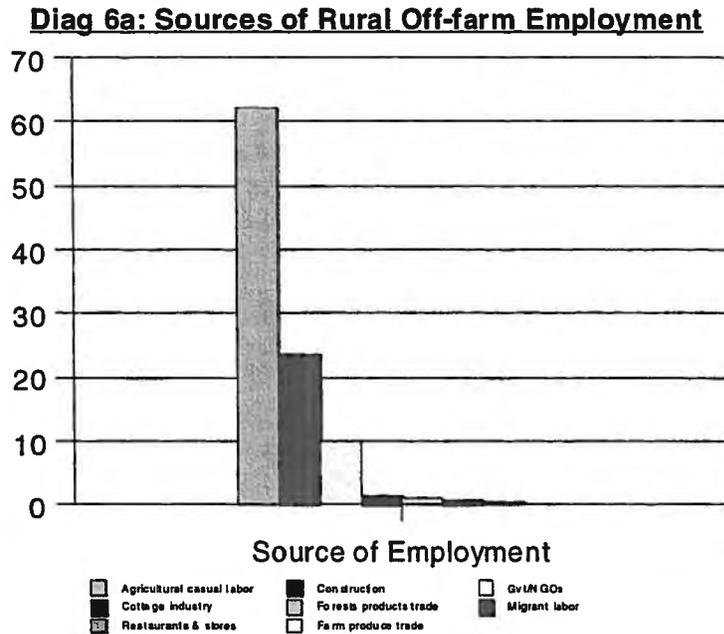
Diag 6: Participation In Farm and Off- farm Activitiles



Sources of Rural Employment

Casual agricultural labor accounts for most of rural off-farm employment. In the period of October to December/January agricultural casual labor accounts for 62 percent of total off-farm employment mostly paid in kind (see diagram 6a). The other relatively important source of wage labor is construction (23.7%) with some of the construction work related to agricultural activities. In rural areas the main construction activities are in building and

repairing houses, tobacco drying and grading barns, fish drying racks and brick molding. The Government, NGOs and churches are also significant sources of salaried employment accounting for 10 percent of all rural employment.



As a source of rural employment casual agricultural labor is most important in the Northern Region where farms are larger. In the Northern Region agricultural casual labor accounts for about 75 percent of off-farm employment while in the central region it accounts for 60 percent and in the Southern region for about 56 percent (see diagram 7). Salaried jobs account for 15 percent of off-farm employment in the Central Region, about 12 percent in the Southern Region and only 3.6 percent in the Northern Region. Construction accounts for almost 30 percent in the Southern Region, 22 percent in the Central and 17 percent in the North.

Micro-enterprises are not an important source of rural jobs. Apart from the three main sources of rural employment, all the other sources taken together including employment by owners of micro-enterprises account for less than 10 percent of total off-farm wage employment. By the definition (Livingstone, 1991) that large enterprises employ 100 or more workers, medium enterprises 50-99, small enterprises 10-49 and micro enterprises less than 10, most rural Malawi businesses are micro-enterprises. According to the 1992 DAI/Gemini study, most enterprises are owner-operated and employ an average of 1.8 workers, including the owner. Since then, while the number of micro-enterprises has grown, the sizes of micro-enterprises themselves have not grown much. For example, a survey of rural market traders (under the World bank Agricultural Markets Estate Development project) by the author found that few crop traders employ workers. Those that do tend to be traders handling larger volumes such as sugarcane, fish and second hand clothes, and sometimes butchers. Even then these traders would employ only one or two casual workers on as-needed basis (Simons, 1997).

The main sources of casual agricultural labor (ganyu) are the better off-farmers and estates especially those producing hybrid maize and the labor intensive burley tobacco. In general, the supply of ganyu workers exceeds demand and the small scale sector cannot absorb the extra labor, although this situation has improved as more smallholders take up tobacco production. Estates are the other major avenue for ganyu workers. The Estate Land Utilization Study (1996) found that, in total, estates employ an estimated 140,273 ganyu workers comprising 27 percent of all hired estate workers (see table 2 and diagram 8). The other two major categories of estate workers are tenants (52.3%) and direct workers (20.7%) who are employed on monthly or annual basis.

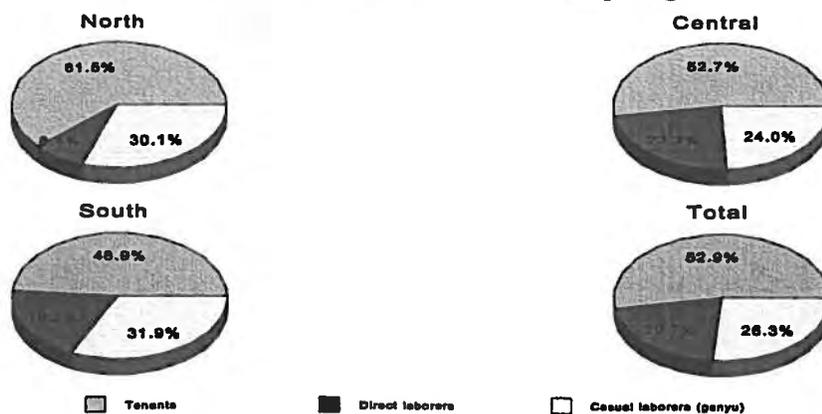
Table 2: Agricultural Estates Labor Force by Region

Types of workers	North	Central	South	Total
Tenants	37,559	18,9640	5,4617	281,816 (52.3%)
Direct laborers	5,152	83,874	21,411	110,437 (20.7%)
Casual laborers (ganyu)	18,351	86,230	35,692	140,273 (27.0%)
Total paid labor force	61,062 (11.4%)	359,744 (67.6%)	111,720 (21%)	532,536 100% 100%

Source: Estate Land Utilization study, 1996.

Overall, estates use mostly tenant arrangements but employment regimes vary by region. The Northern region estates have more tenants than do the Central and Southern regions while the Southern region estates use more ganyu laborers (see diagram 8). The Central Region offers the bulk (67.6%) of estate employment since this is where most estates are located while the Northern region employs only 11.4 percent of total estate labor force. However, estates in general pay low wages and households neighboring estates are said to be among the poorest in Malawi.

Diag 8: Types of Estates Labor Force by Region



Levels of Casual labor employment seem to be more influenced by availability of opportunities than need. This is particularly true for contract labor. For example, it is lowest in the period of Jan-March when no major agricultural activities take place, higher during Oct-Dec when land preparation, planting and early weeding takes place, and highest in April-June period when harvesting and storage activities take place (see table 3).

Table 3: Household Participation in Off-farm Employment by Season

	Survey Round 1 (Jul-Dec but mostly Oct-Dec)	Survey Round 2 (mostly Jan-Mar)	Survey Round 3 (mostly Apr-Jun)
Wage labor	24.4%	23.6%	24.5%
Contract labor	14.0%	11.2%	16.8%
Total	35.7%	34.9%	48.1%
N	1032	1399	1323

In the harvesting period the demand for contract laborers increases because they are needed to construct granaries and tobacco barns, and to repair houses after the rains.

Casual Agricultural Labor as a Rural Household Coping Strategy

Ganyu is an important coping strategy especially for the poorest households. Studies of rural household food security and coping strategies suggest that off-farm incomes particularly from casual agricultural labor are low but critical for the survival of the poor households (for example, see Devereux and Gladwin, 1999, Center for Social Research, 1999, Ngwira, 1998; Save the Children Fund 1996). Most of these studies are done on location by location or village by village basis, and show wide variations in types of coping strategies and their significance in household food security.

For example, in a Participatory Rural Appraisal study, Ngwira (1998) found that the proportion of households resorting to ganyu after own produced maize is finished ranged from 15 percent in some villages to 50 percent in others. In some households this accounted for as high as 50 percent of total household food supply in the lean period. This study also found that 30-35 percent of households also use off-farm micro-enterprises (especially petty trading activities such as selling fish, fritters, local brew) and 30-40 percent (especially in villages neighboring urban centers) engage in temporary wage employment to augment their food supplies in the hunger periods. At these times, incomes from minor enterprises adopted as a coping strategy at times accounted for more than 50 percent of household food supply.

The Government's attempt to estimate the national importance of ganyu in food security concluded that on average 21 percent of households use ganyu as a food security related

coping strategy. The APRU survey provides a close estimate of 21.8 percent of households having at least one person involved in ganyu. Also consistent with the other studies, it indicates that this is mainly an activity for the poor. However, while many households participate in ganyu, because of poor compensation, it does not contribute much to household incomes. Sometimes a worker gets only a plateful of maize husks for a days work. But there also seems to be some kind of insurance scheme built into ganyu where some employers pay little but guarantee that they will always provide work for friends, relatives or neighbors. Thus, such employees will accept extremely low payments, a situation which led Devereux and Gladwin (1999) to conclude that seeking ganyu is more a "stress" labor allocation than an income diversifying strategy. They further argued that overall economic returns to ganyu generally fall below the legislated minimum wage and is falling in real terms. The wages are neither regular nor guaranteed and the search costs are high.

Ganyu participation can erode the households livelihoods and food security of poor households, but among the poorest households it may represents more benefits than costs.

When food deficit smallholders use their labor to earn food for today by working on a neighbors farm, they forgo opportunities to grow food for tomorrow by weeding and tending their own fields. However, rural Malawi labor studies (e.g., Alwang and Siegel, 1997) and calculations done in this study suggest that majority of rural households with limited land sizes are unlikely to have agricultural labor constraints. Conceivably, there can be farm labor shortages in normal size households with small holdings because very poor households may spend relatively large amounts of time just looking for food while their labor supply is further diminished by high incidence of illness. For such households, taking their labor away from own production inevitably leads to lower yields and further dependence on ganyu the following year. Thus, on the one hand, where labor scarce poor households are concerned, ganyu exacerbates their situation by redistributing labor from the poor and hungry to the already food secure households. On the other hand, there is no doubt that ganyu performs a vital informal safety net function in that it is most available in times of peak economic and nutritional stress each year.

THE MICRO-ENTERPRISE SECTOR

Participation in Rural Micro-enterprises

Rural micro-enterprises seem to have grown through the 1990's. In 1992 the DAI/GEMINI study recorded 570,000 micro, small, and medium enterprises (MSME) and estimated that together these employed 1 million people (about 10% of the population) of which 90 percent were in rural areas. In 1997, a national labor survey (Alwang et al.) concluded that after smallholder agriculture this sector could make the second biggest contribution to employment creation in the next 10-15 years. The APRU survey indicated some growth in micro-enterprise participation over the last 7 years. The survey found that about 30 percent of households had micro-enterprises in the period of April to June (also when wage employment is high) and that throughout the year over 25 percent of households engage in these activities (see table 4). Also, in the busiest period many households have second

(14.8%) and third (1.5%) micro-enterprises. Micro-enterprises alone account for about 15 percent of total rural labor force over 15 years old.

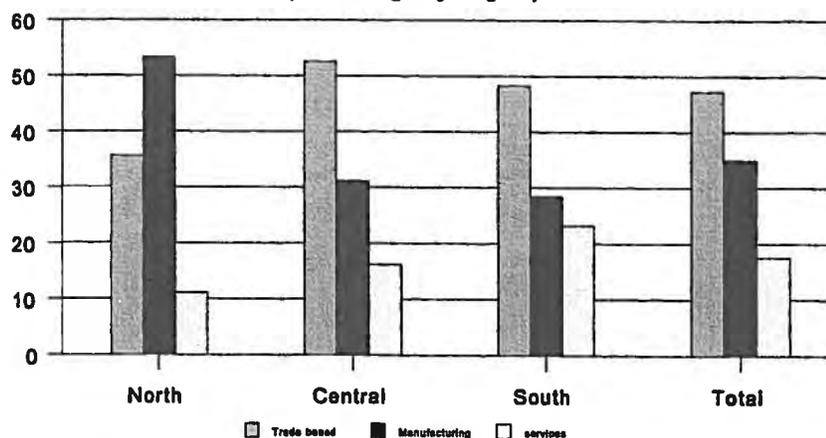
Table 4: Household participation in off-farm micro-enterprise by season

%age with:	Round 1 (Jul-Dec) but mostly Oct-Dec	R2 mostly Jan-Mar	R3 (mostly Apr-Jun)
1 enterprise	264 25.6%	393 28.1%	414 30.3%
2 enterprises	6.8%	6.9%	14.8%
3 enterprises	1.4%	3.8%	1.5%
N	1032	1399	13

Trading is the most popular micro-enterprise activity. The DAI/GEMINI study found that in 1992 trading accounted for 52 percent and manufacturing 43 percent of all micro enterprises. Trade involved agricultural and non agricultural goods while manufacturing primarily involved making local brews, and cane and bamboo products. Ngwira (1998) concluded the same on the dominance of trade-based rural enterprises and that local brewing was by far the most common primary commodity processing activity in all the five rural villages he studied.

Consistent with these observations, the APRU survey indicated that, nationally, trading was the most common activity accounting for 47.3 percent of all enterprises while manufacturing and services respectively accounted for 35 percent and 17.6 percent (see diagram 9). Micro trading alone accounts for about 7 percent of the total rural labor force over 15 years old. Trading enterprises trade in crops, forest products, fish, livestock and non-agricultural goods). Service-based micro-enterprises include repairs, restaurants and miscellaneous semi-skilled labor services, some limited transportation activities while manufacturing activities include local brewing, crafts, tinsmiths, masons, baking with little maize milling.

**Diag. 9: Households with Various types of Micro-enterprises
(Percentage by Region)**



Trade-based micro-enterprises are more common in the Central and Southern regions while manufacturing based ones are more common in the Northern region. For example, in the Central region trading accounted for more than half the micro-enterprises while in the North manufacturing accounts for over half and services for only 10.5 percent.

Features of Trade-Based Micro-Enterprises

Trade in Local Markets:

Trade-based micro-enterprises, although still very small in terms of total employment and income generated, seem to be vibrant and growing, especially as result of liberalization policies and smallholder tobacco production. A sample survey of traders in 4 rural markets across the country (conducted by the author towards the end of 1997) indicated that:

- Rural market traders tend to be young males and females, who tend to specialize in trade but maintain some minimal levels of farming and other employment activities.
- 30 percent of traders had started trade after 1996 and 40 percent had changed commodities in response to supply and demand conditions, and were trying to maximize their profits.
- Similar to findings by Ngwira (1998), trade in commodities such as vegetables, beans, roots and tubers and second hand clothes, had increased significantly in the previous three years but there was no evidence that maize trade had increased.
- Retail trading seemed to be more an alternative to farming than an extension of farming. The majority of the traders fell into the landless categories while the rest came from land poor households averaging 0.1 hectare per capita.
- Agricultural produce dominates rural markets by far with extremely limited natural resources products being traded (see inventory of markets in volume I of the same report).
- According to traders, business was good and improving. For example, 60 percent of traders reported expanding business in 1997, 15 percent that business had remained the same, and 23 percent that business had declined in the same year.
- Business expansion came mainly from changing commodities and better profits, and to a lesser extent from traded volumes. The main constraints to increasing volumes were lack of working capital and high transport costs.

- Traders of agricultural goods tended to buy and sell small quantities mainly because many of the commodities were perishable but also because traders of agricultural goods work with limited capital compared to butchers or clothes and grocery traders.
- The most profitable enterprises were those that sold in larger quantities including clothes, sugar cane and fish but fruits were profitable even at low traded volumes.
- The average profit per trader (from one load of commodity which could be sold over several days) was MK 334 but the range was wide both in terms of volumes and profits. For example, traders of meat, clothes, groceries and to an extent fish traded in larger quantities than did traders of crops.
- About 75 percent of the rural market traders were retailers, 20 percent wholesalers, while intermediaries were few.
- Traders specialized mostly in one, but sometimes two or three commodities.
- Local markets nearest to home provided the most important outlet for local retail traders, with only 20 percent of them selling in more distant markets.
- 87 percent of local market traders walked to the market covering an average distance of 2.7 kilometers but they travel further (average of 36 kilometers) to find commodities for sale especially those located in smaller markets where no wholesalers trucks brought commodities.
- The most important source of commodities for small traders was other larger traders (61%) followed by purchasing directly from farmers. Only a few sold produce grown on their own farms or by themselves.
- While fewer people go to farms for their commodities, those who do buy in larger quantities. For example, 40 percent of agricultural produce was bought directly from farms, 37 percent from wholesalers who brought produce to local markets, and 23 percent from other local markets.
- Local retail traders primarily sold to local households for direct consumption which meant that prices had to be kept relatively low.
- Traders were doing better in areas where local Government had opened new markets and increased market days because some (about 20% of all traders) periodically moved to markets located in commodity scarce areas. Another study by Janis Evans (1997) indicated that trade had improved and number of businesses increased in areas where smallholders had adopted tobacco because this increased effective demand significantly.
- Traders with access to vehicles typically bought directly from farmers, bought large quantities at a time, moved commodities over long distances and served multiple rural markets and urban centers. This for example was the case in Lizulu market on the

Lilongwe-Blantyre road. However, the large traders in this border market were mostly from the Mozambique side of the border.

- Traders said they would like improved market place shelters and market conditions such as water and toilets but the study found that these were not binding constraints and that the main determinants of traded volumes (and profits due to economies of scale) remained the level of effective demand in local communities, access to operating capital and transport costs.

Cross-Border Trade

Malawi is actively involved in cross border trade with her neighboring countries and most of this trade is unrecorded and done by small traders through informal channels. Cross border trade between Malawi and its neighboring countries including Mozambique, Zambia and Tanzania is sizeable but mostly informal and unrecorded (Minde and Nakhumwa, 1998). The most significant activities are between Southern Malawi and Northern Mozambique where Malawi exports sugar, used textiles and food grains and imports potatoes, vegetables and food grains. From Zambia, Malawi imports fertilizer and used textiles and exports sugar, food grains and potatoes with a trade balance in favor of Zambia. From Tanzania it imports textiles and electronics and exports sugar beer and spirits with a slight trade balance in favor of Malawi. In total, cross border trade studies estimate that Malawi's cross border is vibrant and continuous. In 1996, Malawi's informal trade amounted to a trade balance of negative US\$ 16.7 million (Okello-Ogutu, 1998).

Cross order trade has many advantages for Malawi. For example, Devereux and Gladwin (1999) examining food security and cross border trade effects noted many benefits associated with:

- Increased market food availability and increased access due to cheaper food prices in Mozambique.
- Increased labor income with some border villages having as high as 75 percent of households with someone doing ganyu in Mozambique, and 2-4 percent of Malawians from border villages migrating to Mozambique each year.
- Increased trade in consumer goods delivered to Mozambique by thousands of small Malawian traders.
- Food traded between Mozambique and Malawi sustains border village households for 4-5 months a year.
- In 1995/96 about 21,000 metric tons were moved informally across the borders without Government involvement and cross border trade contribution to employment and income was valued at about 1.2 percent of GDP (at 1995 market prices)

Studies on cross border trade have all concluded that cross border trade is beneficial for Malawi and should be stimulated. Bilateral Malawi-Mozambique trade agreements that facilitate rather than control informal cross border trade have positive impacts on the livelihood of people in Southern Malawi (Whiteside, 1998). The results of regional cross border initiative under COMESA (Common Market for East and Southern Africa), SADC (the Southern Africa Development Community) and IOC (Indian Ocean community) will have important implications for Malawi. Unfortunately, these initiatives do not explicitly recognize informal trade despite growing knowledge of its significance to all countries involved (Devereux and Gladwin, 1999; Minde and Nakhumwa, 1998; Okello Ogutu, 1996).

Manufacturing

Empirically manufacturing is more important at the national level than at the rural level. Large Scale manufacturing is more important at national projected growth rate of 8.4 percent (Hamid et al. 1997). For example, the national labor study noted that even if manufacturing grew at the projected rate, it would take 30-50 years before it can replace agriculture as a long-term generator of employment.

In rural areas, manufacturing activities account for about 35 percent of micro-enterprise participation (about 25% of households) and employs about 3.5 percent of the economically productive rural labor force over 15 years old. Rural manufacturing involves minor activities mainly comprised of brewing, crafts, baking, tinsmiths and blacksmiths. The APRU survey and the studies reviewed here (for example, DAI/GEMINI, 1992 and Ngwira, 1998) indicate that over the years local brewing remains by far the most common single activity and this tends to be dominated by the middle income groups. Other countries such as Kenya and Uganda have made significant progress in processing agricultural commodities such as maize, sorghums and millet for the animal feed industry and cassava flour and dried bananas for human consumption in urban centers, and in turn stimulated rural production. Malawi has done little in this direction.

In terms of popularity, local brewing is followed by crafts and then baking. At the very rural level most crafts work involves making wood carvings, baskets, motors and pestles and farm implements using forest materials (Simons, 1997a). While most of the other products are consumed locally, Malawi's wood carving business is more oriented toward urban markets. Some traders have produced high quality crafts selling on a small scale but competitively particularly in South Africa's tourist markets (Simons, 1997). Otherwise, most of Malawi's crafts are said to be of limited range and quality.

Services

At the national level the services sector contributes highly to GDP but at the rural level service-based micro-enterprises are the least common. Nationally all services (formal and informal) contributed 42.9 percent of GDP in 1995 compared to agriculture GDP contribution of 39 percent (Hamid, et al. 1997). However, at the rural level the APRU survey

indicates that services are the least common type of micro enterprises accounting for less than 18 percent of total micro-enterprise participation. The rural services sector mainly comprises repairs of radios, shoes, bicycles, tailoring, restaurants and tea kiosks, transportation (mainly hiring out boats and bicycles with few vehicles operating at this level). This study has also included under services selling of semi-skilled labor for contract jobs such as digging latrines, building tobacco drying and grading sheds, molding bricks, drying fish, and building houses. If these were categorized separately under "building and construction" then the rural services sub-sector would be relatively insignificant in terms of number of people involved. The APRU study suggests that at the moment rural services including building and construction account for 1.34% of the rural labor force as defined in this study. The 1997 labor study (Hamid et al) predicted that the construction and buildings sub sector could grow sharply with high levels of fixed capital investment in rural areas, development of irrigation and infrastructure for agricultural development, and adoption of labor intensive technologies in building and construction for example through public works programs. In general, the economic growth and job creation in the private services sector will depend on the growth of the primary sectors - agriculture and manufacturing.

Constraints to the Growth of Rural Micro-Enterprises

The most critical constraints facing current and potential rural entrepreneurs are limited capital to start and to operate businesses, high transport costs that affect both the demand and supply side of enterprise development, and insufficient effective demand due to low rural incomes. Lack of capital for initial investment means that the enterprises are small, lack economies of scale and therefore have high costs and minimal profits. It is commonly observed that the start of most rural off-farm enterprises are financed with savings from agriculture (see the WB strategy, 1997 and Ngwira, 1998). Households then use earnings from off-farm activities to buy inputs (in the case of better off households) and food (mostly by poor households). However, having done it initially, there does not seem to be continued reinvestment of returns from the farm or from business earnings back into the business. Consequently, off-farm enterprises remain small and stagnant.

For the vast majority of rural households with low incomes, operating larger businesses requires credit or some other source of business financing such as linkages with larger firms. However, without higher agricultural incomes and particularly a marketable cash crop, or some other means of household support, even micro-enterprise credit may not help the long term growth of enterprises much. Earnings from micro-enterprises will continue to be diverted to the immediate needs of the household instead of being reinvested in business. In addition, currently competitive credit is not a realistic consideration for poor rural households. Few rural businesses can make sufficient profits to repay credit at current market, or even slightly below, market interest rates and continue running their businesses. This, for example, was the disillusioning experience by Action Aid in the micro-enterprise component of their food security program. Now Action Aid is revising its approach and rethinking its role in providing credit.

Limited effective demand by rural households results in a situation where potential entrepreneurs will not start enterprises such as manufacturing and processing or nonessential services in rural areas because many rural household cannot afford to buy their products. Poor people simply cannot afford to buy much more than absolute essentials. For many families this amounts to food and to some extent clothing and medical expenses. This discourages potential entrepreneurs from operating in deep rural areas and consequently several projects supporting the off-farm sector have seen better progress in urban or near urban areas. Until rural households have higher incomes and effective demand, such potential entrepreneurs must be located in centers where there are more people with money and interest in their goods and services. Alternatively, they could have strong links with domestic urban markets, larger businesses, or with outside markets. Apart from the progress made by the NASFM project, linkages to the urban centers are weak especially because of high transport costs, lack of market information while linkages with export markets are rare. The possibility of outside linkages are greatly limited by poor infrastructure and communication which make rural areas inaccessible to potential buyers and increases transport costs for potential traders. In addition, the ministry of commerce and Industry notes that the generally low quality of many local products is an additional constraint to expansion of trade outside trade boundaries.

Rural Malawi's services industry is small and comprised of activities such as repairs of radios, bicycles and clothes without much in terms of transport services. Transport business among rural households and communities amount to individuals with bicycles or small canoes which they hire out to traders who then can only move small quantities of commodities at a time. Most of the traders walk to their market place. It would be extremely beneficial for people with vehicles to operate at rural levels but this is not likely to happen in any sizable scale until the transport costs are lower and there is sufficient demand for transport services. What typically happens is that few urban based truckers move to rural areas at the harvesting period to buy produce, but even these are relatively few and many of them are from neighboring countries. Few Malawi businesses have the capital to invest in trucking business but should this happen it would have a huge impact on rural trade and incomes. Although it is clear that liberalization policies have been beneficial for domestic smallholder agricultural trade, several studies have observed that in general Malawi's trade policies have focused on large businesses and firms, and largely ignored or hurt medium, small and micro-enterprises, and informal cross border trade.

Compared to other African countries, Malawi has a relatively low representation of women in micro-enterprises. In other countries women have been critical promoters off rural off-farm sector activities and trade in general. Further analysis of the APRU data could provide a good understanding of the significance of gender in rural micro-enterprise development and provide useful insights on why women's involvement is generally lower than in other countries.

Theft is also a major problem in rural micro-enterprise development and trade in general. This is a phenomenon of the 1990s. Previously it is said that there was little theft in the rural areas of Malawi. Currently many traders have had to change their operations, for example, choosing to operate as hawkers rather than have a store or a shop that might be broken into.

While previously traders might have left their goods in the market over night and save on transport costs, now many traders have to carry their unsold goods home or stay over night at the market to guard them (Simons, 1997b).

Other important constraints to rural micro-enterprises are associated with general lack of technologies and low levels of formal education and business management skills. In its effort to design a program for MSME and cooperatives development, the Ministry of Commerce and Industry noted that Malawian culture and history can be a serious hindrance to progress. Many potential entrepreneurs have limited attitude towards business and many lack the level of motivation and imagination that is necessary to make profits. A history of agriculture and migrant labor with little trade, and a repressive political regime perhaps could explain why many Malawian people seem to have an extremely limited vision about what is possible in business.

RURAL HOUSEHOLD LABOR SUPPLY, DEMAND AND TIME ALLOCATION

Labor Supply and Demand

There is little agreement on whether household labor is a critical constraint in Malawi's rural households. Based on population, land size and level of economic development many studies argue that rural Malawian households have surplus labor and advocate labor intensive development activities. For example, Alwand et al. (1997) in a rural agricultural labor study estimated that on average a household has sufficient labor to work 1.5 to 2 hectares of land, and that household labor becomes a constraint only when the land exceeds 2 hectares. But in fact about 90 percent of rural households have less than 1 hectare of land. On the other hand, many studies have identified labor shortage as a major constraint to agricultural production and agricultural based incomes. For example, studies on agricultural intensification, food security and safety net programs argue that labor is a major production constraint especially among the poorest and female headed households. Estimates made in this study suggests that many rural households have surplus crop production labor that could be used for livestock production or off-farm micro-enterprises.

Land poor households growing primarily unfertilized local maize varieties have surplus production labor while better off households growing tobacco and hybrid maize may be slightly labor deficit.

Estimating Household crop labor demand. The 1997 labor study (Siegal et al.) estimated the labor requirements for some common crops (maize, tobacco, cotton, soy beans and groundnuts) and different levels of technology. It concluded that production of unfertilized local maize varieties (common among the majority of the poor households) was the least labor demanding (about 43 person days per hectare per year). This suggests that land poor households, for example, with less than one hectare and normal family size are likely to have surplus agricultural labor. Tobacco production is the most labor demanding (about 365 person days per hectare per year) such that households with over 2 hectares of land

(estimated to be about 6%) and growing tobacco are likely to be labor deficit especially if they do not allocate all their family labor to farm production. Using this crop labor demand data and stylized cropping patterns for different land holdings, this study estimated that an average rural household's crop labor demand is about 110 days a year but the range is wide based on land holdings and cropping patterns.⁷ For example, a household with 0-0.5ha and growing primarily unfertilized local maize varieties and a few other crops needs about 53 person days a year while those households with more than 2 hectares and growing primarily tobacco, some fertilized hybrid maize and a small amounts of other common food crops needs approximately 495 person days per hectare per year. To estimate the number of days that could potentially be deployed to off farm activities and livestock 355 days of household chores are added to the crop labor requirements⁸. Then, on average a household needs 465 days on the major activities (crop production and household chores) with the smaller low technology farmers needing less (408) and the larger high technology farmers needing more (850).

Estimating Household Labor Supply. According to the 1992 NSSA data (reported by Siegal et al.), on average male-headed households have about 3.0 adult equivalents while female-headed households have about 2.5. Seven years later, the APRU data indicates that on average rural households have 4.8 adult equivalents, with the smaller landed households (0-0.5 and average of 0.3 ha) having 3.8 and the larger holding (over 2 ha and overage of 4.3 ha) having 5.2 adult equivalents. The observation that poorer households have lower labor supply is consistent with the common understanding of rural households differentiation in economic resources. However, while household sizes must be growing, the increase in current household labor supply (from an average of 2.5-3.0 to 4.8 in 7 years) seems unlikely.⁹ In any case, even the lower 1992 figure suggests that on average rural households have about 868 person days a year. Given the estimated labor demand, under normal circumstances the majority of households with small holdings and concentrating on crop production, should have surplus farm labor to use in livestock production or off-farm activities.

Rural Household Time Allocation

Households with livestock would have less time to spend on off-farm activities. Consistent with this estimation, the APRU survey shows that on average households with livestock spend more time on this activity (126 days in a period of 3 months) than they do on crops (80 days in the same period). As would be expected this suggests that livestock production (an all year activity) is more labor intensive and therefore that households with livestock would have less time for off-farm activities (see table 5).

⁷ A more precise figure on household labor requirement by farm sizes and for different types of households could be obtained from the APRU 1998 survey.

⁸ The estimation of time spent on household chores is based on several studies (for example, Gacheke Simons, 1998, 1997; 1993) and typical rural women time patterns.

⁹ It is more likely that the APRU enumerators or questionnaire had a systematic upward bias (which could be corrected) in converting household members to adult equivalents than in observing household size and ages.

Table 5: Household Average Number of Person Days Spent on Farm and Off-farm Activities (in 3 month peak agricultural season)

	On own Farm		Off-farm	
	Livestock Person days	Crops Person days	Wages Casual agric and other jobs)	Income generating activities
By season				
JUL-SEPT	107	25	38	12
OCT-DEC	126	80	38	20
Male Headed	125	77	38	21
Female Headed	127	81	38	20

The number of surplus days decreases as land holdings increase so that the bigger landed tobacco and hybrid maize producers just about equate their family labor supply to demand. This is assuming that the better off household used all family labor on the farm and household chores which is unlikely. Instead, richer households tend to be agricultural labor deficit because they allocate more time to other activities and may have lower preference for agricultural labor. This situation creates opportunities for casual agricultural labor employment in smallholder better off farms. However, given land and wealth distribution in Malawi, casual labor employment created by the few better of smallholders falls far short of wage labor demand by the majority of poor households

On average rural households spend less time than they could on off-farm employment and micro-enterprises. Overall, the labor supply-demand conditions in rural Malawi and the APRU survey observation on actual time spent in various activities suggest that on average households without livestock (just over 50%) may have as much as 432 person days a year for non crop activities, while households who in addition have livestock have less surplus days. The APRU survey further indicates that the households undertaking off-farm employment (about 37%) spend about 150 days a year on this activity while those involved in micro-enterprises (about 25%) may spend about about 100 days a year on this activity. The APRU data also suggests that on average more households than are actually participating in off-farm activities could afford the time to do so, and those households already doing it could afford to spend more time on off-farm activities than they actually do. For example, off-farm micro-enterprise activities are for most people done for short periods at a time, at a frequency of few times a week and for about 2 to 3 hours each time, especially because they deal in small quantities.

The overall conclusion on household labor situation and time allocation is that there are many households with unutilized labor that could be used for off-farm income generating activities without affecting agricultural production on their own farms, especially for the

more than 50 percent of households without livestock. There also may not be time competition with labor supply to better off labor hiring smallholders because demand for workers exceeds supply. Instead, availability of other off-farm activities would put upward pressure on ganyu wages. Consistent with this conclusion, the national labor study (Hamit et al. 1997) concluded that "the vast majority of the labor force in Malawi is visibly and invisibly underemployed - working less than the normal duration of work, that is, either less than 40 hours (especially households with farms less than one hectare) a week, or less than 11 months a year. The limited rural participation in off farm activities by labor surplus households (especially in areas without estate employment), and the limited contribution of this sector to the rural economy primarily results from highly binding non-labor constraints.

IMPLICATIONS FOR USAID SUPPORT TO OFF-FARM ENTERPRISE DEVELOPMENT IN RURAL AREAS

Current National Programs to Develop the Rural Off-farm Sector

In early 1998 the Government of Malawi started the process of formulating a national strategy and institutional structure for the development of the off-farm sector (Ministry of Commerce and Industry, 1998). The focus of this effort is the development of medium, small and micro-enterprises (MSME) and cooperatives under the Enterprise Development and Employment Creation (EDEP) program now hosted by the Ministry of Commerce and Industry. The five major components of this program are principally geared toward addressing the main constraints inhibiting the growth of this sector: 1) Policies, coordination and advocacy and institutional capacity building; 2) entrepreneurship development and skills training; 3) credit and the development of micro-finance initiatives up to District level 4) marketing and market information; and 5) appropriate technology development. Initially this program was for four years supported in-house by UNDP and was only recently passed on to the government with guidance on how it should be institutionalized and developed into a national strategy.

The most conspicuous characteristic of this program is its plan to bring together existing efforts and to work principally through a wide range of institutions including the private sector, NGOs and national associations throughout the country, with the Ministry of Commerce and Industry playing a coordinating role and leading the policy and advocacy component. For this purpose, the ministry's small cooperatives development unit (under trade and industry) has been expanded to a full division covering cooperatives and medium, small and micro enterprise development, and headed by a director. The program has evaluated capacities and identified 15 institutions that could potentially participate. At the moment, there are 11 participating institutions each with a specific responsibility for leading the implementation of particular components based on interest, experience and comparative advantage. For example, the Malawi Entrepreneurship Development Institute and the Development of Malawi Trust (DEMATT) are leading the entrepreneurship and business skills training. The Malawi Export Promotion agency is leading the marketing component and its activities have been expanded to include domestic marketing. The Malawi Institute of

Technology and Research Development Center with a training center in Blantyre is leading the technology and productivity component and has activities under way. The Ministry is in the process of finding (though local and international advertising) an institution that can lead the microfinance component and MUSCCO is one of the bidders. All these and many other institutions are involved in institutional capacity building. In this respect there has been substantial progress in setting up the institutional structure for implementing this program and some limited activities under each of the components has already begun. However, there is no national strategy yet and this may not be complete until October 1999.

Programs focusing on non-farm activities are relatively few compared to the agricultural development programs and projects. Among these is a newly programmed Private Sector Initiative Support program by DANIDA that will focus both on farm incomes and off-farm enterprises working through and building on the experiences of FINCA, NASFAM and MUSCCO. Its focus will be a private sector led provision of micro-finance facilities and technical support. Other donors funding off-farm development activities include GTZ, DFID, ADB and the World Bank.¹⁰

The Impact of USAID's Current Strategy

USAID has had an impact through increasing market participation and effective demand from rural households. USAID has had a significant impact on the growth of the rural off-farm sector through the 1990s. This has come first through its contribution to agricultural liberalization in general, and by promoting the production of burley tobacco by smallholders and the historical increase in rural household incomes. Agricultural liberalization has resulted in many new entrants (including tobacco intermediate buyers) into rural trade, especially since the mid-1990s. Increased rural household incomes have in turn increased effective demand for off-farm goods, with traders located in areas of high tobacco production reporting the best experiences. Agricultural incomes are also important for the initial financing of businesses. However, Malawi still has a long way to go in terms of achieving an economically vibrant rural off-farm sector. The positive trends associated with liberalization of the economy are just beginning and at the national level the economic impact of rural micro-enterprises is extremely low. For example, micro-enterprises provide less than 5 percent of rural incomes.

The impact is relatively small especially because, in spite of the growing number of entrants into business, traders continue to operate at extremely small scales and their profits are marginal. Also, the impact of tobacco incomes is limited by the fact that not many rural farmers have access to the modern technology and land necessary to grow and market tobacco successfully. However, the tobacco experience has demonstrated the importance of having a profitable cash crop. USAID's support of less land demanding marketable commodities would mean that smaller landed households could have a chance to increase their farm incomes. The purpose of such a move is to create the critical mass (of households buying off-farm products) that is necessary to have a significant impact on the growth of rural enterprises. At the moment, the numbers growing tobacco may not constitute the critical

¹⁰ See the attachment to this annex for a more detailed description of the DANIDA project.

mass required to create a vibrant rural off-farm sector. Without other high impact commodities like tobacco, rural effective demand for goods and services produced off-farm will continue to be very limited. However, even with increasing rural demand, for the off-farm sector to grow substantially and be a major source of rural incomes, outside demand for rural products will be necessary.

Encouraging Outside Demand for Rural Products and Injection of Capital into Rural Areas

USAID could help develop rural enterprises by encouraging outside capital and business investments in rural areas. For example, manufacturing companies based in urban areas or outside Malawi could obtain raw materials from rural areas by making arrangements with local communities. Such communities could get contracts to produce, assemble or do some basic village level processing of raw materials. Opportunities might exist in the manufacturing of animal feeds (an industry that is at this point highly undeveloped) or in making processed baby and adult foods for urban consumption. These could be good diversifications from local brewing which is and has been for a long time, the dominant local processing activity in rural Malawi.

USAID's experience with NASFAM could be insightful in establishing possible mechanisms for linking able farmers and traders with larger business supplying urban or export markets. With sufficient demand, local communities could engage in the production and processing of primary agricultural products such as maize, cassava, sweet potatoes, soy beans and sorghums and millet or chilies and capitalize on surplus labor. This would further stimulate on farm production and incomes. In this regard, it is worth investigating the major constraints specific to village level processing. The recently started and successful community based production and urban marketing of wild fruit juice from Mwanza District could provide useful insights on this approach.

Reducing Supply Side Constraints

USAID could also support rural enterprise development by helping mitigate supply side constraints such as lack of start up and working capital, high transport costs and limited technology and entrepreneurial skills. Lack of capital and high transport costs result in small local operations and marginal profits. General lack of technology and business skills results in limited product range and quality. Lack of capital could be addressed through credit facilities, encouraging outside capital through rural investments, links with larger firms or operations, and general increase in agricultural incomes. Several efforts to provide micro-enterprise credit have found this a difficult task because few businesses are able to make sufficient profits to service credit at commercial rates. Any efforts in this direction could be faced with the same problem unless prepared to provide credit at well below market interest rates.

Poor rural infrastructure and high transport costs could greatly discourage any interest in outsiders interest in investing in rural areas or in urban centers that could have strong linkages with rural communities. Any support to improving rural roads , encouraging the growth of the transport and truck business and less restrictive commodity movements would improve this situation. Improvement in transport and low transport costs in itself could have a large impact on trade even at the local levels. For example, where working capital may not be a serious constraint, rural traders working at local markets, and especially those trading in agricultural commodities, could handle larger volumes, capitalize on economies of scale and increase their profits and incomes. Traders would also increase the radius of their operations rather than limiting their business to the local markets nearest their homes. It is worth investigating the growth of transport and vehicle repair services in rural towns located in high agricultural production areas, and promoting that transportation regulations that do not inhibit commodity movement across the country and with neighboring countries.

Traders of manufactured goods such as crafts have an additional problems. They not only deal in a small range of products marketed at very local levels, but they also generally produce products of low quality. They lack equipment to work with and both technical and entrepreneurial skills. Opportunities may exist to improve the range of products through skills training and support with the tools that are needed for this business. People doing crafts might also benefit greatly from exposure to other countries such as Kenya and Zimbabwe where this business has made tremendous progress. At a limited scale, Malawi has been able to produce wood carvings of high quality and that are competitive in South Africa's tourist market. Most likely the local carvers get support and direction from businessmen from South Africa. However, some earlier communication with South African crafts traders operating in Malawi suggested that border laws are limiting this trade and that not much was being paid to the Malawian carvers. Such groups of carvers could benefit from forming a carvers association which might help in coordination and price bargaining. The domestic tourist trade might also offer opportunities for the growth of the crafts industry. With the high levels of forest degradation, many potential entrepreneurs in the crafts business lack materials. To address this problem, a partnership arrangement for sustainable harvesting of materials in forests that are not highly degraded could be made, for example, between a craftsmen association and the Forestry Department

On cross border trade USAID could support policies that promote, rather than control, cross border trade since this has many trade, employment, income and food security benefits for Malawian households, including the poor and the better off. Cross border trade between Southern Malawi and Northern Mozambique is particularly important. For this purpose, USAID could participate in the new regional cross border trade initiatives under COMESA (Common Market for East and Southern Africa), SADC (Southern Africa Development Community) and IOC (Indian Ocean community). At this point, these initiatives do not explicitly recognize informal trade.

Growth of the transport industry, improved rural-urban linkages and growth, and legalization of informal cross border trade will not only mitigate supply side constraints but also increase demand through the involvement of traders and consumers outside of rural areas. Increasing agricultural incomes increases demand for off-farm goods while business growth, especially

in processing and trading agricultural commodities further stimulates farm production. Thus in the longer run and as long as interest rates continue to be prohibitively high, rural off-farm sector development could focus on improving transportation, the policy environment, and increasing agricultural incomes. Successful interventions in these areas would have the highest, most widespread and sustainable impacts on rural off-farm sector growth.

Short and Medium Term Strategies

In the medium to short run, the most realistic approach to providing more direct support to the rural off-farm sector may be an initial focus on minimizing constraints limiting the development of trade, manufacturing and services based enterprises in urban centers (including larger rural towns), while supporting the linkages between entrepreneurs and farmers in deep rural areas. In the longer run, the growth of urban enterprises could pull rural enterprises. This, together with a vibrant market based agricultural sector, would seem to offer the best path for Malawi's general economic development.

In the short run USAID could under its current strategy identify for direct support some limited level of micro-enterprise activities as part of programs and purposes that legitimately permit high initial micro-enterprise management support, and even subsidies. This, for example, might include building micro-enterprise support within a food security safety net program for the very poor and chronically food insecure households. Such micro-enterprises could be linked to other USAID agricultural development objectives such as seed multiplication. For example, seed multiplication activities could be designed as trade-based enterprises owned and run by groups of poor women who could multiply and sell seeds within their communities. Under the COMPASS project, USAID could support natural resources (fish, wildlife or forest products) based micro-enterprise development as part of a broader environmental management objective. In certain strategically located communities, for example, those surrounding important bio-diversity areas, initial subsidies may be warranted by the environmental objectives. In addition, demonstrating how natural resources based enterprises could be used to meet development and environmental conservation goals simultaneously is highly valuable to a country that is trying to make the difficult transition from natural resources policing methods to Community Based Natural Resources Management (CBNRM).

Rural Household Incomes and Contribution of the Off Farm Sector

Table 1: Average household and Per Capita Incomes by Source and Region (Oct 1997 to Sept 1998) (See diagrams 1 and 2)

	crops	livestock	wages	micro enterprises	gifts and remittances	other	total	per capita
Northern	12652.7	265.4	1498.9	481.3	590.4	204.2	15692.9	4560.9
Central	13960.5	487.9	1197.4	631.3	540.4	193.9	17011.3	5047.7
Southern	2923.4	282.9	2638.4	692.1	520.6	253.3	7310.8	2085.4
COUNTRY	9951.7	366.8	1740.0	615.5	582.1	226.7	13482.7	3884.5
%age of total	73.8	2.7	12.9	4.5	4.3	1.6	100.0	

Table 2: Average total and per capita household annual incomes by source and income group (October 1997 to September 1998) (See diagrams 3 and 4)

	Crops	Livestock	Wages	m/enterprises	Gifts & remittances	Other	H/hold income	Per capita income
0-20	-1771.3	21.0	96.7	28.4	70.1	54.5	-1500.8	-578.7
20-40	465.4	89.5	473.5	145.1	331.4	107.5	1524.9	237.0
	30.5%	5.8%	31.1%	9.5%	21.7			
40-60	2568.9	251.2	1261.4	376.1	752.5	180.0	5250.1	962.0
	48.9%	4.7%	24.0%	7.2	14.3%			
60-80	8383.0	580.7	2138.1	720.4	576.6	316.7	12775.5	2864.3
	65.6%	4.5%	16.7%	5.6%	4.5%			
80-100	37466.0	767.2	4226.0	1588.3	773.9	839.2	45740.2	14393.0
	81.9%	1.7%	9.2%	3.4%	1.7%			
TOTAL	9951.7	366.8	1740.0	615.5	582.1	226.7	13482.7	3884.5
	73.8%	2.9%	12.9%	4.5%	4.3%	1.6%	100%	

Relative Importance of the Off Farm Sector as a Source of Rural Employment

Table 3: The Major Rural Occupations by Region (see diagram 5)

Most Important Occupation	Region			
	North	Central	South	Total
Farming	884	930	630	2444
	81.9%	67.7%	64.4%	71.2%
Student	97	172	90	359
	9.0%	12.5%	9.2%	10.5%
Housework	40	176	122	338
	3.7%	12.8%	12.5%	9.9%
Govt./private/NGO	10	40	57	107
	0.9%	2.9%	5.8%	3.1%
No major occupation	22	10	15	47
	2.0%	0.7%	1.5%	1.4%
Off farm activities	26	45	55	126
	2.5%	3.4%	6.6%	3.7%
Total	1079	1373	979	3431
	100%	100%	100%	100%

Table 4: Household participation in farm and non farm Activities (see diagram 6) (Survey Period: July-Oct 1997)

Sample	N	Livestock on own farm	Crops on own Farm	off farm wage and contract labor	off farm micro enterprises
Households	1032	459 (45.9%)	932 (93.2%)	369 (35.7%)	264 (25.6%)

**Table 5: Sources of Off-farm employment and levels of Participation by region
(See Diagram 6a)**

Source of income	North	Central	South	Total
Agricultural casual labor	103	62	103	268
	73.6%	60.2%	54.8%	62.2%
Government and NGOs/churches	5	16	23	44
	3.6%	15.5%	12.2%	10.2%
Forest products trade	3		2	5
	2.1%		1.1%	1.2%
Farm produce trade	1			1
	.7%			.2%
Cottage industry	3	2	1	6
	2.1%	1.9%	.5%	1.4%
Construction	23	23	56	102
	16.4%	22.3%	29.8%	23.7%
Restaurants and stores	1		1	2
	.7%		.5%	.5%
MIGRANT LABOR	1		2	3
	.7%		1.1%	.7%
TOTAL	140	103	188	431
	32.5%	23.9%	43.6%	100.0%

Table 6: Household Participation in Off Farm Micro-Enterprises By Season

%age with	Round 1 (Jul-Dec) but mostly Oct-Dec	R2 mostly Jan-Mar	R3 (mostly Apr-Jun)
1 enterprise	264 25.6%	393 28.1%	401 30.3%
2 enterprises	6.8%	6.9%	14.8%
3 enterprises	1.4%	3.8%	1.5%
N	1032	1399	1323

**Table 7: Proportion of households with micro-enterprises by region
(Jan-March) (See Diagram 9)**

Micro-enterprises	Northern	Central	Southern	Total Participation	Proportion of rural workforce (in R2)
Trade	37.3%	54.3%	48.0%	165 48.0%	7%
Services	10.5%	17.1%	23.4%	61 18.3%	2.0%
Manufacturing	50.9%	28.6%	27.9%	110 32.7%	3.5%
Grand Total	100% 19.9%	100% 41.7%	100% 38.4%	336 100% 100%	11%

Donor Support for the Rural Off-Farm Sector

Among these donors (mentioned earlier) it seems that at the moment DANIDA is embarking on what might be the broadest and most strategic approach to the national level development of medium, small and micro enterprises (MSMEs). This is a new component (not yet operational) of its existing Agricultural Sector Program Support (Phase II) entitled the Private Sector Initiative Component. The main objective is to support and build on the experiences of what DANIDA finds to be relatively successful and appropriate institutions that are already involved in micro-financing small businesses. These include FINCA (Foundation for International Community Assistance), MUSCCO (Malawi Union of Savings and Credit co-operatives) and its network of SACCOs (Savings and Credit Co-operatives), NASFAM (National Association of Small Holder farmers) and INDEFUND. Perhaps with the exception of INDEFUND, USAID has supported and funded activities for all these institutions. DANIDA will support on- and off-farm income generating activities and businesses, the formation and strengthening of farmers associations and clubs through credit facilities and technical assistance. It will primarily build on existing structures of these institutions, their approaches, experiences and comparative advantage while helping them expand to new areas. Many of these programs have a bias towards women. This is perhaps in response to the observation that compared to other African countries where women account for about 75% of micro-enterprises, Malawi has much fewer women entrepreneurs.

With 4 years of USAID and other donor support (including DFID and GTZ), FINCA started its operations in the Southern Region in 1994, and expanded to the Central Region in 1998. DANIDA will provide assistance to expand to the Northern Region by the year 2000. FINCA's program focuses on supporting women micro-entrepreneurs through small village banks and a system that encourages savings while providing small loans averaging MK 3,3000 to women. The loans are typically for trading and food processing businesses. With over 10,000 women clients (in groups of 25-40) and a loan repayment rate of 99 percent, it has been evaluated as a successful program, first targeting urban and peri-urban women and now spreading to rural areas.

MUSCCO and its network of 146 community-based SACCOs and over 58,000 members (24% of them women) is operating in all the three regions with the majority of the SACCOs in the Southern and Central regions. SACCOs range in size from 100 (minimum requirement) to 2,500 members. These cooperatives are aimed at encouraging savings and providing financial services to rural and urban households. At a level just above FINCA's village banks, SACCOs lend from MK 2,000 to 10,000 based on a member's share of savings and assets, and also provides some type of insurance scheme. Each SACCO is free to set its own operative interest rates. This program has been relatively successful with about 95 percent repayment rate and a majority of SACCOs making profits while a few are stagnant or making losses. According to MUSCCO, although the lending is not attached to any specific activities, most of borrowers use money for trading businesses and not much for buying agricultural inputs. Similar to the case of FINCA, and perhaps even more so, there has been more success with urban based SACCOs that mainly attract people with regular jobs. Rural mobilization has been challenging but there is said to be progress and intent for more aggressive rural mobilization towards which DANIDA will provide support and

strengthen the programs capacity at the Central, regional and local levels and also provide specific support to 18 rural SACCOs. Along the same lines, USAID has identified 10 rural SACCOs for support with a plan to expand to 20

At a level above the services provided by the SACCOs, DANIDA may support INDEFUND Limited to continue and expand its activities. INDEFUND is a small financial institution which traditionally has provided larger loans of not less than MK 30,000 but which has declared interest in including micro financing in its activities. It has experience in lending for general agricultural production, agricultural inputs and agricultural processing and targeting medium level businesses. It is currently operating in the Southern and Central regions with plans to expand to the Northern under DANIDA's support. DANIDA sees INDEFUND as a potentially interesting partner which could be positioned to provide credit for the more developed organizations' services such as NASFAM and other progressive farmers associations and small and micro-enterprises. NASFAM is an apex farmers association formed under the USAID funded Small holder Agribusiness Project (SADPI) in 1997 and focusing on agribusiness including production, domestic and international trade. DANIDA will provide NASFAM with technical assistance, marketing support, loans for purchasing commodities, and business credit for the association and for individual farmers. It will also help in expanding activities and building capacity at the association's headquarters.

There are several other on going efforts to support the growth of MSMEs in Malawi, many of them with interest in targeting women. For example, GTZ has several programs including the Promotion of Micro-enterprises for Rural Women, the Economic Activities Program and the Advisory Services for Private Sector Business. In addition, GTZ has provided leadership and made progress in developing natural resources-based enterprises by working with communities neighboring national parks (for example, under the Border Zone Development Project). It is also working with communities managing their own customary land for example, the newly started Mwanza wild fruit plant which is already marketing two types of wild fruit juices in Malawi's urban centers. GTZ also has activities around Mt. Mulanje. The Environment Support Program (ESP) has identified private sector led development of natural resources based commercial activities as one of its priority areas, but not much has been done yet. Others include DFID's support to a program that trains women in enterprise development, the African Development Bank's womens' program in eight districts and the World Bank's Small and Medium Enterprise Support Fund. There are also other MSME development efforts under various NGOs and local associations such as those identified with the Ministry of Commerce and Industry that are not presented here. Under its new initiative, the Ministry of Commerce and Industry is aware of the various activities in progress and is trying to make them part of a broader coordinated strategy for the development of this sector.

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