

**IMPACT ASSESSMENT DISCUSSION PAPER NO. 11**

**ASSESSING THE IMPACT OF POLICY  
RESEARCH AND CAPACITY BUILDING  
BY IFPRI IN MALAWI**

**James G. Ryan**

**Director General's Office**

**International Food Policy Research Institute**

**2033 K Street, N.W.**

**Washington, D.C. 20006**

**Tel: (202) 862-5600**

**Fax: (202) 467-4439**

**E-mail: IFPRI@CGIAR.ORG**

**December 1999**

*Discussion Papers contain preliminary material and research results, and are circulated prior to a full peer review in order to stimulate discussion and critical comment. It is expected that most Discussion Papers will eventually be published in some other form, and that their content may also be revised.*

## CONTENTS

	Page
Acknowledgments .....	iii
Introduction .....	1
The IFPRI Program with Malawi .....	2
Perceptions of the Influence, Value, and Impact of IFPRI .....	12
Tangible Indications of Impact and Value .....	22
Implications and Lessons Learned .....	29
Conclusions .....	33
Notes .....	36
References .....	60
Appendix 1— Chronology of events in strengthening capacity for policy research and analysis in Malawi, 1989–97 .....	37
Appendix 2— Persons interviewed .....	46
Figure 1— Relationship between Malawi institutions and IFPRI .....	49
Table 1— Favorable perception of interviewees about the influence, value, and impact of IFPRI in Malawi .....	50
Table 2— Unfavorable perception of interviewees about the influence, value, and impact of IFPRI in Malawi .....	51
Table 3— Training programs, courses, and workshops involving IFPRI and Malawi, 1990–99 .....	52
Table 4— Graduates in the MSc (agricultural economics) program at Bunda College of Agriculture, 1994–99 .....	57

## **ACKNOWLEDGMENTS**

My thanks are due to Per Pinstrup-Andersen, the director general of the International Food Policy Research Institute (IFPRI), for inviting me to undertake this study. I am especially grateful to Suresh Babu and Manfred Zeller the two IFPRI staff with most involvement in Malawi, who were generous with their time and insights and who facilitated my interviews in Malawi. Their colleague Aliou Diagne was also helpful. Charles Masangano of the Rural Development Department of Bunda College of Agriculture was kind enough to assist with arranging some of the interviews in Malawi.

Appreciation is due to those who agreed to be interviewed to convey their perceptions of the value and impact of IFPRI in Malawi. None of these could have occurred without the logistical support of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) team in Malawi, led by Pala Subrahmanyam, with the support of Monica Chakwera. The ICRISAT driver Lekimoni Phiri has my special thanks.

## INTRODUCTION

This is the second study the author has undertaken at the invitation of the director general of IFPRI aimed at documenting the impact of the Institute. The first was of the research IFPRI did on rice marketing and policy options with Viet Nam from 1995–97 (Ryan 1999). Other studies commissioned by IFPRI assess impact in Pakistan and Bangladesh. This study examines the contributions of IFPRI over the last 10 years to policy development, training, and capacity-strengthening activities with Malawi, focused particularly on addressing the chronic food insecurity and malnutrition that has prevailed for the last 60 years. Both studies are in response to the need for evidence of socioeconomic impact from the investments by the donor community in the research and related work of the international agricultural research centers of the Consultative Group on International Agricultural Research (CGIAR).

Malawi is still heavily dependent on agriculture for economic growth. The sector contributes about 40 percent of gross domestic product (GDP) and 77 percent of exports, and it provides about 90 percent of employment for the 11 million population, 85 percent of which is rural (Babu 1994). The social indicators for Malawi are among the worst for the developing countries (Ng'ong'ola and Jumbe 1997). Illiteracy is 60 percent, mostly among the smallholders in rural areas, and more than 60 percent of households are food deficient and below the poverty line. Almost half of the children under five years are stunted. The most vulnerable are poor smallholders, female-headed households, estate workers and tenants, the urban poor, and children in poverty. About 30 percent of all rural households are headed by women, and 56 percent of rural households farm less than 1 hectare of land. Some 76 percent of the latter are households headed by women. Maize has been an increasing component of farming systems: hybrid maize adoption reached 20 percent in the early 1990s. In recent years, encouragement has been given to the smallholder sector at the expense of the estate sector in recognition of the bias in earlier policies. Changes include the increased availability of credit and liberalization of tobacco quotas.

Against this background, IFPRI began its programs in Malawi in the late 1980s. In the early years, the key IFPRI staff involved were still with the Cornell Food and Nutrition Policy Program. They joined IFPRI in 1992 and continued the program under IFPRI's auspices. Hence, part of the credit for any impact should accrue to Cornell as well as IFPRI.

The paper is divided into five sections. The first describes the range of activities with which IFPRI was involved. Three phases are identified. The first phase is the extensive IFPRI/Cornell food security and nutrition monitoring phase, primarily with the Ministry of Agriculture and Livestock Development of Malawi, from 1989 to 1992. The second phase is the analytical and capacity-building phase from 1992 to 1996, when IFPRI staff were located at the Bunda College of Agriculture of the University of Malawi. The collaborative research phase began in 1996 and is still underway. Some of the

intermediate research and related outputs from these three phases are detailed at the end of the first section of the paper.

The second section contains the results of the extensive interviews, which the author had with IFPRI's partners and stakeholders to elicit their perceptions of the value, influence, and impact of IFPRI in Malawi. This includes training, capacity strengthening, and policy research activities. The third section of the paper attempts to describe the more tangible indicators of IFPRI's direct and indirect impacts in Malawi. The fourth section highlights some implications and lessons for IFPRI from the study of their impact in Malawi. The final section draws some conclusions.

## **THE IFPRI PROGRAM WITH MALAWI**

To set the stage for assessment of the impact of IFPRI work with Malawi, it is first appropriate to describe the Institute's range of activities since 1989. This is elaborated chronologically in Appendix 1. Although IFPRI as an institution did not formally begin programs in Malawi until 1992, the current director general, Per Pinstrup-Andersen, and a research fellow, Suresh Babu, began activities in Malawi at the request of the United Nations Children's Fund (UNICEF) when they were both with Cornell. Hence, the early years of this assessment really apply to the Cornell Food and Nutrition Policy Program rather than to IFPRI per se, as it is difficult to separate the two programs.<sup>1</sup> Not only did the UNICEF funding of these two researchers shift from Cornell to IFPRI in 1992 when they moved to IFPRI, the nature of their program with Malawi remained focused on food security and nutrition monitoring and policy analysis.

The interest in food security and nutrition monitoring and policy analysis really began after the World Food Conference in 1974. The Cornell Program arose out of this; it was conducting nutrition surveillance training programs in Eastern Africa during the 1980s. This then evolved into a broader agenda to examine causal factors involved in food and nutrition insecurity. These developments are described in Babu and Quinn (1994a, 1994b) and Quinn and Kennedy (1994). UNICEF, the U.S. Agency for International Development (USAID), and the World Bank began to advocate the establishment of food security and nutrition monitoring information systems to avoid problems with structural adjustment programs. The Food and Agriculture Organization of the United Nations (FAO) also became involved and initiatives like the Famine Early Warning Systems were introduced.

In Malawi, up until the mid-1980s, the government would not accept that there was a problem with food security and nutrition in the country, and it was politically sensitive to discuss the subject (Quinn 1993, 1994). UNICEF, largely through the foresight and insistence of the then-resident representative in Malawi, Ken Williams, managed to get

the subject on the agenda of the Permanent Secretary in the Office of the President and Cabinet in 1986. This followed UNICEF support for the inclusion of a child nutrition module in the National Sample Survey of Agriculture under the auspices of the Ministry of Agriculture and Livestock Development and the National Statistics Office in 1980–81. This survey showed that 56 percent of children under five years were malnourished, and 33 percent died.

These staggering statistics were not publicized by the government of Malawi, even though they were in statistical reports from 1984. It was only when UNICEF arranged to produce colored wall maps in 1985 that the grim picture they painted received the attention of the Permanent Secretary in the Office of the President and Cabinet, who then held a symposium for all permanent secretaries in 1986. "... especially in Malawi, this graphical presentation of malnutrition had a significant impact on government and donors which alerted them that a nutrition problem existed and stimulated a debate on the causes ..." (Quinn and Kennedy 1994, 245).

The symposium led to the creation of a Food Security and Nutrition Unit in the Office of the President and Cabinet (Figure 1). It was to be a coordinating unit, supported by the World Bank, UNICEF, and USAID. Per Pinstrup-Andersen, then of the Cornell Program, was requested by the World Bank to prepare a paper on the structure, design, terms of reference, and modus operandi for the Food Security and Nutrition Unit in 1986. The Food Security and Nutrition Advisory Committee was created in 1988. Vicki Quinn of the Cornell Program was a senior adviser in the Food Security and Nutrition Unit, with the support of Ken Williams of UNICEF. They issued regular bulletins, and Quinn readily acknowledges the role of the Cornell/IFPRI food security and nutrition monitoring data and analyses in this process.

Hence, the policy environment in Malawi before the commencement of the food security and nutrition monitoring work of Cornell/IFPRI was quite conducive to a research, training, and information role for IFPRI. There was a major food security and nutrition challenge and a ready-made clientele for rigorous data collection, analysis, and policy formulation in which the two organizations had an acknowledged comparative advantage. Their role will be discussed in terms of three phases, which correspond with how the program evolved.

### **The Extensive Food and Nutrition Monitoring Phase, 1989–92**

During this phase Babu was resident in Malawi under the Cornell Program and initiated an extensive program of food security and nutrition monitoring activities with the Ministry of Agriculture and Livestock Development, as it was then called. This involved training activities for enumerators, field officers, survey supervisors, analysts, planners, nutritionists, and policymakers all over the country. Five rounds of food

security and nutrition monitoring data collection among some 2,600 rural smallholders in all eight of the agricultural development districts ensued in this period, as a subsample of the Annual Survey of Agriculture. The National Statistics Office provided most of the enumerators for this exercise as a part of its common service obligations.

The initial four food security and nutrition monitoring modules were food security, income and expenditure, markets and prices, and nutritional status. Refinements added during the course of the rounds included food expenditure, consumption of home-grown food crops, anthropometric measurements using locally made devices, and recalls of the number of meals. The data that emerged proved invaluable for planning the responses to the emerging drought situation in 1991–92 (Babu and Mthindi 1995b; Babu and Chapasuka 1997).

A feature of the approach taken in the surveys was the decentralized nature of the data entry, tabulations, and initial statistical analyses. This was done at the agricultural development district level and later aggregated at national workshops after each round. Hence, local planners had real time information on which to design their programs and a national picture also emerged soon after (Babu and Mthindi 1992; Babu, Ng'ong'ola, and Mthindi 1996). The aim was for the first time to have both food security and nutrition monitoring and socioeconomic data at the household level to not only describe the food security and nutrition status, but also to examine the determinants so that policy formulation could be better informed.

The data bases that were generated in this period were all documented and deposited in the Ministry of Agriculture and Livestock Development. IFPRI was initially assigned to the Food and Nutrition Unit of the Ministry. The economists in the Planning Division would have preferred IFPRI to have located its staff member with them so that the impact of the food security and nutrition monitoring work on policy was more direct. However, this did not prevent linkages, especially in the next phase (Figure 1), and in 1991 the food security and nutrition monitoring project was formally moved to the Planning Division.

### **The Analytical and Capacity-Building Phase, 1992–96**

The focus of the IFPRI program shifted to formal and informal training in food security, nutrition, and agricultural policy analysis and associated research during the next phase. IFPRI had two staff residents in Malawi during 1994–96, after Babu left in late 1994. These were Manfred Zeller, a research fellow, and Aliou Diagne, a postdoctoral fellow, funded by the Rockefeller Foundation. Babu continued to visit Malawi at regular intervals. As the nature of the program changed, the new IFPRI arrivals in Malawi were located at the Bunda College of Agriculture.

IFPRI was instrumental in the establishment of the MSc program in agricultural economics in the Rural Development Department of Bunda College during this period. This was supported by UNICEF and included curriculum development, teaching, and supervision of students during the thesis phase of the two-year degree program. The program began in 1992.

Additionally, as somewhat of a quid pro quo for their assistance with food security and nutrition information to assist in the preparation of the Agricultural Services Project of the World Bank, IFPRI succeeded in having support for creation of an Agricultural Policy Analysis Training Unit included in the project. Bunda College and IFPRI jointly implemented this in 1994. It involved short-term training courses in quantitative analysis, food security and nutrition policy, environmental and natural resources policy, monitoring and evaluation, regional trade and macroeconomic policy, gender in development, and participatory rural appraisal. These were intended for planners, agricultural economists, and others in the university and various ministries of the government of Malawi. The courses are still underway in 1999.

The masters students began to undertake research in collaboration with their IFPRI and Rural Development Department supervisors. The data from the food security and nutrition monitoring smallholder rural household surveys conducted earlier were utilized effectively in this, as well as special purpose surveys. A special interest was the effects of tobacco, maize technology, fertilizer availability, and rural credit access on household food security and nutrition. A survey of 400 households in five agricultural development districts over three rounds was carried out in 1995. UNICEF, USAID, the Rockefeller Foundation, and German Technical Aid (GTZ) provided support for this work. The Ministry of Agriculture and Livestock Development; the Ministry of Women, Youth, and Community Services; and the Ministry of Planning and Development were all associated with this phase (Figure 1). Research results were presented at many seminars and workshops during this period and a significant number of working papers were published, although with lags of some years in most cases (Ng'ong'ola and Babu 1994; Zeller, Phiri, and Chinguwo 1996; Zeller et al. 1996; Zeller, Diagne, and Mataya 1997a, 1997b; Zeller, Mataya, and Islam 1997; Zeller, Diagne, and Kisyombe 1996)

IFPRI also set the stage for its research and capacity-building activities by organizing a policy research priority-setting workshop in 1993, involving national and international agencies. This was followed by a needs analysis among the ministries of the government of Malawi in 1994 to identify the training gaps among staff. These were used to good effect in subsequent years (Babu and Khaila 1996; Babu and Mataya 1996a, 1996b; Babu 1997a, 1997b, 1997c).



## **The Collaborative Research Phase, 1996–99**

This phase begins with the return from Malawi of Zeller and Diagne to IFPRI headquarters in Washington in 1996. They continued their involvement with the teaching, training, and research programs but on a visiting basis. The refereed publications output seemed to increase at this stage, particularly those on rural credit (Diagne 1998; Diagne and Zeller 1999), technology (Zeller, Diagne, and Mataya 1998; Babu et al. 1994; Babu, Subrahmanyam, and Ng'ong'ola 1995; Place and Otsuka 1997), tobacco (Zeller 1998), natural resources (Babu and Hassan 1995), and nonrural enterprises (Mandambwe, Zeller, and Diagne 1999). A number of important national and regional workshops were held, including one reporting on the extensive research on the impact of rural credit on household food security in 1996. This led to the funding of new action-oriented research with the Malawi Rural Finance Company (IFPRI, FCND 1997). Collaborators from Bunda College and the Ministry of Agriculture and Livestock Development also came to Washington for short-term training programs in 1996 and 1997.

In 1996, IFPRI began discussions with the National Economic Council, the National Statistics Office, and the Centre for Social Research about the design of a Poverty Monitoring System. The World Bank and the Danish International Development Agency (DANIDA) eventually funded this in 1998. IFPRI is helping in survey design, questionnaire drafting, and in analysis and report writing.

Studies on the effect of market liberalization in Malawi on rural market prices, price variability, and price transmission were started in 1996 in collaboration with the Agricultural Policy Research Unit at Bunda College of Agriculture. It is part of a five-country study being done by IFPRI. A second project on the effect of the reforms on smallholders began in 1998. Some results are emerging (Goletti and Babu 1994; Govindan and Babu 1996; Kherallah and Govindan, forthcoming).

A recent project supported by the International Fund for Agricultural Development (IFAD) and USAID examines food security coping strategies in three countries, with the Malawi component commencing in late 1997. It entails rural household surveys in three regions and involves the Agricultural Policy Research Unit and the Rural Development Department at Bunda College of Agriculture. Among other things this project is evaluating alternative indicators of food security to determine which are more cost effective. A series of 11 technical manuals are being developed to guide IFAD and other donor field staff in how to plan and set up projects so that they will be in a better position to assess whether they have improved household food security, which is the major *raison d'être* of IFAD (Carletto 1999a and 1999b; Hoddinott 1999a, 1999b, 1999c, and undated).

The most recent project examines macroeconomic reforms and regional integration in Southern Africa. Malawi was added late in the process. Bunda College, the National Statistics Office, the Ministry of Finance, and the National Economic Council are the major collaborators. DANIDA and GTZ are the donors. The University of Copenhagen is also collaborating. The aim of the project is to better understand recent macroeconomic policy adjustments and efforts to promote economic integration in six countries in Southern Africa and their effects on economic growth and poverty. Social accounting matrixes are being developed as a prelude to the construction of computable general equilibrium models. Few results are available for Malawi yet (Brixen and Chulu undated; Brixen 1998).

### **Some Intermediate Outputs from the IFPRI Program**

To help set the stage for the sections to follow, which attempt to assess the impact of the IFPRI program with Malawi, some of the specific findings from the research and related activities will be briefly described here. Because they have been conducted over a longer period, emphasis will be on food security and nutrition monitoring, rural credit, technology, and capacity building and market liberalization.

#### *Food Security and Nutrition*

- An MSc student examined alternative food security and nutrition indicators to those currently used in Malawi in 1996, using a national survey data set consisting of more than 6,000 households (IFPRI 1996). Other students found that there were deficiencies in oils, protein, vitamin A, and other micronutrients in the diets as a result of the dominance of maize; diversification was seen as one remedy and students studied the determinants of adoption of legumes as an input into this.
- From a 1995 survey of 400 households, an MSc student (Tchale 1996) found that more than 60 percent of households run short of food three months before the next harvest. Their calorie intakes were 87 percent of the World Health Organization (WHO)/FAO's recommended daily allowances (RDA), with protein intakes on or above the RDA, and 49 percent of children under age five were found to be stunted (50 percent rural and 35 percent urban). To overcome these deficiencies, the recommendations were to increase incomes by encouraging smallholders to grow tobacco and hybrid maize; to develop rural credit institutions, which had faltered in the droughts of the early 1990s; to form tobacco clubs so that smallholders could develop sufficient market volume to sell at auction, where much better prices were paid than by the Agricultural Development and Marketing Corporation; and to encourage tobacco smallholders to save from their lump-sum earnings to ensure year-round food security.

- The food security and nutrition monitoring surveys involving some 2,600 households in each of five rounds conducted in the early 1990s gave many insights into the socioeconomic environment of smallholders (Ministry of Agriculture 1991a, 1991b, 1991c). It found, for example, that 30 percent of households are headed by women; 56 percent of households operate holdings of less than 1 hectare; 20 percent of smallholders have adopted hybrid maize, and 42 percent use fertilizer. Seventy percent of households deplete their food stocks by December, some six months before the next harvest (casual labor employment is then the only option for most in order to survive). Most farmers sell their maize soon after harvest and do not store a great deal.

The surveys also revealed that traders mostly operate near the major cities, and when the parastatal Agricultural Development and Marketing Corporation closed its operations, this left rural areas with no market channels.

A composite index of food security was devised using survey results to include (1) the month when food stocks were depleted, (2) the number of meals per day, (3) the extent of casual labor employment as a source of food, (4) the extent of market participation in obtaining food, and (5) the availability of markets for purchasing food. Meal frequency the day prior to the interview, which had been used by some agencies in Malawi, was not found to be a good indicator of food security, because, during busy periods such as harvesting, fewer meals are eaten but consumption per meal is greater; neither was food stocks a good indicator because it ignores cash income;

The studies found that home garden production and its potential to improve nutrition is neglected by the extension service and that cropping systems should be diversified from dependence on maize.

- For cost-effective food security and nutrition monitoring, one needs a multidisciplinary and decentralized approach, using existing institutions rather than creating new ones; this reduces time lags in generating policy-relevant information, especially if the needs of policymakers are explicitly factored into the design of the instruments and advocacy is a feature of the process (Babu and Mthindi 1992).
- Policy recommendations arising from the food security and nutrition monitoring research include (Babu and Mthindi 1994)
  - ▶ Enhancing rural credit availability for smallholders;
  - ▶ Encouraging small ruminant livestock production among smallholders to generate increased income; and
  - ▶ Providing market information to private traders to enhance their participation in the supply of food to deficit areas.

### *Rural Credit*

- Based on the 1995 survey of 400 households in five districts of Malawi by the Rural Development Department of Bunda College and IFPRI, which was commissioned by the Ministry of Women, Children Affairs, Community Development, and Social Welfare, Diagne, Zeller, and Mataya (1996) concluded that improved access to nonsubsidized rural credit by poor households can improve household food security, as measured by daily calorie intake and by increasing incomes and food expenditures.<sup>2</sup> Improved household food security?] occurs through use of higher-yielding varieties and increased modern inputs, as well as initiation of owner-managed enterprises. When these enterprises involve women, the beneficial effects on food security are greater, but not great enough to show more than a weak positive effect on preschooler nutrition, which is more dependent on access to health services, child care, safe sanitation and water, and nutritional education of the care takers. Credit programs specifically targeted at women's microenterprises raise their socioeconomic status, not only in female-headed households, but also in those headed by males (Mandambwe, Zeller, and Diagne 1999).
- The same studies showed that the demand for credit by smallholders is relatively interest inelastic; hence there does not appear to be a compelling case for interest subsidies. Nonprice attributes of credit institutions and their services play a larger role. Participation in agricultural credit programs is lower for households in regions of high production risk; it was found that formal and informal credit were imperfect substitutes (Diagne 1998).
- Clients of credit institutions that used group liability arrangements had lower savings rates than clients where this was not required. This seemed to be related to the increased likelihood of confiscation of savings in the former institutions in order to repay loans of defaulters. It was unclear whether relaxation of group joint liability rules would improve repayment rates and increase savings. These aspects are the subject of the current research in the field being conducted by Zeller et al. (IFPRI, FCND 1997).

### *Technology and Tobacco*

- Tobacco growing was found by Tchale (1996) to increase smallholder income but not to change the pattern of household expenditures. Hence malnutrition was prevalent regardless of whether tobacco was grown or not. The proportion of children in primary school was higher in tobacco-growing households, but the dropout rate was higher also, as children became more heavily engaged in agricultural activities at the expense of school.

- Farm size did not appear to be a factor in whether tobacco was grown, but the availability of labor and credit access were (Zeller 1998); there were no economies of scale in tobacco production, and burley is more efficiently produced by smallholders, thus lending strong support to the liberalization of tobacco quotas to include smallholders, which began in 1990. Since then the share of estates in tobacco production has fallen substantially as their monopoly rents have eroded. Seasonal and medium-term rates of capital accumulation and savings were about three times higher among tobacco growers than nongrowers. Most of the savings were invested in livestock, especially cattle. Households that have no credit constraints save more than those that do, hence credit can enhance saving behavior and if these savings could be mobilized by formal financial institutions in rural areas, they could provide more credit.
- Hybrid maize adoption is significantly influenced by the transactions costs in accessing the nearest parastatal market for inputs and outputs; hence investments in markets and infrastructure are essential for the widespread adoption of hybrid maize technology options (Zeller, Diagne, and Kisyombe 1996; Zeller, Diagne, and Mataya 1998).
- Babu, Subrahmanyam, Ng'ong'ola (1995) estimated the annual losses due to early leaf spot of groundnut in Malawi at \$4.8 million. Depending on the area of groundnut sown on farms, control of the disease could make between 1.75 and 14 persons food secure. The benefits from control of aflatoxin contamination of groundnut was estimated to be much less at under \$1 million annually (Babu et al. 1994).
- Place and Otsuka (1997) used cross-section time-series data on 57 communities in Malawi to analyze statistically the factors determining changes in land use, tree cover, and crop yield. They found that population pressure induces land conversion but not yield or tree cover change, and that the matriloc system of household residence is negatively associated with tree cover but induces agricultural conversion. They recommended a greater focus on agroforestry to increase tree cover and increased efforts to improve market integration, since this benefits crop yields without adverse effects on tree cover.

### *Capacity Building*

- In 1992 the Planning Division of the Ministry of Agriculture and Livestock Development had a complement of 39 economists, in addition to the chief and deputy chief of the division. IFPRI conducted a series of intensive workshops and short training courses for them covering project management, monitoring and evaluation, environmental and natural resource policy, food and nutrition policies,

commodity, market and price analysis, quantitative methods, agricultural research, and extension policies and gender issues (Ministry of Agriculture 1993; Babu and Bhattarai 1996; Bunda College of Agriculture 1997).

- As a part of the Agricultural Services Project, which IFPRI was involved in formulating, considerable civil construction was undertaken at Bunda College to accommodate the Agricultural Policy Analysis Training Unit; this included a hostel, kitchen, common room, training rooms, furnishings, cars, a bus, and a computer network with 20 computers, and other office equipment.
- Babu (1997c) describes how the food security and nutrition monitoring system in the Ministry of Agriculture and Livestock Development was used to assist the government of Malawi in designing the Agricultural Services Project so that it was led by Malawi and not the World Bank. Data were used to provide a typology of smallholder systems so that interventions could be better targeted. Background papers were prepared for the various World Bank missions containing policy options, thereby facilitating the design of the project; these papers were also used in the National Development Plan 1987–97.
- There have been 16 MSc graduates in the agricultural economics program at Bunda College since it began in 1993/94; from 1993/94 to 1995/96, there were 11 graduates and from 1996/97 to 1998/99 there were only 5; UNICEF funded 9, the Rockefeller Foundation 3, the Department for International Development (formerly known as the Overseas Development Agency of the United Kingdom) 2, and the British Council and the International Development Research Centre (IDRC) 1 each (Ekwamu et al. 1998).
- The agricultural policy priority-setting workshop identified nine priorities that guided both IFPRI and other agencies in defining their research agendas in the years that followed (Babu and Khaila 1996). The MSc students also used the priorities in establishing their thesis topics. The identified policy priorities were: (1) agricultural prices, (2) food and nutrition, (3) agricultural extension, (4) land distribution and tenure, (5) environment and natural resources, (6) fertilizer subsidies, (7) agricultural research, (8) market liberalization, and (9) exchange rates.

### *Market Liberalization*

- Seasonal price variability increased in Malawi after the market reforms, but this may have been due to droughts during the study period (IFPRI 1997). Traders only travel fewer than 15 kilometers to conduct their business, which is much less than in the other countries being studied. The interdependence of markets in Malawi is

also weak and marketing costs are high. The reforms have not led to increased use of purchased inputs, and agricultural production has not increased.

- Goletti and Babu (1994) found that liberalization has increased market integration in Malawi, but the lags are long between the initial shocks and the transmission of the price signals (5.7 months on average), and the adjustments are only around 50 percent. Maize markets do not exhibit downward price rigidity as suggested by those who maintain that “middlemen” do not pass on price falls as readily as price rises; the evidence indicates that prices are just as flexible when they move up as down.
- Govindan and Babu (1996) found that since structural adjustment programs started in Malawi in the early 1980s real crop prices have been declining, except for sorghum. They model the effects of removal of fertilizer subsidies and conclude that if higher world prices were paid for crops at the same time, along with infrastructure investments, smallholder productivity would be likely to increase; sorghum, cassava, and maize production would increase and that of rice and groundnuts would fall.
- Kherallah and Govindan (forthcoming) conclude that the adjustment costs could have been reduced for smallholders if the economic reform process had been sequenced differently. They maintain that the maize sector should have been liberalized first, followed by groundnut exports, and once a supply response had been generated, input subsidies could then have been phased out. With this sequence, maize productivity would not have fallen and food security would not have been impaired. If improved credit access had accompanied the phasing out of fertilizer subsidies, the result would have been even better.

## **PERCEPTIONS OF THE INFLUENCE, VALUE, AND IMPACT OF IFPRI**

A total of 52 interviews were conducted by the author with donors, collaborators, and students during February-March 1999 to elicit their perceptions of the contributions that IFPRI had made to Malawi. A list of those interviewed is contained in Appendix 2. The IFPRI staff provided a list of persons who they felt would be able to convey some insights into the work that IFPRI had done in Malawi over the years. This was expanded as the interview process proceeded, based on further suggestions from the interviewees. No attempt was made to purposely select those who might have been known to be supportive of IFPRI's programs in the country.

Most interviews were in person, but a few took place over the telephone and by electronic mail. No IFPRI staff member was present at the interviews, which began with

a brief background by the author of the reasons for the study, the range of activities that IFPRI has been engaged in in Malawi since 1989, and the author's background. Each interviewee first generally described their association with IFPRI and then proceeded to offer their assessments of the role of IFPRI in an open-ended way. The author probed when this seemed appropriate either to keep the focus on impact or to obtain specific examples or both.

## **Interview Responses**

The responses were tabulated based upon the frequency with which interviewees mentioned either favorable or unfavorable perceptions of the influence, value, or impact of the various aspects of IFPRI's work with Malawi (Tables 1 and 2).

By far the most favorable aspect, as reported to the author, was IFPRI's contribution to the masters degree and short-course training programs. Next was an expression by many, especially in the Ministry of Agriculture and Bunda College of a desire to have IFPRI continue to work with them with the same intensity as they did when IFPRI staff were resident in Malawi from 1989 to 1996. This is referred to as an expression of unmet demand in Table 1. Visits were not seen as an effective substitute for the more continuous interactions possible when staff were resident. Unmet demands also arise from a sense of frustration and hence are a negative factor. This is illustrated by the frequency with which lack of sustainability is mentioned as an unfavorable perception of IFPRI by respondents in Table 2. However, on balance these represent a derived demand for further and continuing input from IFPRI, which is appropriately viewed as a positive outcome.

The work on food security and nutrition monitoring and on rural credit and finance also received high marks from those interviewed, followed by capacity strengthening, the high quality of IFPRI staff, the work on other agricultural policy issues, and the quality and relevance of IFPRI publications. "IFPRI's contribution to the academic literature is excellent, as in Malawi access to libraries is poor. IFPRI has a good collection of seasoned researchers." (Interviewee 35).

Aside from the strong feelings about the lack of sustainability of IFPRI's impact after the residential phase ended, there was clear unhappiness about the failure of IFPRI to adequately disseminate the results of its research in Malawi. While some acknowledged that they appreciated receiving IFPRI research publications, which were regarded as of high quality, most said they did not receive them. More importantly, many felt there was a need for more informal seminars and workshops and publications that were shorter and easier to understand for the busy policymaker. It was felt that IFPRI had missed opportunities to inform policy because of this, especially after 1996 when IFPRI staff were no longer resident.



Although not widespread, there were perceptions that IFPRI is costly, protects the data it generates, and that it sets its own agenda with minimal consultation with its collaborators. A few raised questions about the appropriateness of the findings of IFPRI research and the advice that emanated from it. A similar number felt the capacity-strengthening and training activities were not very effective. Only two interviewees felt IFPRI was an agent of donors rather than an “honest broker”.

The ensuing section will elaborate on these perceptions as they relate to the specific research and capacity-building activities of IFPRI.

#### *Short-Term and Masters Degree Training*

The enumerators who were trained in food security and nutrition monitoring techniques in the early 1990s by the IFPRI team have been used extensively since by them, but they have also been used by other groups to conduct similar surveys. For example, the Agricultural Policy Research Unit used 30 of the enumerators in a recent survey of the food security and nutrition situation in the estate sector. The Ministry of Women, Youth, and Community Affairs who collaborated with the Agricultural Policy Research Unit in this exercise were impressed, because the enumerators did not have to be trained in taking anthropometric measurements and required less supervision than other enumerators. Of the 320 enumerators who were trained originally by IFPRI, some 138 remained in the National Statistics Office, undertaking similar activities for various ministries as a common service. Recently all have been transferred to the Ministry of Agriculture and Irrigation.

The short policy analysis training courses conducted in 1996 and 1997 at IFPRI, in Washington, involving some 10 Bunda College and Ministry of Agriculture staff, were well regarded by the participants. There were criticisms about the relevance of the case study material, which focused largely on Asia. Inevitably some felt part of the course was at too high a level and others that it was too low. Others would have liked less theory and more analytical tools. At least one of the trainees is using the materials he obtained at this training course in his lectures at Bunda College of Agriculture.

The training courses under the auspices of the Agricultural Policy Analysis Training Unit at Bunda College were appreciated by most. These were largely supported under the Agricultural Services Project of the World Bank. The natural resources component served two trainees well in positioning one for a subsequent project with the Center for International Forestry Research and another for a role in the Department of Environmental Affairs of Malawi, where he is the only economist. Participants from the Ministry of Agriculture found the courses especially valuable in designing food security and nutrition policies in times of disasters such as drought. “For me the major benefit

was in the exposure to policy analysis methodology that you can't usually get in a classroom" (Interviewee 38).

The role of IFPRI in helping to establish the new masters degree program in agricultural economics at Bunda College of Agriculture, with the initial support from UNICEF, was clearly pivotal and widely acknowledged. "We have respect for what IFPRI achieved at Bunda College" (Interviewee 49). IFPRI staff developed the curriculum, taught courses, and supervised students. By including both course work and thesis research in the degree, IFPRI generated synergies between the primary data generation activities under the food security and nutrition monitoring project and the conduct of the students' research programs. In all, 9 of the 16 masters graduates have been supervised by IFPRI staff. These synergies continue today, although most faculty regret the fact that IFPRI no longer has staff at Bunda College to continue to strengthen the program and allow more masters students to go through the degree. The pace has clearly slowed since IFPRI staff left in 1996 and students are taking longer to complete the program. This is deterring the Ministry of Agriculture and Irrigation from recommending staff to register for the masters program at Bunda College.

The premium salaries available to those with masters degrees are contributing to the extended time being taken to complete the formal requirements for the degree. Indeed, many students are being enticed to leave Bunda College after the course work program and before they have a draft thesis ready. This means that it can take up to four years for them to complete the thesis requirements, working on a part-time basis.

### *Capacity Strengthening*

Most of the courses that were designed by IFPRI for the masters program are still being taught, which is a testimony to their continuing relevance. When they were first taught by the IFPRI staff, many of the faculty of the Rural Development Department sat in on the courses to enhance their own skills. No doubt this has helped them to assume responsibility for these courses now that the IFPRI staff no longer teach them. "I learned a lot by interacting with the IFPRI staff in this" (Interviewee 4). The faculty in the Rural Development Department highly appreciated the interaction with the IFPRI staff on a daily basis. Indeed a dean went so far as to say that faculty attrition rates were reduced while IFPRI was present at Bunda College. The perceptions clearly are that the Bunda College program has lost a great deal since 1996. "It is weakened so much that it is almost dead" (Interviewee 12). While IFPRI staff also interacted with the Department of Home Science and Nutrition of the University of Malawi, regret was expressed they were not able to spend more time with other departments such as Crop Sciences.

IFPRI, with UNICEF and USAID support, devoted considerable effort toward developing the library at Bunda College. The author visited it and found that there was a

complete set of the working papers entitled *Food, Agriculture, and Nutrition Policy Research* available, along with a set of IFPRI publications. These papers were often written jointly by IFPRI staff, faculty, and students. Indeed both the working paper series and the IFPRI reprint series were currently being used by students when the visit occurred! This is anecdotal evidence of a lasting impact. Regrettably the working paper series ended in 1996 when the IFPRI staff left, so in that sense there has been a lack of sustainability. When asked why, faculty said they did not have the funds to continue it.

Many spoke highly of the 1993 workshop on setting priorities for food, agricultural, and nutrition policy research agendas which IFPRI conceived and organized. The Rural Development Department used it as a basis for establishing its research program and improving the masters curriculum. The staff of the international agricultural research centers who attended also used the outcome to guide their own agendas. Of course, IFPRI explicitly used the workshop consensus to design its longer-term program in Malawi, which it has followed to a considerable degree.

Although a few were critical of the relative lack of access to the various databases, it is clear that IFPRI has been at pains to document the databases, deposit copies with key collaborators, and make it known that they are freely accessible. The only requirement is that there is first a formal request made to the appropriate ministry of the government of Malawi. This is to ensure that the government has a sense of stakeholding in the resource that the databases represent, which is quite appropriate and prudent. IFPRI is to be congratulated in adopting this approach, which some view as bureaucratic and hence no doubt the source of some of the adverse comments received by the author. Although in an unknown state of accessibility, all of the food security and nutrition monitoring data are still with the Ministry of Agriculture and Irrigation.

The Ministry of Agriculture and Irrigation still makes use of the questionnaires and survey instruments for ad hoc studies in the agricultural development districts. For example, when nongovernmental organizations (NGOs) approach the Ministry to identify villages where they might focus their efforts, the IFPRI materials are used for the initial surveys.

While IFPRI had a major influence on the creation and operation, at the University of Malawi, of the Agricultural Policy Analysis Training Unit with the support of the Agricultural Services Project of the World Bank, this was not the case with the Agricultural Policy Research Unit (APRU). The latter was primarily an initiative of USAID, who would have preferred it if IFPRI had developed a closer relationship with APRU. Although the two units were located side by side on the campus of Bunda College, the sense is that APRU may not have realized its full potential as an independent policy research entity having its own impact within the Ministry of Agriculture and Irrigation. It sought autonomy from the university and from the Rural Development

Department in particular, and was viewed primarily as a consulting agency whose reports mostly were not made public. Against this background IFPRI made a wise decision to distance itself from APRU lest it alienate its partners in the Rural Development Department at Bunda College. Recently a decision has been made for APRU to become a formal part of Bunda College. It is hoped that initiatives such as staff exchanges between APRU and the Ministry of Agriculture might enhance its future value in the policy arena.

In the early 1990s, when an IFPRI staff member was located in the Ministry of Agriculture and Livestock Development, there was considerable collaboration and institution building, especially in the Food and Nutrition Unit and the Planning Division. It is felt that this eroded when the IFPRI staff member moved to Bunda College in 1992, and lost completely when IFPRI staff left Malawi in 1996. Staff in the Ministry of Agriculture appreciated IFPRI's input up until 1992, and the Ministry was hoping to have a systematic framework for policy analysis with IFPRI's help. They now feel that this opportunity was missed. As an indication of the high value placed on the IFPRI presence at that time, the staff of the Planning Division were very unhappy that the IFPRI staff member was initially located in the Food and Nutrition Unit and not in the Planning Division. While this might have impaired interactions with the Planning Division somewhat, it did not prevent them, especially after 1991 when the food security and nutrition monitoring project was moved into the Planning Division. A senior Ministry of Agriculture officer volunteered that little blame should be placed on IFPRI for the erosion of their influence and the sustainability of their impact within the Ministry. Staff turnover in the Ministry and other pressures meant that they did not know how to use IFPRI effectively.

### *Research*

The data and analyses arising from the work on food security and nutrition monitoring have been quite influential in Malawi and among donors. UNICEF, as the major donor to IFPRI for this work in the early 1990s, made extensive use of it in its campaign to convince the government of Malawi that there was an endemic food security and malnutrition problem in Malawi. The dire state of food security and malnutrition was denied by the Banda government until the mid-to-late 1980s and only international agencies were in a position to seek facts and publicize them, as described earlier. First, Cornell and then IFPRI (when Per Pinstrup-Andersen and Suresh Babu joined the latter) received UNICEF support to illuminate the policy environment in the country.

IFPRI helped convince policymakers that national food security and the absence of malnutrition had not necessarily been achieved even though the arithmetic of food production (usually overestimated) divided by population (usually underestimated) indicated that the country was food secure. It was not until the data and analyses from the food security and nutrition monitoring household surveys became public in the early

1990s that it was realized that there was a major policy challenge in addressing malnutrition. The national workshops described in Table 3 were an important part of this process of awareness, advocacy, and education at both the regional and national levels. More importantly, the newly created Food Security and Nutrition Unit in the Office of the President and Cabinet relied heavily on the IFPRI work on food security and nutrition monitoring, as did the Food Security and Nutrition Advisory Committee (Figure 1). The various research papers that were produced using the data, mostly in association with student's masters theses, were also important.

Quinn and Kennedy (1994, 242) acknowledge the effectiveness of the linkage between the academic researchers involved in food security and nutrition monitoring and government planners in Malawi, "...where a social research group from the university was instrumental in spearheading the development of nutritional surveillance in the country. This eventually led to the opening up of the debate on food security and nutrition issues, which were previously considered too politically sensitive to discuss ..."

However, in the minds of some, none of these quality data and analyses has been translated into operational interventions that have made a sustainable difference to poverty, food security, and malnutrition in Malawi. As stated elsewhere these indicators have not improved since the 1930s. However, the current president explicitly mentions the problems of malnutrition and poverty in his public statements. This was unheard of in the 1980s and early 1990s. Now the options go beyond enhancing the production of maize to consideration of cash crops, legumes, soil fertility enhancement, food-for-work programs, and the like.

The data bases on food security and nutrition in Malawi are regarded by many who were interviewed as among the best of any African country. Particular comparisons were made with Ghana, where it is difficult to design interventions because little is known about the location and extent of food insecurity and malnutrition. "Ghana is nowhere near Malawi in knowledge of the food security and nutrition situation in the smallholder sector" (Interviewee 3). Commenting at the 1992 regional conference of the Southern Africa Development Community (SADC) on household food security and nutrition monitoring, I. L. P. Nyborg of the Agricultural University of Norway said, "... it seems the Malawi program has come perhaps the furthest in setting up a comprehensive food security and nutrition monitoring system than any other country in the region" (Babu and Mthindi 1992, 13).

The feeling at the Ministry of Agriculture and Irrigation now is that there is no need to repeat the types of household food security and nutrition monitoring surveys that were undertaken by IFPRI in the early 1990s, as they were both too extensive and intensive. Their rationale is partly that the surveys did not show any major changes in the food security and nutrition status over the years, and as the National Sample Survey of

Agriculture uses the IFPRI methodology in their 10-year exercises, this should suffice. The Food and Nutrition Unit in the Ministry of Agriculture and Irrigation now only has two staff, and they focus on diet modification strategies such as crop diversification. Hence, in one sense, there is evidence of IFPRI's impact in the National Sample Survey of Agriculture, but the Ministry of Agriculture and Irrigation no longer uses the approach in its operational activities. However, the IFPRI findings and approach have influenced other ministries—such as the Ministry of Health and the Ministry of Women, Youth and Community Services—which are mounting their own regular household sample surveys. They realize that relying on children's anthropometric measurements at health clinics give a biased sample and cannot be relied on. "IFPRI created awareness of the need for community food security and nutrition monitoring systems." (Interviewee 30)

The perceptions are that IFPRI's work on rural finance and credit has been as effective as that on food security and nutrition monitoring. The Malawi Rural Finance Company has been influenced by the research on group versus individual liability for loans and currently is involved in supporting further research by IFPRI on such questions. This includes the issue of the effects of alternative liability rules on savings behavior. Its board has already decided to be more flexible in lending policies, including the provision of cash loans instead of a fixed in-kind package of inputs, as a result of IFPRI research. The staff of the Malawi Rural Finance Company seem to be under some strain, to assist with the current IFPRI action research when they also have their normal duties. However, the management of the company made it clear they are keenly interested in the outcomes from the IFPRI work, which have already had an influence on policy.

The IFPRI work on market liberalization with the Agricultural Policy Research Unit has only recently begun. A seminar has been given in the Ministry of Agriculture and Irrigation and was well received. Few who were interviewed were familiar with this study. The same was true for the work on food security coping strategies and market reforms and regional integration in Southern Africa.

The work on the effects of tobacco and hybrid maize on smallholder income, food security, and nutrition was also not well known, although one key respondent said IFPRI's research helped to "leverage policy changes which allowed smallholders to have quotas for burley tobacco" (Interviewee 3). There were vested interests in the government of Malawi who were keen to retain the quotas only for the estate sector. The work of IFPRI certainly reinforced the move to increase tobacco quotas for smallholders, although the decision to do so occurred before the publication of IFPRI's research on the question. In late 1997, the quotas were completely removed (Zeller 1998; Zeller, Diagne, and Kisombe 1996).

Research by a masters student on the economics of irrigation was discussed at a meeting of agricultural development district officers. The research had shown that

community-based irrigation schemes were more successful than government-managed schemes, because people cooperated better in the former. Soon after the meetings, the government of Malawi ceased establishing government schemes, although it is not known if this research was influential in this decision.

The poverty monitoring study that began in 1998 did not have any meaningful results to purvey at the time of writing. However, one respondent felt that the major benefit of IFPRI staff involvement was their analytical capacities, which enabled them to handle large data sets efficiently and in a timely way.

Research by IFPRI and ICRISAT on the economic value of losses caused by early leaf spot and aflatoxin diseases of groundnut was of value to ICRISAT in establishing priorities for these in its breeding program, but not to Malawi directly.

### *Spillover Effects*

The IFPRI work spawned a number of spillover effects, which are worth noting:

- ▶ The Economic Development Institute of the World Bank had a meeting at Bunda College of Agriculture, which was facilitated by IFPRI; some of the Bunda College of Agriculture collaborators subsequently attended Economic Development Institute workshops and training programs.
- ▶ A number of the masters students have aspired to pursue Ph.D. degrees. Also, at least one research assistant is currently undertaking the masters degree program at Bunda College.
- ▶ One of the early trainees in the Agricultural Policy Analysis Training Unit program now provides training in quantitative methods to those involved in the rural finance project.
- ▶ A number of donors have provided scholarships for the students in the masters degree program. These include the Rockefeller Foundation, Department for International Development (U.K.), USAID, GTZ, International Development Research Centre (Canada), and DANIDA.
- ▶ Malawi was represented at a meeting in Uganda in October 1998 called by IFPRI, at which a decision was made to establish an agriculture, food, and environmental research network for Southern and Eastern Africa under the auspices of the IFPRI 2020 Vision initiative. From all accounts, Malawi is excited by this new regional initiative by IFPRI. Bunda College of Agriculture, the Centre for Social Research,

the National Statistics Office, and the Ministry of Agriculture and Irrigation are some of the institutions to be involved.

- ▶ The locally made instruments to take anthropometric measurements for the food security and nutrition monitoring studies in the early 1990s are still being used by the collaborating organizations such as the agricultural development districts.
- ▶ IFPRI's papers from its work with Malawi, as well as general IFPRI research reports and other publications, are being explicitly referred to by the coordinator of the Agricultural Science Committee of the National Research Council in drafting the new Research Master Plan for Malawi: evidence of this was clear in his office at the time of the interview.
- ▶ It seems that a former masters student supervised by IFPRI had been working on a Social Accounting Matrix model for Malawi in the National Economic Council with United Nations Development Programme (UNDP) support when, because of his continuing association with IFPRI, he came to learn of the macroeconomic reforms and regional integration in Southern Africa project; Malawi joined the multicountry IFPRI study in 1998.
- ▶ IFPRI has assisted in the survey design in an advisory role and has commented on the draft UNICEF-funded Malawi Social Indicators Report, published in 1996 by the Ministry of Planning and Development.
- ▶ The Bunda College/IFPRI team members were invited to share their experiences at a meeting in 1994 to initiate the Southern Africa Food, Agriculture, and Natural Resource Policy Analysis and Research Network.
- ▶ The Bunda College/IFPRI team presented a paper outlining Malawi's approach to capacity strengthening in food security and nutrition planning and operations at the sixth meeting of the Household Food Security and Nutrition Network in Southern and Eastern Africa, held in Durban, South Africa, in 1994. IFPRI also attended the eighth meeting in 1996 to present further results from this work.
- ▶ During 1996, an IFPRI staff member participated as a resource person at several meetings and workshops organized by the Interministerial Technical Working Committee on Poverty Monitoring Systems in Malawi. This led to IFPRI involvement with the National Statistics Office, the Centre for Social Research, and the National Economic Council in the Poverty Monitoring Systems project funded by the World Bank.



- ▶ IFPRI was asked to advise on the questionnaire design and sampling frame for the monitoring indicator survey commissioned by UNICEF in 1996 and implemented by the Centre for Social Research and the National Statistics Office. IFPRI also reviewed the draft report.
- ▶ IFPRI was a member of the Technical Working Committee of the Vulnerability Assessment Mapping project of the Famine Early Warning System in 1995–96; advice was given on questionnaire design and report drafts.
- ▶ In 1999, the nutrition adviser of the World Bank suggested IFPRI as the appropriate institution to contact in answer to a request from Cornell University for information on nutrition and food policy capacity-building approaches in Southern Africa.

## **TANGIBLE INDICATIONS OF IMPACT AND VALUE**

In the previous section, discussions with those interviewed and familiar with IFPRI's programs with Malawi and their perceptions of the impact and value of the Institute in the period since 1989 are reported. Of course, perceptions are by their nature subjective and must be interpreted with care. One prefers to have more tangible measures or evidence of actual impact, ideally on the welfare of the poor, food insecure, and malnourished, who are the target groups for IFPRI. Unfortunately, in this case, it was not possible to derive evidence of such final impacts. All that it is possible to do, as a complement to summarizing the perceptions of people, is to report on indications of indirect impacts or intermediate outputs, which are likely to ultimately lead to direct benefits to the above vulnerable groups. Even though indirect or intermediate in nature, they are tangible.

### **Training and Capacity Strengthening**

#### *Masters Degree Graduates*

Since the masters degree program began in 1994 at Bunda College of Agriculture, there have been 16 graduates. Of these, IFPRI staff members supervised 9. All graduates from the program at Bunda College have found rewarding and fulfilling positions (Table 4). Two of them are pursuing Ph.D. degrees, and IFPRI's help in this is acknowledged. International agencies are eager to hire the masters graduates, and starting salaries, including perquisites, can be around 24,000 kwacka (K) per month (US\$570). In comparison, the salary of an officer with a bachelors degree in the government of Malawi service is less than K6,000 per month (\$140). A masters graduate could only expect some K9,000 per month (\$210) in the service of the government of Malawi. The differential between the bachelors degree salaries and those with a masters degree in

international agencies would provide perhaps a minimum estimate of the economic value to Malawi of the masters degree.

### *Training, Workshops, and Courses*

IFPRI has been a major player in more than 100 capacity-building events from 1990 until now in Malawi (Table 3). This has involved more than 1,500 participants.

### *Joint Publications*

IFPRI staff have written more than 40 joint papers with the staff of ministries, especially the Ministry of Agriculture and Irrigation and the faculty and students at Bunda College of Agriculture. Many of these have been published in refereed journals. This is an important part of capacity strengthening.

### *Working Paper Series*

IFPRI's contribution was essential in starting a series of working papers that were published by the Bunda College of Agriculture from 1991–96 called *Food, Agriculture, and Nutrition Policy Research* papers. This series was a major forum for dissemination of the results of the collaborative research between the Rural Development Department of Bunda College of Agriculture and IFPRI. Included in the series were a number of bibliographic surveys of the relevant literature.

### *Training Responsibilities*

When the training courses at Bunda College of Agriculture began after the Agricultural Policy Analysis Training Unit was created under the Agricultural Services Project of the World Bank, IFPRI staff took responsibility for the majority of the training modules. Over time the erstwhile faculty collaborators/trainees and students at Bunda College of Agriculture and various ministries who participated earlier in these courses and other IFPRI courses have taken over the teaching responsibilities. From being involved in all modules in the beginning, IFPRI is scheduled to be involved in only 1 of the 13 modules being offered in the 1999 Agricultural Policy Analysis Training Unit program. This growing capacity on the part of Bunda College and the training unit is a credit to those involved, including the University of Malawi, the Ministry of Agriculture and Irrigation, the World Bank, and IFPRI.

### *Professional Association*

Bunda College and IFPRI rendered assistance in organizing the first formal meeting of the newly formed Association of Agricultural Economists of Eastern and Southern Africa in Nairobi in May 1994.

## **Food Security and Nutrition**

### *Agricultural Services Project*

The preparations for this World Bank project with the Ministry of Agriculture and Livestock Development began in 1992. Extensive use was made of the food security and nutrition monitoring data and analyses that were made available to the various bank teams in preparing the documentation (Simler 1992). As a consequence of the IFPRI presence in Malawi and the growing reputation of the staff involved, the large training component at Bunda College, including the Agricultural Policy Analysis Training Unit, was written into the Agricultural Services Project. In a sense, it was a quid pro quo.

### *Response to 1991-92 Drought*

The timely availability of the early rounds of food security and nutrition monitoring data to the government of Malawi was instrumental in allowing effective interventions to be targeted where deprivation was emerging as most severe during the drought. Babu and Mthindi (1995b) cite examples of how the November 1991 household survey information on the status of food stocks was requested and presented at planning meetings in March 1992. Reports issued by the Ministry of Health and the Ministry of Agriculture and Livestock Development utilized the readily available food security and nutrition monitoring information. Food needs, import requirements, and distribution plans were all estimated with the specific aid of the food security and nutrition monitoring data and analyses. The food security and nutrition monitoring "...analyses were used by FAO and World Food Programme as the documentation needed to increase their initial estimate of emergency food needs by about 50,000 tons, just to cite one specific example" (Interviewee 52). In February 1993, the Ministry of Agriculture and Livestock Development released a report on nutrition monitoring in the drought that showed how food distribution had reduced malnutrition. This relied on food security and nutrition drought monitoring surveys.

Babu and Chapasuka (1997) describe how other food security and nutrition monitoring information was used to assist in related interventions. For example, installation of 3,000 bore wells was based on the distance to protected water from earlier food security and nutrition monitoring surveys. Also, data on the density of pit latrines was used to guide further installations. According to them, the IFPRI work in Malawi

was influential in the subsequent establishment of a Regional Food Security and Nutrition Information System by SADC, with technical assistance from FAO.

As Babu and Mthindi (1995b) observe, it is a testament to the Malawi authorities that, in spite of a shortfall of some 60 percent in maize production in the 1991–92 drought, they were able to handle the massive food aid, import, and distribution challenge without mass famine, starvation, and death. Besides the generosity of the donor community and other factors, Malawi's ability to achieve this was due in no small measure to the availability of quality food security and nutrition monitoring data and analysis in real time; IFPRI can justifiably share in the credit for this. Babu and Chapasuka (1997) maintain that the decentralized nature of the food security and nutrition monitoring data collection and analysis was the key in minimizing the time from training enumerators to the availability of analyses. This lag was only 4–6 weeks.

While time did not allow for it in the current exercise, it should be possible to assess the economic, nutrition, and livelihood benefits to the food insecure and nutritionally vulnerable from the timely distribution of food aid during the drought. In the absence of the food security and nutrition monitoring information, presumably the aid would have not been as well targeted. This cost could be calculated. The periods and numbers of people who would have been malnourished and perhaps have died could also be estimated. This valuation of timely information analysis is worth doing.

### *Special Issue of Journals*

In June 1994, a special issue of *Food Policy*, Vol. 19 (No. 3), was devoted to "Household food security and nutrition monitoring: The African experience." An IFPRI staff member was one of the two guest editors for the issue (Babu and Quinn 1994a). Five of the nine papers were coauthored by IFPRI staff and three of these were by staff involved in the Malawi program. Most of the papers were selected from those presented at the SADC Regional Conference on Household Food Security and Nutrition Monitoring in April 1992. The recommendations from this conference led to three pilot projects by SADC/FAO on household food security and nutrition monitoring in Mozambique, Swaziland, and Zimbabwe.

The collaborative research between Bunda College and IFPRI was published in a special issue of the regional journal *Agricultural Economic Analysis and Rural Development*, Vol. 4 (No. 2), also in June 1994. An IFPRI staff member was guest editor for the issue and it contained papers by four masters students and Rural Development Department faculty (Babu 1994).

### *Crop Diversification Workshop*

One of the policies adopted by the government of Malawi was crop diversification. This policy change came from the realization that a maize-based diet and farming system with no discernible productivity gains occurring was the primary factor in the widespread food insecurity and malnutrition, which IFPRI had helped to document so well. IFPRI staff at Bunda College of Agriculture helped organize a crop diversification workshop in 1994, aimed at exposing policymakers to the full range of crops that could find a place in smallholder farming systems and improve incomes and nutrition. The workshop was held in July 1994 and a proceedings was coauthored by IFPRI staff (Kwapata and Babu 1994).

### *Translation of Training Manuals*

The manuals that were prepared for the SADC training workshop on food security and nutrition data analysis in September–October 1996 were translated into Portuguese by the faculty of Eduardo Mondlane University under the leadership of a collaborator, Professor F. Mucavale in September 1997. With the help of IFPRI, the SADC course was taught again in Mozambique in 1997 for trainees from that country and Angola. Then, in 1998, it was taught again in Angola, assisted by the Angola trainees who had attended the 1997 course. Hence, there has been a multiplicative effect of this particular course throughout the Southern Africa region.

### *Famine Early Warning System and World Bank Reports*

A Family Early Warning System report on vulnerability assessment and mapping in Malawi by Morinère, Chinwaza, and Weiss (1996) made use of the food security and nutrition modules that IFPRI and the Ministry of Agriculture and Livestock Development had implemented at the time of the National Sample Survey of Agriculture surveys in 1993. Apparently, the National Sample Survey methodology was questioned. The IFPRI/Ministry of Agriculture and Livestock Development module included among other things imputations for food grown at home and consumed as part of food expenditure, as well as food intake data by recall. Similar data were used in a publication by the World Bank (1995).

### *Government Policy Statement*

The food security and nutrition monitoring activities, data, and analyses of IFPRI, in collaboration with others in Malawi, played a significant role in an important food security and nutrition policy statement by the government of Malawi in 1990 (Office of the President and Cabinet 1990). UNICEF was an integral component of the advocacy for the priority that these matters should have in the development policies and plans of

the government. UNICEF relied heavily on the outcomes from the IFPRI work, which it was supporting.

For the first time in Malawi, the statement elaborated on the extent and causes of food insecurity and malnutrition and identified the most vulnerable groups. It maintained that child nutritional status is the most appropriate indicator of the nutritional well-being of the whole population, rather than national statistics of food production per capita. It stated the objective of the government is to improve the nutritional status of the population. It planned to do this by increased agricultural productivity, employment, human resource development, and targeted income transfers to vulnerable groups.

To effectively plan and implement the food security and nutrition policy, the statement says that information systems will be strengthened in order to monitor the food security and nutrition situation in the country and to assist in policy formulation and program implementation. There is a whole annex elaborating these plans. On page 16 of the annex, explicit mention is made of the plans to strengthen the Food Security and Nutrition Unit of the Ministry of Planning and Development and the Food and Nutrition Unit and Planning Division of the Ministry of Agriculture and Livestock Development. The Food and Nutrition Information Committee was encouraged to use the information coming out of these institutions to develop agriculturally-oriented food and nutrition policies. Bunda College of Agriculture, the Centre for Social Research, and the Home Economics and Nutrition Department of the University of Malawi were explicitly urged to do more food security and nutrition monitoring research and to develop better linkages with the government.

The promulgation of the policy statement and its contents are a clear and tangible indication of the influence that the IFPRI collaboration had on the setting of food and nutrition priorities in Malawi. “The IFPRI staff made large conceptual, managerial, and diplomatic contributions to the creation of that policy statement. It was created by a highly participative process by something like 60 individuals and represented a remarkable governmental consensus on the root causes of food insecurity and malnutrition and on a comprehensive strategy to improve the situation. To this day, key government officials there have a far more sophisticated and comprehensive understanding of these problems than most of the current donor staff who did not have the benefit of that analytical and consensus-building process. (The donor folk are all new, but the Malawians mainly are the same). Suresh Babu, Per Pinstrup-Andersen, and many others made essential contributions to developing that sophisticated understanding” (Interviewee 51). Regrettably, there is no evidence that this understanding has been effectively translated into interventions that have made a difference to the poor, food-insecure, and malnourished.

### *Poverty Monitoring System*

IFPRI was invited in 1995 to be a member of committees set up to initiate a poverty monitoring system in Malawi. Advice was given on the questionnaire design for the Integrated Household Survey, which was initiated in 1997, and a new IFPRI project with the National Economic Council, the National Statistics Office, and the Centre for Social Research is underway to analyze the data. For the first time, the national survey includes a food consumption recall module, after many years of urging by IFPRI. This will enable a consistent poverty line to be constructed for Malawi, which has proved to be elusive up to now. The seven-day recall method of food consumption and expenditure recommended by IFPRI will enable a more accurate estimate for subsistence farm households, in particular, than the 30-day diary of self-reported food expenditures originally planned. The latter would largely miss consumption from home-produced food.

### *Measures of Economic Impact*

Babu and Mthindi (1995a) have estimated the process benefits and costs of IFPRI's food security and nutrition monitoring activities in Malawi from 1990–92. The total costs of the surveys, training, and analyses for the five rounds were US\$763,000. This appears to have excluded the salary and on-costs of the IFPRI staff involved, but it does include the costs of the government staff. On this investment, the authors estimate the internal rate of return as 21 percent when only direct process benefits are included, and 66 percent when both direct and indirect process benefits are included.

It is not clear to this author precisely how process benefits were calculated. Additionally, because it appears costs have been underestimated, these figures should be interpreted with care.

### **Rural Credit**

It is clear that the work IFPRI has done and continues to do on rural credit and savings has had and is still having a significant influence on the policies and operations of the Malawi Rural Finance Company. The work described in Diagne, Zeller, and Mataya (1996); Zeller, Diagne, and Kisyombe (1996); and Zeller et al. (1996), including the 1996 workshop, led to requests from the general manager of the Malawi Rural Finance Company for IFPRI to undertake further "action research" on the issue of joint versus group liability in the design of credit programs. Quotations from two letters to IFPRI illustrate this derived demand for IFPRI research, which is yet another tangible indication of impact (Box 1).

## **IMPLICATIONS AND LESSONS LEARNED**

IFPRI has been involved in collaboration with Malawi for nearly 10 years. This is a long time and provides a contrast to the programs the Institute has had with Viet Nam for only four years (Ryan 1999). Some issues emerged during the course of the study that deserve to be mentioned because they have relevance for IFPRI's future strategies and priorities.

1. There is a trade-off between the provision of timely advice to partners and the quality of that advice. IFPRI (and other international agricultural research centers) have come to depend increasingly on project funding with limited horizons, often of three years or less. Meaningful results are expected in these tight timeframes and this can lead to premature conclusions being drawn. This has occurred in the Malawi program.



In their 1996 studies, Zeller, Diagne, and Kisyombe (1996); Zeller et al. (1996a); and Diagne, Zeller, and Mataya (1996) concluded that policies that improved access to credit by smallholders allows them to adopt capital-intensive crops such as hybrid maize and tobacco, which increase their incomes and improve food security. However, in a later paper, Diagne and Zeller (1999) conclude that access to credit does not guarantee higher incomes or improved food and nutrition

Box 1

Dear Dr. Zeller:

I refer to the UNICEF/IFPRI study on Rural Financial Markets and Household Food Security and its presentation at Bunda on October 21–22, 1996, that we attended.

The study revealed thought-provoking issues and relevant facts that may cause a reconsideration of some of our lending policies. We found the results of the study of considerable practical value. We also noticed with interest the conclusions with regard to requirements for a sustainable rural credit system in Malawi.

We are also grateful that Dr. Aliou Diagne and yourself accepted our subsequent invitation to give a special briefing to our staff. It was greatly appreciated by all participants. Some of your findings are already being used, and on others we plan to do further “brain storming” with a view to review our policy.

We are also pleased to hear that you are already thinking of including the issue of “joint and several liability” in your future studies. In this connection, we would like you to know that we are willing to embark on a carefully thought out “experiment or pilot scheme” to test the conclusions presented by Dr. Aliou Diagne, if this is what you might want. (October 31, 1996)

\*\*\*\*\*

Dear Dr. Diagne:

We were also delighted to know that you are considering to undertake further research on the principle of joint and several liability in group lending.

As you know we have been considering experimenting on this policy for sometime. We have been wanting to relax this principle, on a limited scale, to see what does it do to our loan recovery rates.

We were hoping that we would be able to coordinate our experiment with your intended research in this area. We wonder if you would be interested in doing so and whether you could be ready to work with us on the basic design features of the pilot scheme now, so that it could be tried for the coming lending season starting in September 1997. (July 20 1997)

security. The policy implications are quite different in the two cases. No doubt, there are perfectly valid reasons why the results differ, including refinements in the data, methodologies, and analyses. This is what is expected in the normal course of economics research. However, busy policymakers will not have the time or often the expertise to understand the subtleties involved.

The author did not receive any adverse comments when interviewing IFPRI's partners in Malawi about the apparent contradictions in the above studies. However, it would seem the imperatives of more immediate outcomes from the project mode may have compromised the quality of the final product. Presumably, longer-term core funding, with recognition of the need to ensure adequate peer review and revision before placing results and recommendations in the public domain, reduces the chances of this.<sup>3</sup>

2. It seems clear that, while IFPRI had a staff presence in Malawi, it was viewed in a very positive way by its partners. However, for the last three years when IFPRI staff have operated from Washington D.C. on a visiting basis, the perceptions have changed. From an "embrace and sit" mode, the view now is that IFPRI "hits and runs." In the process, there would seem to be missed opportunities to influence policy outcomes. This is reflected in the interviews where references to the need for IFPRI to improve the dissemination of its work were common.
3. When the program moved from the Ministry of Agriculture and Livestock Development to Bunda College of Agriculture in 1992, one trade-off seemed to be that the momentum of policy influence within the former waned somewhat. This is understandable as IFPRI made a conscious decision to emphasize training and capacity-strengthening activities from that time. This was viewed as having a potential longer-term and sustainable impact and to enhance the synergies between the University of Malawi and the Ministry. While this has occurred to some extent, Planning Division staff of the Ministry of Agriculture and Irrigation feels somewhat sidelined in the process.
4. A question arises about the comparative advantage of IFPRI in designing curricula for university masters degree programs. No doubt it has a demonstrated comparative advantage in food security and nutrition monitoring and related food policy research, and it used it to good effect in capacity building at Bunda College of Agriculture. Presumably though, universities like Cornell, Stanford, and Harvard, with long experience in international agricultural development and the design of curricula, would have been better placed to deliver a well-rounded program.
5. IFPRI is regarded as an expensive collaborator in the sense that the overheads it factors into the projects are viewed as high. This was recently evident in the

Agricultural Services Project, where IFPRI still has a contractual commitment to provide input into the training program of the Agricultural Policy Analysis Training Unit until the end of 1999. Bunda College of Agriculture and the Ministry of Agriculture and Irrigation felt IFPRI had not provided the input it had contracted to, but a large portion of the remaining funds are for IFPRI overhead, which Bunda College of Agriculture and the Ministry of Agriculture do not fully appreciate. They expect the funds to be all for the time of the IFPRI staff. This serves to illustrate further the hazards of project funding, especially when they are from a World Bank loan to the partner country.

Additionally, it appears that those who expressed their concerns about the IFPRI commitment under the Agricultural Services Project may not have been aware of informal agreements that encouraged IFPRI to organize regional courses instead of national courses. Modules from the former are made available to the Agricultural Policy Analysis Training Unit as a *quid pro quo*.

6. IFPRI publications are well regarded in Malawi among the few of those interviewed who receive them. However, apart from the library at Bunda College of Agriculture, these remain unavailable to others. To help rectify this, as far as possible, IFPRI should address its publications to positions rather than to the name of current incumbents. With the high turnover of staff in most agencies, this would help to keep IFPRI publications in the public domain.

Less than half of the papers that have been published by the two IFPRI staff mostly involved in the Malawi program over the last 10 years were lodged in the Bunda College of Agriculture library. It would be desirable if the gaps could be filled and a system implemented to ensure that libraries automatically received all publications by IFPRI related to Malawi, whether produced in-house or outside.

7. The logistical challenges in a country like Malawi are sizable. Communications are difficult, transport is a constraint, and well-trained support staff are hard to obtain. Indeed, in the conduct of this exercise in Malawi, the author found it extremely challenging to arrange the various interviews by telephone as most of the time they were out of order and/or the people concerned had changed their positions. One can imagine how arduous it must have been for IFPRI staff over the years to be as effective as they obviously were.

This raises the question of the value and desirability of having an IFPRI country office in cases like Malawi, where many different projects are underway at any point in time. It could provide the necessary logistical support to the visiting IFPRI staff, liaise with the government of Malawi and local collaborators, and be a repository of IFPRI publications.

## CONCLUSIONS

The IFPRI program with Malawi has been effective in providing timely and relevant information and advice to assist in the design of interventions aimed at improving the food security and nutritional status of the population. These interventions have been at the national, regional, and local levels. As was the case in the Viet Nam study (Ryan 1999), the policy environment was conducive to an IFPRI role in the late 1980s. After years of denial about the severity and pervasiveness of food security and malnutrition, the government of Malawi finally acknowledged the problem after continuous UNICEF advocacy. Subsequent support by UNICEF of intensive IFPRI household surveys, training, and capacity-strengthening activities translated into new policies and action programs.

The most significant evidence of the value of the IFPRI food security and nutrition monitoring program in Malawi is its role in helping the government of Malawi formulate its responses to the unfolding crisis of the 1991–92 drought. Clearly, the availability of household-level data from the food security and nutrition monitoring program on items such as food stocks, food consumption, water supplies, and crop production within a few weeks of being gathered by the survey teams, was pivotal in averting what could have been a famine situation. The government of Malawi was able to target their responses to the regions most adversely affected as the surveys were conducted in all agricultural development districts of the country. This, no doubt, saved lives, reduced malnutrition, and resulted in significant economies. Time did not allow a quantification of these benefits in this study. However, it would appear that there are sufficient survey data available to undertake a simulation study of the nutritional, health, and economic benefits of the timely and targeted nature of the interventions made possible by the food security and nutrition monitoring data and analyses.

IFPRI was also influential in the decision of the government of Malawi to include a formal food security and nutrition policy statement in the national plan in 1990. This served to place these issues in the forefront of developmental policy, which will have long-term benefits. The explicit IFPRI role in the Agricultural Services Project and the Poverty Monitoring System of the World Bank in Malawi are serving to further ensure that these policies are translated into concrete action. Until 1990, the focus of the government of Malawi was on the arithmetic of national food production per capita as its measure of food and nutritional security. Now it acknowledges explicitly that this is a poor indicator, and that disaggregated household data and analysis are needed to identify vulnerable regions and groups and design appropriate policies and interventions.

The food security and nutrition monitoring approaches advocated by IFPRI are now institutionalized in Malawi. Ministries such as Agriculture and Irrigation; Health; and Women, Youth, and Community Services still use the survey instruments designed by

IFPRI in the early 1990s. The curricula developed by IFPRI for the masters degree program at Bunda College of Agriculture is still being employed, and the Malawi faculty are now fully responsible for teaching and thesis supervision. The short-term training program under the Agricultural Policy Analysis Training Unit continues, and all but 10 percent of the courses are the responsibility of Malawi institutions. When these began in 1994, IFPRI was involved in all courses being offered. The National Statistics Office has built upon the IFPRI food security and nutrition monitoring methodology in the design of its National Sample Survey of Agriculture and still relies upon enumerators trained by IFPRI. The extensive training and capacity-strengthening activities associated with the above at Bunda College of Agriculture and the Ministry of Agriculture and Irrigation, involving some 100 events and over 1,500 participants, has resulted in a cadre of professionals in food security and nutrition monitoring and policy analysis who are continuing the work. The interviews conducted in Malawi as a part of this study confirmed that this was the most noteworthy of IFPRI's contributions in Malawi. This influence extended to the SADC countries and to others in Africa. Indeed, the Malawi food security and nutrition monitoring system promoted by IFPRI was regarded by many as a model for other countries to follow.

The research by IFPRI with its Malawi collaborators in Bunda College of Agriculture has had a significant impact on the policies and operating procedures of the Malawi Rural Finance Company. A good measure of this is the derived demand from the Company for a continuing input from IFPRI in action research in the field to assess the effectiveness of alternative liability rules for rural lending. The results of this research will serve to potentially improve loan repayment rates and mobilize more savings.

The research by IFPRI and collaborators in Bunda College of Agriculture on tobacco quotas has reinforced the decision by the government of Malawi to remove the quotas completely, which only applied to smallholders. The research showed the smallholder quotas served to generate monopoly rents to the estate sector and that smallholders were more efficient producers of burley tobacco than the estates, which faced diseconomies of scale. Earlier research by IFPRI showing the potential benefits to smallholders of growing tobacco was available at the time quotas were relaxed originally.

There is concern about a lack of sustainability of the IFPRI impact in Malawi, especially since IFPRI ceased to have residential staff in the country from 1996, in spite of attempts to do so. There is clear evidence that IFPRI's contributions are valued, but perceptions are that the visiting mode is inferior to a residential mode in building networks among the academic, policy, and donor communities, which increase the probability of adoption of policy advice. This author is of the view that IFPRI should consider establishing a Southern and Eastern Africa regional policy program with a base in an appropriate country in the region. This could consist of a critical mass of international research staff, along with training, communications, and other support staff.

This would enable IFPRI to play a more active and responsive role in the region. It would allow improved collaboration and information flows in both directions, seminars, on-the-job and formal training of national agricultural research system staff in Africa, timely IFPRI responses to emergent policy issues in partner countries, and access by these staff to international socioeconomic databases. The demand for quality policy advice in the region is such that now is the right time for such an initiative by IFPRI. It might also serve to diffuse the adverse perceptions that IFPRI is an expensive organization, which is too close to donors, too Washington-centric, and too possessive of the data bases it generates.

IFPRI at present has close to one-quarter of its senior staff located outside its Washington, D.C. headquarters. It has preferred to locate them in collaborating national institutions. This is indeed the model used in Malawi in the early 1990s. The new 2020 network for East and West Africa is a step in the right direction.

In spite of evidence in this study of the production of many intermediate outputs from the work of IFPRI with Malawi since 1989, the fact remains that the food security and nutrition situation has not demonstrably improved in the last 10 years; nor has it in the last 60 years. The percentage of children under age five who were stunted over recent years were 56 percent in 1981/82, 45 percent in 1991, and 48 percent in 1992 (UN and Government of Malawi 1993; Babu and Chapasuka 1997; Ng'ong'ola and Jumbe 1997).

Three-quarters of the population still go hungry for a quarter of the year as a regular feature of their lives (Office of the Vice President 1999). Hence, although IFPRI has helped to highlight the dire situation, effective and sustainable solutions have not been found. "Efforts at addressing the food security of the country, following a protracted policy debate, have so far been very ad hoc and there is therefore need for some very clear strategic thinking on what should be done, and just how quickly it should be done" (Office of the Vice President 1999, 5). A policy matrix is being developed for the next five years to address sectoral needs and priorities in response to this concern. IFPRI is notably absent from this exercise, which is unfortunate in view of its long association with Malawi and unique knowledge base. One cannot but conclude this would not be the case if IFPRI still had a presence in the country or had a regional program with strong long-term core support, which allowed continuous liaison at the highest levels of government. As Interviewee 51 says, "it seems IFPRI may have concentrated too much on data collection and too little on building solid linkages with the national policy environment in Malawi. Links with the donor community are not a substitute for this, as staff turnover and changing priorities are not conducive to sustainability."

## NOTES

1. See Cornell Food and Nutrition Policy Program (1990 and 1991).
2. This conclusion is not supported in a later paper by Diagne and Zeller (1999). More will be said about this in the section on implications and lessons.
3. In the Viet Nam study, Ryan (1999) found that the spatial equilibrium model which was used in the research on rice marketing and export policies had a number of refinements made to it over the space of four years. This led to different estimates of the welfare effects of liberalization. Fortunately, however, the primary conclusion that it was in Viet Nam's interest to liberalize internal and external rice markets was fairly robust. This is not the case here though. The policy recommendations were quite different in the later study on credit.

Appendix 1  
**Chronology of events in strengthening capacity for policy research and analysis in Malawi (1989-97)**

Year	Activities	Outcomes/remarks
October 1989	Initiation of the project activities on Food Security and Nutrition Monitoring (FSNM) in Malawi with capacity strengthening for food policy analysis as a major component.	IFPRI research fellow was outposted in his previous assignment as research associate from Cornell Nutrition Policy Program.
January 1990	Client consultation for establishing a FSNM system; input sought from field-level staff for designing information generation; nongovernmental organizations, government decisionmakers, and academic institutions participate. The director of Cornell Food and Nutrition Policy Program (later director general of IFPRI) visits Malawi to guide the process of implementing FSNM.	Developed a conceptual framework for FSNM and assigned responsibilities to respective players/actors.
February 1990	Food and Nutrition Information Committee (FNIC) established to avoid political connotations to the outcome of the FSNM due to term like "malnutrition" and "poverty," which were not used in official government documents at that time.	FNIC acted as an independent technical group to approve the outcomes of FSNM and to make policy recommendations to the government.
April 1990	Planning the first FSNM survey with field evaluation officers; training of evaluation economists in sampling, data collection, and survey implementation.	Development of questionnaires in a participatory manner with the users of information in mind.
May 1990	Training of enumerators, field supervisors, and evaluation officers.	About 250 enumerators and 60 data collection supervisors and field officers were trained over a period of one month.
June 1990	Implementation of first FSNM survey (harvest season)	The first survey was implemented in all the Agricultural Development Districts (ADD) with the food security module. A total of 253 households were surveyed.
July-December 1990	Three Malawians attend Cornell University training for 6 months in food and nutrition policy analysis.	They served as resource persons for FSNM training in Malawi.



## Appendix 1 — Continued

Year	Activities	Outcomes/remarks
September 1990	Training in data analysis using SPSS for decentralized planning.	Evaluation economists, statisticians, and project officers with MSc and BSc degrees in agriculture and agricultural economics, and data processing and computer programmers with BSc degrees were trained in data analysis for preparing program and project documents.
October 1990	National workshop on food security; discussion of results of the ADDs.	The ADD-level working papers were presented to national policymakers and planners for their feedback and action. (FSNM Report No. 2)
November 1990	Training of enumerators for the second round of FSNM (planting season)	The food expenditure module was introduced in the second round. Inclusion of home-grown food crops and their use as part of the household expenditure for the first time in Malawi.
December 1990	Implementation of the second round of the FSNM survey.	Food expenditure module introduced along with the food security module.
January 1991	Training on analysis of data using SPSS-food expenditure data.	About 20 evaluation economists were trained in the analysis of food expenditure data.
February 1991	National meeting on food security during the planting season. (FSNM Report No. 3)	ADD-level working papers were presented with policy recommendations and discussed at the national level.
March-April 1991	Training of field enumerators and supervisors for collecting child anthropometry data.	Use of locally-made anthropometry equipments introduced. About 260 enumerators and 60 field officers trained.
May 1991	Implementation of the third FSNM survey.	A module on child anthropometry was introduced alongside with food security and food expenditure modules.
June 1991	Training of evaluation economists and nutritionists.	20 participants (nutritionists and economists) trained in data analysis.
July 1991	National workshop on nutrition situation in Malawi.	ADD-level nutrition situation reports were presented at the national level.

## Appendix 1 — Continued

Year	Activities	Outcomes/remarks
October 1991	Field training of the enumerators and supervisors for the fourth round of FSNM.	About 260 enumerators and 60 field officers were trained.
November 1991	Implementation of the fourth FSNM survey with food security, food expenditure, and market modules. Agricultural Sector Memo preparation by the World Bank initiated.	Food security monitoring at the planting season corresponded with the initial period of the 1991/92 drought. Data from FSNM was used for analysis [see Babu (1997) and Simler (1992) for details].
December 1991	Rain needed for the maize crop failed.	Indications of a forthcoming drought season.
January-December 1992	IFPRI research fellow participated in many Agricultural Service Project (ASP) preparation/consultation meetings; trained the Ministry of Agriculture economists in the use of FSNM data for ASP preparations through funds provided by the ASP during 1992.	Strengthened capacity at the Ministry of Agriculture for similar project preparation activities. Bunda College/IFPRI gets ASP training component as reward.
February 1992	Special confidential alert on drought in Southern Africa from the Food and Agriculture Organization of the United Nations (FAO).	Meteorological and FSNM reports used by donors and government agencies in identifying vulnerable areas.
March 1992	FSNM report on the fourth round (November 1991) used in emergency planning by the Ministry of Agriculture.	ADD-level discussions on drought managing and protecting vulnerable groups.
April 1992	Training of enumerators and supervisors for the fifth round of FSNM.	About 300 enumerators and field officers were trained.
May 1992	SADC regional conference on household food security and nutrition monitoring funded by SADC, USAID, UNICEF, and UNIFEM. The conference brought together government officials, donors, and NGOs involved in food security and nutrition monitoring in 10 SADC countries.	Selected papers from the conference were published in <i>Food Policy</i> (June 1994). Recommendations resulted in the initiation of three pilot projects by SADC/FAO on household food security and nutrition monitoring in Zimbabwe, Swaziland, and Mozambique in 1993.

## Appendix 1 — Continued

Year	Activities	Outcomes/remarks
May-June 1992	Fifth FSNM survey with all modules.	Captures status of food security and nutrition during drought of 1991/92.
May-September 1992	Formation of UNICEF/IFPRI Joint Food Security Program, and preparation and approval of curriculum for the MSc program at Bunda College.	End of FSNM project in the Ministry of Agriculture and the beginning of work at Bunda College.
June 1992	A joint proposal on food security, agricultural, and nutrition policy research and institutional building at Bunda College of Agriculture finalized after consultations by the Rural Development Department and joint UNICEF and IFPRI Food Security Program in Malawi.	Bunda College requests UNICEF for funding and IFPRI for technical assistance.
July 1992	Nutrition monitoring during drought initiated under FSNM by the Ministry of Agriculture.	FSNM capacity generated is used for rapid appraisal of the drought situation (see Babu and Mthindi 1995; Babu and Chapasuka 1997 for a chronology of drought and use of FSNM in 1991/92 planning).
July 1992	Training of evaluation officers and nutritionists from the agricultural development districts in nutrition data analysis.	An analysis of anthropometry data for nutrition planning using SPSS.
September 1992	Implementation of the approved project on “Food Security, Agricultural, and Nutrition Policy Research and Institutional Building” at Bunda College of Agriculture.	Approval by tripartite agreements between Bunda College, IFPRI, and UNICEF-Malawi. MOUs state the responsibilities of each of the organizations involved in the project.
October-December 1992	Development of course materials for MSc courses; advertising and interviewing the candidates for the MSc program.	Four candidates—Andrew Chaw, Richard Kachule, Benito Elias, and Teddie Nakumwa—admitted to MSc program.
January 1993	MSc courses started.	MSc courses taught jointly by Bunda College/IFPRI staff.

## Appendix 1 — Continued

Year	Activities	Outcomes/remarks
February 1993	Review of literature on various policy issues affecting Malawi by selected staff of the Rural Development Department and Bunda College. Bibliography on policy issues by BSc students.	The students and selected staff were trained in the process.
March 1993	Planning for the priority-setting workshops and preparation of review papers by Bunda College staff.	Bunda College staff, led by Dr. Stanley Khaila, were given the responsibility for organizing the workshop (see Babu and Khaila 1995).
May 1993	National workshop on “Food, Agricultural, and Nutrition Policy Research: Setting the Priorities,” held as a consultative process for setting policy research priorities.	Workshop sets the stage for collaborative research between IFPRI and Bunda College.
June-July 1993	Preparation of project proposals for joint research by IFPRI and Bunda College on markets, irrigation, and rural finance issues.	Proposals for donor submissions from Bunda College.
December 1993	National Drought Management Workshop to evaluate 1992/93 drought relief programs.	Use of reports from the FSNM drought monitoring surveys.
January 1994	Second batch of students join the MSc course.	Names and details in Zeller, Mataya, and Islam (1997).
March 1994	Contract signed between IFPRI and Bunda College for implementing the agricultural policy analysis training subcomponent of the Malawi Agricultural Services Projects.	Project activities formally initiated under this subcomponent.
April 1994	Workshop held on potentials for crop diversification in Malawi, cosponsored by the United Nations Organization in Malawi.	Proceedings helped to identify priority areas for agricultural research.
May 1994	Assessment of capacity-strengthening needs for agricultural, natural resource, and nutrition policy analysis in Malawi.	Formed the basis for selecting and identifying short-term training courses (Babu and Mataya 1996).

## Appendix 1 — Continued

Year	Activities	Outcomes/remarks
May 1994	Bunda College and IFPRI help in organizing the first formal meeting of the newly formed Association of Agricultural Economists in East and Southern Africa in Nairobi.	Three Malawian agricultural economists attend the meeting with UNICEF/IFPRI program funding (contact, Julius Mangisoni).
June 1994	Bunda College/IFPRI program invited by SADC to share its experience at a meeting organized to initiate the Southern Africa Food, Agriculture, and Natural Resource Policy Analysis and Research Network (FAN-PARN).	Promoted Bunda College/IFPRI research and training activities in the region. A paper on the Bunda College experience presented at the meeting.
June 1994	Collaborative research done in 1992–93 published in a regional journal, <i>Agricultural Economics Analysis and Rural Development</i> .	Four Rural Development Department staff and students publish papers based on their research.
June 1994	A set of papers on household food security and nutrition monitoring published in <i>Food Policy</i> .	Issues addressed go beyond Malawi and derive lessons from other Sub-Saharan African countries.
June-July 1994	Bunda College staff member, Dr. Davies Ng'ong'ola, trained in environment and natural resource policy analysis at the Harvard Institute for International Development.	Training of trainers for natural resources policy analysis at Bunda College.
August 1994	Bunda College and IFPRI cooperate with USAID's Africa Bureau to initiate a set of studies on regional border trade, comparative advantage, and food security.	Teddie Nakumua, MSc student, conducted research as part of his MSc dissertation and presented the results in a workshop held in Karibe, Zimbabwe, in August 1996 (contact, Brian D'Silva, USAID-Nairobi).
August 1994	The Malawi approach to capacity strengthening was presented at the Sixth Household Food Security and Nutrition Network in Southern and Eastern Africa meeting in Durban, South Africa.	Provided guidelines and lessons from the Bunda College (Malawi) effort to other countries in the region.

## Appendix 1 — Continued

Year	Activities	Outcomes/remarks
August 1994	The first course of “Training the Trainers in Agricultural Policy Analysis” under the Agricultural Services Project started in collaboration with the Economic Development Institute of the World Bank.	Participants from Malawi, Lesotho, and Swaziland attended the workshop.
September 1994	Training course on agricultural policy analysis, Lilongwe, Malawi.	About 15 participants from the Ministry of Agriculture, Ministry of Trade, Agricultural Development and Marketing Organization and Research Network, Ministry of Planning, Ministry of Finance, with BSc and MSc degrees attended.
November 1994	Bunda College and IFPRI hosted the workshop on “Intercenter Collaborative Training through the International Agricultural Research Centers in Sub-Saharan Africa,” in Lilongwe, Malawi.	Bunda College and IFPRI model of capacity strengthening was presented to other CG centers working in Sub-Saharan Africa.
December 1994	First batch of MSc students complete their course requirements.	Thesis completion takes a little longer.
December 1994	A total of 11 working papers were published based on the research conducted through Bunda College/IFPRI program in 1994 (listed in IPR 1994).	Papers sent to selected donor and government agencies.
January 1995	A third batch of seven students joins the MSc course funded by UNICEF, Overseas Development Administration, German Academic Exchange Service (DAAD), and the World Bank.	Other donors take notice of the Bunda College MSc program and send or fund students to the program.
February 1995	First round of year-long rural finance survey initiated.	Forty-five villages and 404 households surveyed.
March 1995	Bunda College/IFPRI course on “Training of Trainers in Quantitative Methods in Policy Analysis,” Lilongwe.	Ten participants from the government, the University of Malawi, and Bunda College of Agriculture attended; they will be resource persons for the main course.

## Appendix 1 — Continued

Year	Activities	Outcomes/remarks
March-April 1995	Bunda College/IFPRI main course on “Quantitative Methods in Policy Analysis,” Lilongwe.	Twenty participants from the ministries of agriculture, trade, commerce, planning, finance, and the Agricultural Development and Marketing Organization and Research Network attended the course.
December 1995	Last round of year-long rural finance survey.	Input acquisition data collected for planting season, 1995/96.
December 1995	Training course on food security and nutrition policy analysis, Lilongwe.	Ten participants from the Ministry of Agriculture and Bunda College attend to develop curriculum.
December 7–22, 1995	National course on food security and nutrition policy: covering concepts and definition of food security and malnutrition, alternatives to address food security and nutrition policy objectives, and production-oriented policies.	Twenty participants from the ministries of agriculture, health, women, and Bunda College attended the course.
January 1996	Bunda College and IFPRI collaborate and participate in workshop on “National Poverty Monitoring System” organized by the Ministry of Economic Planning and Development in Zomba.	Drs. Phiri and Zeller presented a paper. The workshop generated an opportunity for IFPRI's involvement in poverty monitoring in Malawi (current project).
January 1996	Training of trainers for agricultural services project short-term training activities. Five participants (2 from Bunda College and 3 from the Ministry of Agriculture) attended IFPRI Food Policy Course in Washington, D.C. for one month.	Generated capacity for offering similar courses for agricultural service project in Bunda College (Mataya, Chapasuka, Maliro, Nyrenda, and Lungu).
January-October 1996	Manfred Zeller participated as a resource person in several meetings and workshops organized by the Interministerial Technical Working Committee on Poverty Monitoring System in Malawi.	Helped to generate interest in IFPRI's research on these issues.
January-July 1996	Manfred Zeller participated in the above working committee to help National Statistics Office to design the surveys.	IFPRI helps in providing state-of-the-art survey design and methods in poverty and food security monitoring.

## Appendix 1 — Continued

Year	Activities	Outcomes/remarks
February 1996	Workshop on “Role of Bunda College in Poverty Alleviation.”	Achievements of Bunda College/IFPRI project presented and discussed.
April 1996	Eighth meeting of UNICEF's Eastern and Southern Africa Regional Network on Household Food Security and Nutrition.	IFPRI results were shared with regional participants by Manfred Zeller.
April 1996	Training of trainers for environmental and natural resource policy analysis.	About 10 participants from Bunda College and the ministries of agriculture, forestry, wildlife, and fisheries developed a curriculum for the main course that followed.
April 15–29, 1996	Workshop on environmental and natural resource policy analysis held in Lilongwe: introduction to environmental policy analysis, soil and water conservation policies and technologies, and land tenure policies and their environmental impact.	Twenty participants from the ministries of agriculture, forestry, wildlife, fisheries, and natural resources participated.
August 12–23, 1996	Workshop on quantitative analysis: selected quantitative topics and sectoral/macroeconomic models.	About 15 participants from Bunda College and the ministries of trade, agriculture, planning, and economic development.
September 1996	Submission of the final report on “Rural Financial Markets and Household Food Security.”	Report benefitted the Ministry of Women, Rural Finance Corporation, and GTZ/Malawi.
September 11 to October 4, 1996	SADC food security and nutrition policy analysis training: various quantitative methods, tools, and case studies in food security and nutrition policy analysis were covered.	Twenty-five participants from 10 SADC countries participated. Bunda College and IFPRI's agricultural services project training goes to a regional level.
October 1996	Workshop held on “Impact of Rural Finance Programs on Food Security and Nutrition” for the dissemination of results.	Workshop jointly organized by Bunda College, the Ministry of Women, GTZ, and IFPRI.
October 21–22, 1996	Impact of rural finance programs (workshop on completed research project), which covered descriptive and econometric analysis of rural credit markets and analysis of impact of credit programs on food security.	This was a major workshop to present results to donors, government departments, nongovernmental organizations, academic researchers, and policymakers. It had an impact on policy changes by the Malawi Rural Finance Corporation.



## Appendix 1 — Continued

Year	Activities	Outcomes/remarks
November 1996	Workshop on “Impact of Rural Financial Markets and Household Food Security in Malawi: Impact of PMERW Credit Program.”	Helped in the donor programming of USAID.
February-March 1997	Davies Ng'ong'ola from the Agricultural Policy Research Unit visited the Markets and Structural Studies Division of IFPRI for a period of two months.	Collaboration on the Malawi component of agricultural input and output marketing reforms project.
September 1997	Training of trainers for the agricultural services project short-term training activities. Five participants (3 from Bunda College and 2 from the Ministry of Agriculture) attended IFPRI/University of Maryland Food Policy Course in Washington, D.C. for one month.	Generated capacity for offering a similar course for the agricultural services project in Bunda College (contact: Dayton Maliro, Richard Kachule, Victor Lungu, and Osten Chulu).
September 1997	Bunda College/IFPRI's agricultural services project course on quantitative analysis and macroeconomic modeling in Bunda College.	About 15 participants from the Agricultural Development and Marketing Organization and Research Network and the ministries of agriculture, trade, and planning attended the course.
November 1997	Application of statistical methods for policy analysis using SPSS	Fifteen participants from the Ministry of Agriculture and Bunda College attended the course.
November 1997	Natural resource economics and policy analysis in Bunda College.	Twenty-five participants from the ministries of agriculture, forestry, fisheries, wildlife, and natural resources attended the course.

## Appendix 2 **PERSONS INTERVIEWED**

### **MALAWI INSTITUTIONS**

Ministry of Women, Youth, and Community Services

*Ms. Mary Shawa*, Acting Deputy Director for Women Affairs

Centre for Social Research, University of Malawi

*Dr. Stanley W. Khaila*, Director

*Ms. Claire Hickey*, Research Fellow

National Statistical Office (NSO)

*Mr. Charles Machinjili*, Deputy Commissioner for Census and Statistics

Agricultural Policy Research Unit

*Mr. Hardwick Tchale*, Research Fellow

*Mr. Richard Kachule*, Research Fellow

Malawi Rural Finance Company

*Mr. Silas M. Murotho*, Deputy General Manager

Bunda College of Agriculture, University of Malawi

*Professor L. A. Kamwanja*, Acting Principal

*Dr. G. Kanyama-Phiri*, Dean

*Dr. Charles Masangano*, Head, Rural Development Department

*Dr. M. Kwapata*, Head, Crop Science Department

*Mr. Davies Ng ong ola*, Associate Professor, Rural Development

*Dr. Dayton Maliro*, Assistant Professor

*Dr. M. A. R. Phiri*, Senior Lecturer

*Mr. Osten Chulu*, Deputy Programme Manager, Agricultural Policy  
Analysis Training Unit (APATU)

*Mr. Nyali*, Librarian

*Mr. F. Simtowe*, Research Assistant

Ministry of Agriculture and Irrigation

*Dr. E. S. Malindi*, Principal Secretary

*Mr. Z. Chikosi*, Controller, Agricultural Planning Services

*Mr. Alex Niryenda*, Principal Economist

*Mr. A. Umphawi*, Principal Economist

*Mr. Ben Mkomba*, Principal Economist

*Mr. Ian N. Kumwenda*, Deputy Controller of Agricultural Planning  
Services

*Mr. Scott Simons*, Advisor

*Mr. M. L. Chinkhuntha*, Principal Training Officer

Malawi Polytechnic

*Dr. Gadson B. Mthindi*, Associate Professor of Economics

National Economic Council (NEC)

*Dr. L. Kachikopa*, Director, Poverty and Social Policy Division

Chancellor College, University of Malawi (CC/UM)

*Dr. E. Fabiano*, former Principal

*Dr. Naomi Ngwira*, Lecturer

*Dr. Siloumba*, Lecturer

Department of Environmental Affairs (DEA)

*Mr. Benito Odala Eliasa*, Economist

National Research Council (NRC)

*Dr. Eric Chilembwe*, Coordinator, Agricultural Science Committee

## OTHER INSTITUTIONS

World Bank

*Dr. Stephen Carr*, Consultant

*Dr. Trina Haque*, Economist

*Mr. Stanley Hiwa*, Economist

*Mr. Francis W. M buka*, Agricultural Services Specialist

International Food Policy Research Institute (IFPRI)

*Dr. Suresh Babu*, Research Fellow

*Dr. Manfred Zeller*, Research Fellow

*Dr. Sherman Robinson*, Director, Trade and Macroeconomics Division

*Dr. Mylene Kherallah*, Research Fellow

*Dr. Calogero Carletto*, Visiting Research Fellow

*Mr. Peter Wobst*, Research Analyst

Rockefeller Foundation

*Dr. Malcolm Blackie*, Head, Southern Africa Program (retired)

*Dr. Akinwumi A. Adesina*, Senior Scientist

*Dr. B. Patel*, Forum on Agricultural Resource Husbandry

Royal Danish Embassy

*Mr. Austin Ngwira*, Program Officer

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)

*Dr. Pala Subrahmanyam*, Country Representative

*Dr. Sieglinde Snapp*, Scientist

United States Agency for International Development (USAID)

*Mr. James F. Dunn*, Agricultural Development Officer

*Mr. Stephen E. C. Shumba*, Agricultural Development Specialist

*Mr. Brian D Silva*, Regional Specialist

United Nations Development Programme (UNDP)

*Ms. Esnet Kalyati*, Consultant

United Nations Children's Fund (UNICEF)

*Mr. Ken Williams*, Representative (retired)

Harvard Institute for International Development (HIID)

*Dr. Charles Mann*, Development Advisor

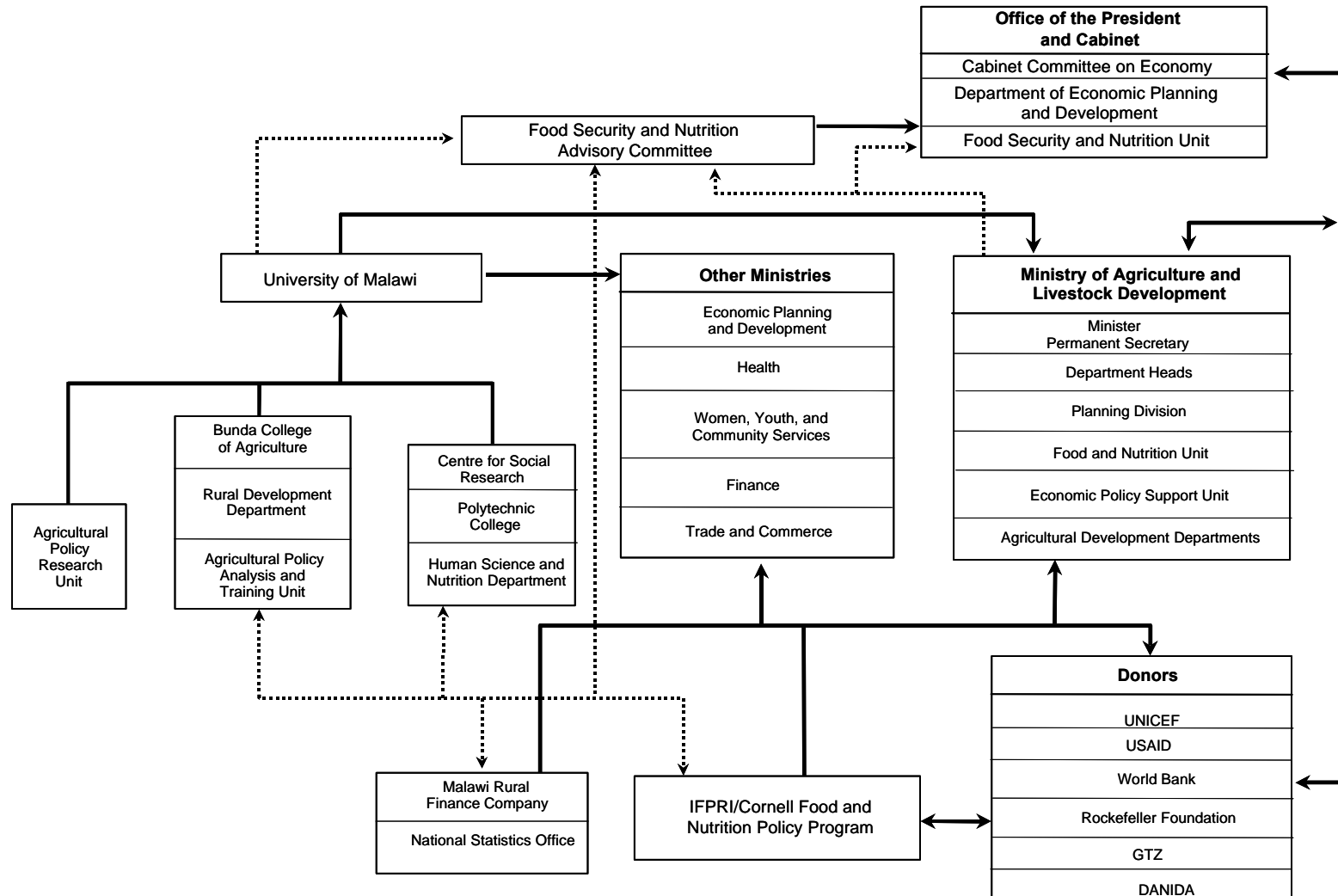
Center for Development Research, University of Bonn (ZEF Bonn)

*Dr. Joachim von Braun*, Director

Private Consultants

*Dr. Vicky Quinn*, Academy for Educational Development

### Figure 1 Relationship between Malawi institutions and IFPRI



**Note: Broken line arrows indicate weaker links.**

Table 1 — Favorable perception of interviewees about the influence, value, and impact of IFPRI in Malawi

Aspect of IFPRI's activities	Number of favorable comments
Training in MSc and short courses	20
Existence of unmet demands for IFPRI collaboration	18
Work on food security and nutrition monitoring	14
Work on rural credit and finance	11
Capacity strengthening	11
Quality of IFPRI staff	11
Work on agricultural policy	7
Quality and relevance of publications	7
Independence of IFPRI staff	5
Relevance and responsiveness to partners	3
Acceptability of a visiting mode for IFPRI collaboration	2
Priority-setting activity	1
Work in poverty monitoring system	1
Work on market liberalization	1

Table 2 — Unfavorable perceptions of interviewees about the influence, value, and impact of IFPRI in Malawi

Aspect of IFPRI's Activities	Number of unfavorable comments
Lack of sustainability of impact after residential phase ended for IFPRI staff in 1996	18
Lack of effective dissemination of results and policy recommendations	13
Ineffective links to the policy process	11
Studies were too academic	5
IFPRI is a costly institution	5
IFPRI data are not accessible	4
IFPRI sets own priorities with little consultation	4
Lack of accessibility and poor quality of publications	3
Doubts about the correctness of the findings and advice	3
Capacity strengthening and training was ineffective	3
Was not “honest broker” between major donors and Malawi	2

Table 3 — Training programs, courses, and workshops involving IFPRI and Malawi, 1990–99

Dates	Total Frequency	Workshop/course/program	Venue	Participants	
				Number	Background
July-December 1990	1	Cornell Nutrition Policy Program training course	Ithaca, NY, USA	3	Future trainers for food security and nutrition monitoring
1990–91	2	National workshops on food security and nutrition survey results	Lilongwe, Malawi	30	National policymakers and Ministry of Agriculture (MOA) and agricultural development district (ADD) officers
1990–93	5	Survey methods courses	Lilongwe and ADDs	320	Enumerators in National Statistics Office/ADD
1990–93	5	Data entry, manipulation, and management courses	Ditto	40	Data processing and statistics clerks, programmers
1990–93	8	Statistical data management and preparatory analyses courses	Ditto	40	Ditto
1990–93	5	Designing questionnaires and data collection courses	Ditto	73	District officers of MOA, national officers of ministries of the government of Malawi
1990–93	5	Data management for statistical analysis courses	Ditto	73	Ditto
1990–93	8	Statistical analysis courses	Ditto	73	Ditto
1990–93	8	Determinants of food security and nutrition and policy issues/options	Ditto	73	Ditto
1990–93	8	Designing food security and nutrition policy interventions	Ditto	73	Ditto



Table 3 — Continued

Dates	Total Frequency	Workshop/course/program	Venue	Participants	
				Number	Background
1990–93	16	Food security and nutrition information, policy options, and implementation courses	Lilongwe	20	Senior planners and permanent secretaries involved in food security and nutrition policymaking
February 1991	1	Food security and nutrition monitoring technical meeting	Lilongwe	26	MOA officers in Plannign Division, Food and Nutrition Unit, and ADDs
April 1992	1	SADCC regional conference on household food security and nutrition monitoring for development planning and policy interventions	Mangochi, Malawi	79	Nutritionists, economists, planners in ministries, and research organizations of SADC countries, donors, IARCs, international organizations
May 1993	1	Setting priorities for food, agricultural, and nutrition policy research workshop	Lilongwe	41	IARCs, ministries, research organizations, university
December 1993	1	National drought management workshop	Lilongwe	35	Ministries of Economic and Development and Planning, Finance, Agriculture, Health, and Transportation; research organizations; university departments
April 1994	1	Potential for crop diversification in Malawi	Lilongwe	57	United Nations, university departments, donor agencies, national agricultural research institutions, and international agricultural research institutions

Table 3 — Continued

Dates	Total Frequency	Workshop/course/program	Venue	Participants	
				Number	Background
April 1994	1	Training of trainers in agricultural policy analysis course (with the Economic Development Institute)	Lilongwe	20	Participants from Malawi, Lesotho, and Swaziland
Nov. 1994	1	Intercenter collaborative training through IARCs in Sub-Saharan Africa workshop	Bunda College of Agriculture (BCA)	15	IARCs, ICRAF, CIMMYT, ILRI, CIP, CIAT, WARDA, ICRISAT, IFPRI, IITA, and Bunda College of Agriculture
1994–95 annually	5	APATU food, nutrition, agriculture, and natural resources policy analysis training programs	BCA	200	Economists and planners in Malawi ministries, NGOs, private sector
July 1996	1	Training course in SPSS data analysis for faculty and student of Bunda College	BCA	20	Faculty and students from all departments of Bunda College
September-October 1996	1	SADC analysis of food security and nutrition data workshop	BCA	25	University lecturers, agricultural and home economists, and nutritionists from ministries and NGOs
October 1996	1	Impact of rural finance programs on food security and nutrition workshop	BCA	40	Policymakers from financial institutions, donors, ministries, and NGOs

Table 3 — Continued

Dates	Total Frequency	Workshop/course/program	Venue	Participants	
				Number	Background
November 1996	1	Presentations of research results of Rural Development Department/IFPRI study on rural finance to staff of Malawi Rural Finance Company (MRFC)	MRFC	20	Staff of MRFC
1996	13	Presentations by IFPRI staff to other conferences, workshops, and seminars	Malawi	About 200	Faculty, students, ministry officials, donors, international organizations
November 1998	1	DSE/IFPRI/IFAD/Bank of Ghana workshop on innovations in rural finance for the poor	Ghana	2	Two participants from National Economic Council (NEC) and MRFC Malawi
February-March 1997	1	Dr. Ng'oong'ola of Bunda College visited IFPRI for one month to work on a report on maize market reform in Malawi	Washington, D.C. , USA	1	Academic staff from Bunda College
July 1998	1	Workshop to discuss IFPRI project on impact of market reforms on smallholder farmers in Malawi	Agricultural Policy Research Unit (APRU), BCA	About 50	APRU and Bunda College staff, various ministries, FAO, SADC, private companies, USAID, FEWS, ADMARC, Tobacco Control Commission, Rockefeller Foundation
July 1998	1	Training of enumerators on sampling and collecting farm survey data	APRU, BCA	10	Students from Bunda College

Table 3 — Continued

Dates	Total Frequency	Workshop/course/program	Venue	Participants	
				Number	Background
November 1998	1	DSE/IFPRI/IFAD/Bank of Ghana workshop on innovations in rural finance for the poor	Ghana	2	Two participants from NEC and MRFC from Malawi
1996–98	3	Policy analysis and training workshops	Washington, D.C., USA	10	Trainers at BCA and MOA
March 1999	1	Workshop on agricultural change, food security and nutrition among smallholders in Central Malawi based upon RDD/IFPRI research project	Lilongwe	18	Economists, nutritionists, planners, project/program managers from MOAI, NEC, BCA, APRU, international agencies, and NGOs

Table 4 — Graduates in the MSc (agricultural economics) program at Bunda College of Agriculture, 1994–99

Dates	Student	Thesis topic	Supervisor	Current position
1993–95	A. Chawo	Equity, food security, and land distribution on policies in Malawi	RDD/IFPRI	(deceased)
1995–97	J. Dzanja	Analysis of the impact of market liberalization policies on the performance of Malawi's main export crops (tobacco, tea, sugar)	RDD	Research associate, APRU
1995–95	B. Eliasi	Irrigation development and household food security and nutrition in Salima and Nkhota-kota districts in Malawi	IFPRI	Economist, Department of Environmental Affairs
	T. Fatch	(Not finished yet)	RDD	Economist, Ministry of Agriculture and Land Development
1994–96	P. Jere	Analysis of the economic behavior of smallholder farmers: A survey of the adoption of new bean varieties in Northern Malawi	IFPRI	Program Officer, World Food Program, Malawi
1993–95	R. Kachule	An analysis of the production of beans in Rumphi district	RDD/IFPRI	Research Fellow, APRU
1995–97	E. Kambewa	Indicators for identifying nutritional insecure households in Malawi	IFPRI	Officer with an international NGO, stationed in Mzuzu
1994–96	M. Phombeya	Impact of women-owned micro-enterprises on household food security in Malawi	IFPRI	Economist, Ministry of Women and Children Welfare

Table 4 — Continued

Dates	Student	Thesis topic	Supervisor	Current position
1994–96	V. Kisyombe	Analysis of the effects of seasonal agricultural credit on adoption of production technology, fertilizer use, and income in smallholder agriculture in Malawi	IFPRI/RDD	Economist/extension officer, Ministry of Agriculture, Lilongwe Agricultural Development District
1995–97	S. Luhana	Evaluation of bean research in Malawi	RDD/IFPRI	(deceased)
1994–96	M. Mandambwe	Impact of women-owned microenterprises on household food security	IFPRI	Returned to Malawi in early 1999 after a two-year stay at Wye College, United Kingdom
1996–98	G. Matiya	Socioeconomic analysis of fishing communities around Lake Malombe and Upper Shire River	RDD	Economist, Department of Fisheries
1993–95	T. Nankhumwa	Comparative advantage of maize, groundnuts, cotton, and tobacco, and food security in Malawi	IFPRI	Currently pursuing PhD in environmental economics at the University of Pretoria, South Africa
1994–96	D. Ngugi	Analysis of demand for meat in Kenya	RDD	Lecturer, Department of Agricultural Economics, University of Zimbabwe
1996–98	F. Bokosi	Determinants and characteristics of household demand for credit in Malawi	RDD	Program Officer, ActionAid-Malawi
1996–98	M. Phiri	Small-scale seed programs and adoption of groundnuts technology in Malawi: The case of CG7 variety	RDD	Economist, Food Security Section, National Economic Council
1996–98	F. Simtowe	Determinants of peanut profitability: A case study of Central Malawi (to be submitted in 1999)	RDD	Part-time research analyst for RDD/IFPRI research project

Table 4 — Continued

Dates	Student	Thesis topic	Supervisor	Current position
1995–97	H. Tchale	A household model of production and marketing of smallholder tobacco: Effects on household food security and children's nutritional status and school attendance	IFPRI	Research fellow, APRU

Notes: RDD is Rural Development Department; APRU is the Agricultural Policy Research Unit; and NGO is nongovernmental organization.

## REFERENCES

- Babu, S. C., ed. 1994. Malawi. *Agricultural Economics Analysis and Rural Development* 4 (2, Special Issue).
- \_\_\_\_\_. 1997a. Multidisciplinary capacity — Strengthening for food security and nutrition policy analysis: Lessons from Malawi. *Food and Nutrition Bulletin* 18 (4): 363–375.
- \_\_\_\_\_. 1997b. Rethinking training in food policy analysis: How relevant is it to policy reforms? *Food Policy* 22(1): 1–9.
- \_\_\_\_\_. 1997c. Facing donor missions with informed policy decisions: Lessons from capacity strengthening for policy analysis in Malawi. *Africa Development* 22 (2): 5–24.
- Babu, S. C., and S. Bhattarai. 1996. Analysis of food and nutrition policies: Application of statistical methods using microcomputer software. Manual prepared for Bunda College/IFPRI/SADC course in food and nutrition policy analysis. International Food Policy Research Institute, Washington D.C., September.
- Babu, S. C., and E. Chapasuka. 1997. Mitigating the effects of drought through food security and nutrition monitoring: Lessons from Malawi. *Food and Nutrition Bulletin* 18 (1): 71–83.
- Babu, S. C., and R. Hassan. 1995. International migration and environmental degradation: The case of Mozambican refugees and forest resources in Malawi. *Journal of Environmental Management* 43: 233–247.
- Babu, S. C., and S. Khaila. 1996. Priority setting in food and agricultural policy research: A case study and lessons from Malawi. *Quarterly Journal of International Agriculture* 35 (2, April-June): 176–191.
- Babu, S. C., and C. Mataya. 1996a. Assessing capacity strengthening needs for policy analysis in Malawi. Outreach Division Discussion Paper No. 6. Washington, D.C.: International Food Policy Research Institute.
- \_\_\_\_\_. 1996b. Assessing capacity strengthening needs for public policy analysis: A case study and lessons from Malawi. *The International Journal of Technical Cooperation* 2 (Winter): 179–193.



- Babu, S. C., and G. B. Mthindi. 1992. Lessons from food security and nutrition monitoring in Southern Africa. Report of a SADCC Regional Conference on "household food security and nutrition monitoring for development planning and policy interventions," April 7–9, Mangochi, Malawi.
- \_\_\_\_\_. 1994. Household food security and nutrition monitoring: The Malawi approach to development planning and policy interventions. *Food Policy* 19 (3): 272–284.
- \_\_\_\_\_. 1995a. Costs and benefits of informed policy decisions: A case study of food security and nutrition monitoring in Malawi. *Quarterly Journal of International Agriculture* 34 (3): 292–308.
- \_\_\_\_\_. 1995b. Developing decentralized capacity for disaster prevention: Lessons from food security and nutrition monitoring in Malawi. *Disasters* 19 (2): 127–139.
- Babu, S. C., and V. Quinn, eds. 1994a. Household food security and nutrition monitoring: The African experience. *Food Policy* 19 (3, June, Special Issue).
- \_\_\_\_\_. 1994b. Food security and nutrition monitoring in Africa: Introduction and historical background. *Food Policy* 19 (3): 211–217.
- Babu, S. C., D. N. Ng'ong'ola, and G. B. Mthindi. 1996. Developing decentralised capacity for development policy analysis: Lessons for agricultural development from food security and nutrition monitoring in Malawi. *African Development Review* 8 (1): 127–145.
- Babu, S. C., P. Subrahmanyam, and D. N. Ng'ong'ola. 1995. Economic analysis of yield losses due to diseases: A case study of early leaf spot of groundnut in Malawi. *African Crop Science Journal* 3 (1): 105–115.
- Babu, S. C., P. Subrahmanyam, A. J. Chiyembebeza, and D. Ng'ong'ola. 1994. Impact of aflatoxin contamination on groundnut exports in Malawi. *African Crop Science Journal* 2 (2): 215–220.
- Brixen, P. 1998. *A CGE model for Malawi*. Denmark: University of Copenhagen and Danish Economic Council, Macroeconomic Reforms and Regional Integration in South Africa (MERISSA) Project.
- Brixen, P., and O. Chulu. Undated. Malawi data, social accounting matrices and CGE-model: Preliminary results. Copenhagen: MERRISA.

- Bunda College of Agriculture. 1997. Agricultural policy analysis training at Bunda College under the ASP/World Bank Project. Bi-Annual Report, 30 June. University of Malawi, Lilongwe, Malawi.
- Carletto, G. 1999a. Constructing samples for characterizing household food security and for monitoring and evaluating food security interventions: Theoretical concerns and practical guidelines. Technical Guide No. 8, February 28. Paper prepared for the IFPRI-IFAD TAG, Strengthening household food security and nutritional aspects of IFAD poverty alleviation projects: Developing operational methodologies for project design and monitoring. (Photocopy)
- \_\_\_\_\_. 1999b. Designing methods for the monitoring and evaluation of household food security in IFAD-funded rural development projects. Technical Guide No. 10, February 28. Paper prepared for the IFPRI-IFAD TAG, Strengthening HFS and nutritional aspect of IFAD poverty alleviation projects: Developing operational methodologies for project design and monitoring. (Photocopy)
- CFNPP (Cornell Food and Nutrition Policy Program). 1990. *Annual report 1988 1990*. Ithaca, NY: CFNPP.
- \_\_\_\_\_. 1991. *Annual report 1991*. Ithaca, NY: CFNPP.
- Diagne, A. 1998. Impact of access to credit on income and food security in Malawi. Food and Nutrition Consumption Division Discussion Paper No. 46. International Food Policy Research Institute, Washington, D.C.
- Diagne, A., and M. Zeller. 1999. Determinants of access to credit and its impact on income and food security in Malawi. International Food Policy Research Institute, Washington, D.C. (Photocopy)
- Diagne, A., M. Zeller, and C. Mataya. 1996. Rural financial markets and household food security: Impacts of access to credit on the socio-economic situation of rural households in Malawi, vol. 2, Main report. Final report submitted to the Ministry of Women, Children Affairs, Malawi, CSSW and GTZ in Malawi. Rural Development Department, Bunda College of Agriculture, University of Malawi and IFPRI, October.
- Ekwamu, A., G. Kanyama-Phiri, N. Karanja, and D. Norman. 1998. Evaluation of the Forum programme supported by the Rockefeller Foundation: July-October, Rockefeller Foundation, Malawi.

Goletti, F., and S. Babu. 1994. Market liberalization and integration of maize markets in Malawi. *Agricultural Economics* 11 (2–3): 311–324.

Govindan, K., and S. C. Babu. 1996. Supply response under market liberalization: A case study of Malawi agriculture. Outreach Division Discussion Paper No. 4. International Food Policy Research Institute, Washington, D.C. (Photocopy).

Hoddinott, J. 1999a. Strengthening household food security and nutritional aspects of IFAD poverty alleviation projects: Overview. Paper prepared for the IFPRI-IFAD TAG, Strengthening HFS and nutritional aspect of IFAD poverty alleviation projects: Developing operational methodologies for project design and monitoring.

\_\_\_\_\_. 1999b. Choosing outcome indicators of household food security. Technical Guide No. 7, February 28. Paper prepared for the IFPRI-IFAD TAG, Strengthening HFS and nutritional aspect of IFAD poverty alleviation projects: Developing operational methodologies for project design and monitoring. (Photocopy)

\_\_\_\_\_. 1999c. Targeting: Principles and practice. Technical Guide No. 9. Paper prepared for the IFPRI-IFAD TAG, Strengthening HFS and nutritional aspect of IFAD poverty alleviation projects: Developing operational methodologies for project design and monitoring. (Photocopy)

\_\_\_\_\_. Undated. Operationalizing food security in IFAD projects: An introduction. Technical Guide No. 1. Paper prepared for IFPRI-IFAD TAG, Strengthening HFS and nutritional aspect of IFAD poverty alleviation projects: Developing operational methodologies for project design and monitoring. (Photocopy)

IFPRI (International Food Policy Research Institute). 1996. Internal program review: Outreach Division accomplishments in 1996 and plans for 1997. International Food Policy Research Institute, Washington, D.C.

\_\_\_\_\_. 1997. Agricultural input and output: Marketing reforms in African countries. Final Report to BMZ under Project No. 94–7860.3-1.100, Contract No. 1–60133513.

IFPRI, FCND (International Food Policy Research Institute, Food Consumption and Nutrition Division). 1997. Design and sustainability issues of rural credit and savings programs for the poor in Malawi: An action-oriented research project. Research proposal for Irish Aid, Department of Foreign Affairs, Government of Ireland, 5 September.

- Kherallah, M., and K. Govindan. Forthcoming. The sequencing of agricultural market reforms in Malawi. *Journal of African Economies*.
- Kwapata, M. B., and S. Babu, eds. 1994. Proceedings of the first workshop on crop diversification research work done at Bunda College of Agriculture. Workshop held at Bunda College of Agriculture, 4 July, Bunda College, Lilongwe, Malawi.
- Mandambwe, M. S., M. Zeller, and A. Diagne. 1999. Development of rural microenterprises in Malawi: Enterprise performance, intrahousehold ownership, and control of income. International Food Policy Research Institute, Washington, D.C. (Photocopy)
- Ministry of Agriculture. 1991a. Household food security in Malawi. Food Security and Nutrition Monitoring Report No. 1. Lilongwe, Malawi.
- \_\_\_\_\_. 1991b. Household food security in Malawi during planting season: Proceedings of a national meeting. Food Security and Nutrition Monitoring Report No. 3. Lilongwe, Malawi.
- \_\_\_\_\_. 1991c. Household nutrition status in rural Malawi: Proceedings of a national meeting. Food Security and Nutrition Monitoring Report No. 8. Lilongwe, Malawi.
- \_\_\_\_\_. 1993. Agricultural Services Project agricultural policy analysis training subcomponent. Project Implementation Report, June.
- Morinière, L., S. Chinwaza, and E. Weiss. 1996. Malawi vulnerability assessment and mapping (VAM) baseline 1996: A quest for causality. Paper submitted to the World Food Programme; Ministry of Economic Planning and Development, Malawi; and the U.S. Agency for International Development/Famine Early Warning System.
- Ng'ong'ola, D. H., and S. C. Babu. 1994. Capacity strengthening for agricultural policy analysis and the process of policy implementation in Malawi. Food, Agriculture, and Nutrition Policy Research Working Paper No. 10/94. Joint UNICEF/IFPRI Food Security Program, Malawi.
- Ng'ong'ola, D. H., and C. B. L. Jumbe. 1997. Status of food security in Malawi: A perspective view. Paper presented at a workshop for the Presidential Commission on Land Reform, 20–31 January, Agricultural Policy Analysis Unit, Bunda College, Lilongwe.

- Office of the President and Cabinet. 1990. Food security and nutrition policy statement: Supplement to the statement of development policies. Department of Economic Planning and Development, Republic of Malawi, September.
- Office of the Vice President. 1999. Policy analysis for the government of Malawi. A detailed proposal financed by the Rockefeller Foundation and the European Development Fund under contract No. 7ACP-MAI13. Rockefeller Foundation, Malawi.
- Place, J., and K. Otsuka. 1997. Population, land tenure, and natural resource management: The case of customary land area in Malawi. Environment, Production, and Technology Division Discussion Paper No. 27. International Food Policy Research Institute, Washington, D.C.
- Quinn, V. 1993. Nutrition and national development: An evaluation of nutrition planning in Malawi from 1936 to 1990. Ph.D. dissertation. Wageningen Agricultural University, Wageningen, the Netherlands.
- \_\_\_\_\_. 1994. A history of the politics of food and nutrition in Malawi—The context of food and nutritional surveillance. *Food Policy* 19 (3): 255–271.
- Quinn, V., and E. Kennedy. 1994. Food security and nutrition monitoring systems in Africa: A review of country experiences and lessons learned. *Food Policy* 19 (3): 234–254.
- Ryan, J. G. 1999. Assessing the impact of rice policy changes in Vietnam and the contribution of policy research. Director General's Office Impact Assessment Discussion Paper No. 8. International Food Policy Research Institute, Washington, D.C.
- Simler, B. 1992. Household expenditure behavior and farm/nonfarm linkages in rural Malawi. Working paper prepared for the World Bank Agricultural Sector Memorandum. World Bank, Washington, D.C.
- Tchale, H. S. 1996. A household model of production and marketing of smallholder tobacco: Effects on household food security, children's nutritional status and school attendance. Thesis for Degree of Master of Science in Agricultural Economics. Bunda College of Agriculture, University of Malawi, Lilongwe.
- United Nations in Malawi and Government of Malawi. 1993. Malawi situation analysis of poverty. Lilongwe.

- World Bank. 1995. *Human resources and poverty: Profiles and priorities for action*. Washington, D.C.: World Bank.
- Zeller, M. 1998. Tobacco market reform in Malawi: Effects on the accumulation of assets by smallholders and implications for policy. In *Agricultural markets beyond liberalization*, eds. A. Kuyvenhoven, H. A. J. Moll, and A. van Tilburg. Proceedings of the 57<sup>th</sup> seminar of the European Association of Agricultural Economists, Wageningen, the Netherlands, 23–26 September.
- Zeller, M., A. Diagne, and V. H. L. Kisyombe. 1996. Effects of credit programs on agricultural production and crop income of smallholders in Malawi. Working Paper 7/96, Food, Agriculture and Nutrition Policy Research, Bunda College of Agriculture, University of Malawi, November.
- Zeller, M., A. Diagne, and C. Mataya. 1997a. Market access by smallholder farmers in Malawi: Implications for technology adoption, agricultural productivity, and crop income. Food Consumption and Nutrition Division Discussion Paper No. 35. International Food Policy Research Institute, Washington, D.C.
- \_\_\_\_\_. 1997b. Adoption of hybrid maize and tobacco in Malawi's smallholder farms: Effects on household food security. In *Food Security and Innovations: Successes and Lessons Learned*, ed. F. Heidhues and A. Fadani. Proceedings of an International Symposium held at the University of Hohenheim, March 1996, Germany.
- \_\_\_\_\_. 1998. Market access by smallholder farmers in Malawi: Implications for technology adoption, agricultural productivity, and crop income. *Agricultural Economics* 19 (1–2): 219–229.
- Zeller, M., C. Mataya, and Y. Islam. 1997. Strengthening capacity in agricultural and food policy analysis in Sub-Saharan Africa: Lessons learnt from Malawi. International Food Policy Research Institute, Washington, D.C. (Photocopy)
- Zeller, M., A. Phiri, and G. Chinguwo. 1996. Activities and achievements of Rural Development Department and its joint UNICEF/IFPRI research, training, and capacity-strengthening program in food, agriculture, and nutrition policy analysis. Food, Agriculture, and Nutrition Research Working Paper No. 1/96, Joint UNICEF/IFPRI Food Security Program, Malawi.

Zeller, M., S. Khaila, A. Diagne, and C. Mataya, eds. 1996. Impact of rural finance programs on on- and off-farm income generation, household food security, and nutrition in Malawi. Proceedings of a workshop jointly organized by the Ministry of Women, Children Affairs; Rural Development Department, Bunda College; GTZ; and IFPRI held at Bunda College of Agriculture, 21–22 October.