

Chapter 2 Farm¹

Small-scale farmers are aware that much greater yields are possible but do not possess a full grasp of all the technological components which must be managed to optimize yield potential and investments in additional inputs, labor, and other services.

Quiñones, Foster, and Sicilima 1989: 70

This chapter lays out conflicting conceptions of rural African economy that interact in the arena of agriculture and development. The ways that Malangali residents perceive of their economic options and constraints shape their economic activities, especially their crucial agricultural strategies. European development agents envision rural African economy in ways that lead to projects with premises and priorities that diverge from those of the rural residents. How these understandings intermingle can be seen in the conflicting approaches to agricultural development embodied in the African extension agents who mediate between people and program. By examining the ways members of these several groups understand agriculture in Malangali, I show how differing concepts of economic purpose work toward sometimes similar, sometimes diverse economic activities, even when general goals such as survival and prosperity are shared. Because about 90% of Tanzanians live in rural areas on as little as an estimated twenty seven cents a day, mostly

¹No person has devoted more time and energy to improving farming conditions for Malangali residents than Juma Kinkopella. "Kinko" retired from a lifetime of government service in 1997. As with all Tanzanians, he had neither health insurance nor access to adequate health care. He died in August 1998 after a protracted battle with chronic typhoid and recurring malaria. Without his time and friendship, this chapter could not have been written.

from farm-based income (World Bank 1993: 238), planners often conceive of the country's many economic problems as fundamentally agrarian problems. Policy makers have addressed these problems for the past 50 years through a variety of agrarian "solutions" designed to increase the output from farmers' fields. I argue that development planners fundamentally misconstrue the agricultural goals of rural Tanzanians. Specifically, I contend that Malangali residents are knowledgeable farmers who want their farms to be centers of profit, while the development imagination sees rural Africans as ignorant of even the basic skills necessary to achieve subsistence. These misconceptions lead to development programs that fail to address most needs of African small farmers, who nonetheless are willing and active in their engagement of agriculture development programs.

I first explore the ways Malangali agriculture is understood by development planners. I examine two Concern documents that both describe and shape European thought about Malangali residents as quintessential impoverished African farmers. I examine how such notions lead to programs like those implemented in Malangali. I then examine the agro-economic landscape facing those farming in Malangali, and the choices many people make regarding their farms and agricultural development interventions. After presenting some background to agriculture in contemporary Malangali, including a brief review of a literature on agriculture in Tanzania that focuses primarily on various agronomic limitations to crop production, I discuss at some length the agricultural situation as described by the division's residents. Finally, I look at Tanzanians who have been raised in rural areas like Malangali and schooled in knowledge systems of African

agriculture such as those expounded by Concern. How these extension agents reconcile often conflicting understandings of African agriculture reveals much about the ways agricultural development programs have become as pervasive as they are, and why they have achieved such limited results.

This chapter explores the conceptual frameworks that underlie how agricultural activities are enacted by development agents and rural residents.² These conceptual frameworks in turn buttress the approaches to other aspects of the development encounter that I examine in subsequent chapters. I begin with the perhaps controversial premise that Malangali residents have the technical knowledge to reach agricultural subsistence in most years, a premise that leads to an examination of the non-agricultural factors that influence agricultural output. Farmers choose their intended levels of production based on perceived benefits and limitations of market conditions for inputs and crops, alternate uses of their labor time, and financial goals. I suggest that in Malangali a focus on agronomic aspects of farm production reveals only some of the roots of the difficulties facing rural residents. Particularly, I argue that many Malangali farmers have little to gain from growing more food, and often seek any off-farm income opportunities that will allow them to reduce their reliance on a depressed market for agricultural commodities. While the government and development agencies do not take important non-crop factors into

² One thing this chapter does not do is to inspect closely the ways Concern agricultural activities interact with the daily practices of Malangali farmers. The subject of the specific effects of Concern agriculture messages is treated in detail in its 1997 Wider Impact Study, to which I contributed, and that is supposed to someday become publicly available, so this chapter does not inspect closely the ways Concern agricultural activities interact with the daily practices of Malangali farmers. The story explaining why Concern has not distributed this document is one to which I have not been privy. As far as I have been able to ascertain, the study exists, but as a document for internal circulation only. My most recent effort to view a copy, in February 2000, has been thus far unsuccessful.

account (Tiffen 1996), these factors are central to how farmers themselves discuss the problems confronting them. Farmers' perceptions of their problems directly shape the choices they make when interacting with government, development programs, their fields, and each other. They are, as I will describe, eager consumers of agricultural development programs to the extent that the programs can help them achieve *their* goals.

Subsistence?

In Concern literature about Malangali, many area farmers are seen as subsistence or below subsistence producers living on the brink of disaster. In this section I look at two such documents that solidify a particular conceptual apparatus in ways similar to the World Bank Country Report for Lesotho discussed by Ferguson (1990): a brochure intended for a general Euro-American public, and a project proposal submitted in 1991 to large governmental co-funders. It is unclear from these accounts how local farmers landed in their current predicament, but it is clear wherein their salvation lies. Each farmer must learn the skills necessary to grow more crops. These skills, which involve dozens if not hundreds of extension messages, are deemed low input, easy to master, and easy to implement. Many of these messages involve mixing crops, either to enhance soil fertility or to increase nutritional or profit opportunities. Other messages specify techniques for increasing yield on the primary maize crop. These agricultural development activities rest on specific understandings of the problems facing Malangali residents perceived to be quintessential impoverished African farmers.

One Concern document, a brochure called "The Personal Touch," is intended for European and American audiences, especially for potential individual charitable donors.

It was given to me at Concern's New York office in July 1995.³ Along with photos and text describing the general goals of Concern Worldwide, a running sidebar presents a "case study" from Concern's work in Malangali. I place "case study" in quotation marks because the entire story is a fictionalized account based loosely on an Itengule family; while the text with accompanying images of the Fihavango family is read almost verbatim by the narrator of an educational video Concern produced for Irish schools, many details in the story are unlike those of people with whom I am familiar. (In 1998 I discussed the brochure and video with Saimon Fihavango, the young man featured in the video as "Antoni," for over two hours. Saimon was coincidentally a key player in a scene featured in an early draft of another chapter.) A remarkably similar story of another "family" was produced as a Concern/ E.C. book for the same Irish school students for whom the video was intended (Concern/ E.C. 1990). A copy of this book was in the Malangali Concern office. After reading that story I made arrangements to go interview the family discussed in the remote village of Ikangamwani. Before making the trip I found out that no such family exists. Instead, a Concern expatriate apparently wrote the text based on a typical family as he or she saw it, with some details drawn from the Fihavango household. This "case study" approach produces a strange mix of fact and fantasy. Documentation and invention come together in the construction of perception. As this dissertation argues, these perceptions, whatever their bases, are crucial determinants of action.

I have some reservations about dissecting this document. In a way, the brochure is too easy a target. It is a work of creative writing that its (anonymous) author might

³ I do not know if the brochure has ever been seen in Malangali. It has no ascribed authorship other than "Concern Worldwide," nor any date of printing.

disavow as an accurate representation of reality. Many Tanzania-based expatriates will react to a brochure like “The Personal Touch” with laughter or expletives. I use the document here, however, because I am struck by a particularly Orwellian element. The brochure was handed to me before I began fieldwork. As far as the Concern representative in New York knew, the sidebar *does* represent a Malangali reality.

Concern expatriate Simon Levine, speaking of the school textbook, said that he had been called on to write similar cartoons for the head office when he was working at Concern sites in other countries. He explains that one just writes what is asked for, without worrying too much about how it will be used. In one case an expatriate *was* privately angered by how his words were manipulated by the Dublin office: his negative comments about working for the organization had been rewritten into a positive staff recruitment flier using his name. In other cases, the pervasive attitude within the agency is that “publicity” exists external to the actual work that is accomplished on the ground. “Publicity” supports the work, generating funds. The internal reports (unlike the annual reports, which expatriates also recognize as representation for the funders) about how to shape, redesign, and learn from projects are where the authors feel “ownership.” In the internal reports staff are attributed authorship, have the opportunity to defend their findings, and politic actively to promote their points of view. Decision makers in Dublin have been to Malangali and know intellectually that the reality is much more complicated than portrayed in the publicity. Yet the projects as enacted follow in eerie rigor the understandings and prescriptions sketched in the charity’s self-depictions. Field staff repeat the facile analysis as though it were fact, and the project proposals and annual

reports that frame action translate the brochure, I show below, into bureaucratic jargon. Such fantasy documents construct the Malangali farmer in European imaginations. In the Malangali Agricultural Development program, fact follows fantasy.

The brochure is designed primarily to introduce a lay audience of Europeans and Americans to the work Concern does. Between the extended sidebar about the organization's work in Malangali are brief nuggets about the sorts of work Concern does in its many sites around the world: education and training, sanitation and water supply, women's programs, natural resources, engineering, health and nutrition, and emergency programs. The brochure includes nineteen photos of Africans and Asians. In four of these we see compassionate white women embracing the dark-skinned people, and one image is of white and black hands clasped together.⁴ None of the images have labels indicating place or context. Thus, the European woman on page three feeding an apparent African famine victim is juxtaposed against a healthy, smiling African boy, presumably a beneficiary of the organization's work. These photos are sandwiched between the sidebars of the Malangali "case study." A reader analyzing the text could well assume that the "Lutego family" discussed was nursed from the brink of starvation by gentle Irish hands. Concern has never engaged in anything remotely like a feeding program in Malangali, but the reader would never know that.

The "case study" is headlined "Three Bags Full." The first paragraph sets the scene.

⁴ Two expatriate field staff refer to Concern's "black baby complex," discussed at greater length in Chapter 6. They deride a huge color poster of the red-headed girlfriend of the former Tanzania country director hugging a starving Rwandan refugee that until recently dominated the lobby of the Dublin headquarters.

John Lutego lives with his wife and their eight children in the village of Malangali in the Iringa Region of Southern Tanzania. Iringa Region is about the size of Ireland with a population of about 600,000.

Mzee Fihavango did have eight children in this household (one son died as a young adult in 1997), though on average the women I surveyed of child-bearing age had about 4 or 5 living offspring. Fihavango also had children locally with other wives, a relevant matter on which the brochure is silent. Would the notion of polygamy create an unsympathetic response in the European reader? What does the mention of the large number of children – large even by contemporary Irish Catholic standards – evoke for the reader? In my research in Ireland, discussed in Chapter 6, many potential Concern donors conjured up images of uncontrolled population growth, impoverished hordes, and irresponsible primitives when discussing aid in Africa. With no evidence as to authorial intent, however, I merely suggest the possible ways readers may interpret the text.

The entire economy of Tanzania is focused on food production. Ninety per cent of the population works in agriculture, yet there is never enough food. Half of the people suffer from some level of malnutrition – due more to bad diet than actual food shortage.

The agency frames the Lutegos' plight in a larger representation of the Tanzanian economy. This second paragraph expresses where the invented family fits in the national context, and internationally by extension to the "Developing World" that the brochure seeks to portray. They "suffer" from "malnutrition." The root of this problem is hard to determine, because first there is never enough food, but in the next sentence the problem is bad diet.⁵

⁵ I am in full agreement that nutrition is an issue of vital importance in rural Tanzania. Micronutrient malnutrition is the subject of UNICEF-funded research I conducted in 1999 with Deborah Ash, Diklar Makola, Michael Latham, Simon Tatala, Godwin Ndossi, and Faith Magambo. In a forthcoming report, we discuss the

The Lutego family is one of the poorest in the region. Despite having the land and labour to produce sufficient food, their maize crop – the lifeline of subsistence farming in Tanzania, has consistently yielded badly. The result is poor nutrition and sometimes severe hunger.

They embody the deserving poor, a key concept from the welfare debates of the Reagan/ Thatcher years. They are worthy of help because they are hungry *despite* their best efforts at farming. (In the Concern/ E.C. textbook, the invented husband goes off for a drink with his buddies while the heroic mother takes care of the house, farm, and malarial father-in-law. In “The Personal Touch,” where the apparent objective is sympathy for the entire family, this minor detail is left out of an otherwise almost identical story.)

Antoni, a typical teenager of 19, takes up the story.

“Our farm consists of about three acres near the house and 1.5 acres outside the village. This is meant to grow sufficient food for our family of ten. Last year we got a very small harvest which was not sufficient for us. We only filled one small storage crib which holds six 80kg bags of maize. The minimum needed to sustain a family of seven for a year is ten bags.”

The careful reader may notice that the family says it harvested six bags, but the “case study” is called “Three Bags Full.” Saimon, the young man shown in the video, tells me the absolute minimum his family ever harvested was three to four bags per acre, just barely meeting household needs. Even for invention, 107kg of maize per acre (derived from “Antoni’s” figures) is astoundingly low. Moreover, Concern’s own internal reports at that period mentioned 6 to 8 bags per acre as “about average,” which would amount to more than twenty bags for the Lutego’s 4.5 acres. (Wardle 1988: 7) The worst yields healthy

causes and effects, including economic exclusion, of serious measurable micronutrient deficiencies among pregnant and lactating women and their infants. I take issue with Concern’s approach to “malnutrition” because they label the problem without ever subjecting it to the analysis that would be necessary to seriously address it.

people reported to me were 2 bags of 100kg per acre. I refused to believe at first that people could produce so little on their farms, until I started to understand that subsistence production was not a target for some families. In one or two cases people were too ill to plant during the crucial month. Those people had very low yields and were forced to use desperate strategies to get food for the year, such as begging and selling assets. These Lutegos have enough labor, but

“We were only able to live by struggling,” says John Lutego, Antoni’s father. “To survive I had to go here and there to purchase maize. We cultivated a bit but got very little from it, but we managed to survive.

“My children’s health was a real problem, especially in the rainy season. At that time our maize was finished. We were just eating leaf vegetables and having to get up each day to cultivate. Just getting up was a real struggle. I felt that we had big problems. We always felt that this problem would be with us every year. There would never really be enough food and we could not live happily or securely.”

How did John Lutego find money to purchase maize? Did he work for wages or receive remittances from elsewhere? Do family members exchange labor for food? Did the family choose a low yield/ cash income strategy for the year? The text would have read differently were the real story of Mzee Fihavango portrayed: he was employed as a builder at the Malangali Secondary School for about twenty years, after which he continued earning money through his own carpentry practice, and he earned cash throughout his adult life through careful husbandry of cows, goats, and pigs. This is not a small point. While many families in Malangali experience serious problems earning enough money to meet their annual needs, virtually all households have been engaged some way with wage labor and the cash economy. The omission of such a detail must involve a willful decision to depict the family as isolated from both the larger economy and the forms of knowledge

necessary to secure a livelihood.

Within this paragraph we also find elements that are upheld by my research, which are important for understanding agricultural problems as Malangali residents experience them. The rainy season, especially the later months, were a time when many people fell ill. Malaria was the usual diagnosis (though with no laboratories or custom of detailing symptoms to doctors, I suspect that many instances of fever or other maladies are misdiagnosed).⁶ Though I did not encounter people who completely ran out of maize during these months – even if their stores were empty, they employed other means to secure *ugali* – many did do without the protein compliment of beans. People part with beans one cup at a time when they need cash, especially when the price has shot up during the lean months. Leaf vegetables are available soon after the rains start, so people use them as a relish with their *ugali*, perhaps exclusive of protein-rich beans in these weeks before the beans mature. In addition, people busy farming often do not stop to eat, so reduce to two meals or even one meal a day during these weeks of extreme exertion. Later in the story we hear the family is farming at 7:00 a.m. I often saw people walking to their fields as the sky was brightening at 6:00, and sometimes in the dark at 5:30 a.m. One woman told me of her father pulling the children out of bed every morning in the dark. She herself has an alarm clock she sets for 4:00 a.m. so that she can hoe by lantern-light. The premise of the paragraph in the brochure, hard work and hunger, is a fact of life that many in Malangali endure every year.

⁶As one example among many, I took a neighbor to the hospital whom I knew through insistent nosiness was suffering gynecological problems. I left her at the hospital door. Later I learned that she told the doctor she had an upset stomach, for which she was given Panadol.

The paragraph ends by introducing the notions of happiness and security. The next paragraph concludes the page, again extending the Lutegos' story to the national scene.

Happiness and security, for most Tanzanians, means first of all enough food – and their requirements are simple.

[The text continues on the next page]:

A village meeting was called to discuss the issue of poor crop yields. The Lutegos and many others wanted help with their farming. The village chairman explained that the Government had an Agricultural Extension Service which had not yet reached their village. Then it was explained that CONCERN, with the help of the European Union, was already working in Malangali in horticulture and forestry projects. Maybe they could help.

The Nyerere administration had as its goal the spread of state services to every corner of the large nation. In this they followed on a British regime that had active and effective policies to make Iringa Region the center of the colony's grain production. One grandfather explained to me that he started using compost after being taught the method in the 1950s. As detailed in Chapter 1, Malangali division has long been transected by the main road to southern Africa. It strains credulity to suggest that agricultural extension "had not yet reached" any village in the area.⁷ My impression is that the author here employs a rhetorical device that invokes images of the remote, untamed wilds of Africa. The reader certainly has no basis to know otherwise. Continuing in this vein,

⁷ I am being generous. The text says the Lutegos live in Malangali village, also called Mwilavila. Agriculture extension there dates at least as far as the opening of the secondary school in 1928. Mwilavila was a colonial administrative center from shortly after the first world war until district officials were moved south to Njombe town soon before the school was finished. The peak of the government's active intervention in local agriculture was during *Ujamaa* in the 1970s. If the story is in fact based on the family shown in the video, who live in Itengule, then an agricultural extension program run by the Catholic mission in their village pre-dates *Ujamaa* by several decades.

After contact was made, CONCERN and the Department of Agriculture agreed to join forces and set up an Agricultural Extension Programme. Two government extension workers would run the project with scientific back-up and advice from a CONCERN agriculturalist.⁸ Ten farmers, including the Lutegos, were elected to take part in the programme. They were all poor, willing participants whose farms were close to the village where other farmers could see and learn from what was happening. The agricultural extension worker began by discussing their problems and drawing up a plan for change.

My research shows that Concern was not *invited* to undertake agricultural activities in Malangali, but rather asked the government permission to do so. For reasons discussed in Chapter 7, the government was happy to have the NGO. Such a dynamic, however, does not appeal to European sensibilities. Instead, the program began with agreement, discussion, electively, willingly, and with participation. If the author held even a modicum of the reservations expressed by Concern staff who lived in Malangali in the years before and after this document was created, s/he must know this depiction is not even close to accurate, but the reader does not.

The reader will be impressed by what Concern does bring to address “simple” needs. The organization uses science, democracy (inferred from “elected”), learning, and planning.

“The main changes were in our maize planting methods,” says Antoni, “and in the use of fertiliser and in seed selection. In the past, we were just mixing the seed and not choosing the best seeds for planting. Generally our cultivating system was haphazard, but hard work. The whole family would get out in the field at 7:00 in the morning with their hoes. My mother spent most of her time working in the fields. She carries most of the responsibility for producing food for the family. The extension worker told us that we were not doing things right. We always waited until late December, when the rains were certain to arrive, to begin clearing and

⁸Both of the agriculture extension staff who are shown in the video, Kinkopella and Flora Silayo, became friends and co-researchers, as well as key informants for this dissertation.

preparing the soil. We were told that was too late. We should start preparing the soil in November to sow in early December to get the maximum growing season.

The author paints a picture of a pathetic, ignorant society of farmers. How did they manage to survive before being taught scientific planting methods? Their methods were to mix seeds and cultivate haphazardly. Again, an element of this story corresponds with my research. The old cultivation system involved clearing land, burning the scrub for soil fertility, and broadcasting seed. Such a system is both less work and lower yielding than linear tillage. Most people in Malangali have now adopted some version of tilling in lines, though not necessarily as specified by agriculturalists. The assertion that farmers did not carefully select seeds, however, runs flatly against my own observations.⁹ (Granted, my research was 10 years after the program started, but the Mendelians I witnessed were often grandparents who are not usually seen as eager for change.)

Early planting, as discussed below, is a technique that most farmers rejected out of hand and for good reason, although it continued to remain Concern policy. Kinkopella is the one person I heard talk repeatedly of the benefits of this method. I could therefore picture the Lutego's extension worker telling them they were doing things wrong, something I have seen happen many times. As it happens, Saimon Fihavango is the only farmer I have ever heard actually advocate preparing land before it is softened by the rains. He explains that most soil in the area is too hard for this method, but his family has one field with sandier, easier turning soil on which early planting gives better yield in most

⁹ In writing about a West African case, Paul Richards notes, "farmers continue to add to their large stock of planting materials by selecting for useful characteristics and by experimenting with new or unfamiliar planting material" (Richards 1985: 144). As Richards makes clear, ethnographic evidence shows farmers to be avid innovators on their farms, provided their experiments do not jeopardize family security.

years.

Our use of fertiliser was not satisfactory. We could not afford inorganic fertiliser and we didn't know much about the organic type, so we didn't use any. But the biggest change was in the amount of seeds used and in the spacing of the plants. Before, we would just make a hole with our feet and drop a few seeds in. There was no careful measurement or anything like that. We needed to increase the number of plants and this was not possible with our methods.”

As discussed below, farmers worry about acquiring fertilizer more than any other farm input. Farmers insist that organic and inorganic fertilizers are not interchangeable, that compost is best when used as a supplement to varieties known as CAN or TSP. Even better, they say, is cow manure. Concern paid no attention to manure because they determined that cattle owners were not “the poorest,” and therefore outside of their purview. The organization also moved away from any acknowledgment that inorganics might be useful. By late 1996, after Concern had sent several of the senior African staff to organic farming seminars as far away as Nairobi, the Program Coordinator lectured me about two bags of CAN I used in a barter arrangement with a primary school. While I argued that the fertilizer the headmaster requested would increase yields on the fields the school uses for a lunch program, he maintained that it was inappropriate to encourage “unsustainable” farming practices.¹⁰ Prior to the arrival of Concern, Mzee Fihavango routinely purchased inorganic fertilizer with his earnings from carpentry, and always applied manure from his animals. As with other farmers, Saimon said that his father often had difficulty buying fertilizer in the quantities and at the times he felt would be optimal –

¹⁰ In December of 1999, during a visit to his home more than three years after the end of Concern's agricultural activities in Malangali, this same man discussed an arrangement he had recently made with an area school in which he used inorganic fertilizer for barter. I discuss the multiple perspectives of extension agents later in this chapter.

a different meaning behind the statement: “Our use of fertilizer was not satisfactory.”

The extension worker had to challenge generations of tradition and fear of change and present new methods that the families could understand and carry out themselves at little or no extra cost. Planting in straight lines and spacing accurately was an example of this. By doing this, the number of plants can be increased from about 6,000 per acre to 13,000 per acre – thereby doubling the potential yield in one go. Home produced compost can substantially reduce the need for expensive fertiliser. The Lutegos made a compost for the first time. They were shown all the steps to ensure that high quality organic fertiliser was produced. Compost first into the ground; then two seeds in case one doesn't germinate and the crop is off to a good start.

This dissertation proposes that Malangali farmers interact with development programs as sophisticated consumers in a market of alternatives. Area residents have decades of experience with programs that claim knowledge of how to solve local problems, but that leave them little better off in the end. From this process have emerged several generations with a tradition of change. Malangali farms are often dynamic centers of innovation and experimentation, though carefully limited to fields of surplus. During its decade in the area, Concern did introduce farming techniques that were new to many and often led to noticeable yield increases. Compost is one technique that caught on during the Concern years, so that today most farms, including Saimon's, have a compost pit. Most farmers also plant two seeds in every hole at roughly the recommended intervals, which can be verified easily by counting the stumps in the fields after harvest. Yet these are *maize* stalks everyone is concentrating on, a crop that was completely unknown 100 years ago. Why does the author feel it necessary to invoke images of tradition-bound Africans fearful of the new? Why does s/he feel that farmers may be unable to “understand” the recommendations? Rural residents may reject suggested changes for

many reasons, a topic that will be explored throughout this dissertation. Most of these reasons have to do with lack of resources, aversion to potentially devastating risk, or empirical testing, not lack of comprehension.

“Early planting is essential because it allows crops to develop earlier and weeding can be carried out in good time,” says Antoni. “The extension worker emphasised this to us. She said if we planted two weeks earlier we could increase our yields by at least 20%. Early planting will help us with many problems, particularly food shortage. If the crop is ready early it will provide food at the time when there is little available and we can eat well.”

If they plant two weeks early and seeds germinate but the rains do not come, their yields could drop by at least 20%, which is the main reason most farmers do not accept this recommendation, not ignorance or fear.

The main rains come in February/ March bringing vigorous growth. Insect damage in the growing crops is a big problem for the Lutegos. Instead of expensive insecticides, the extension worker has pointed them to a local cure.

“It is a local root that we dig out of the ground and it acts as a pesticide,” says John Lutego. “We cut it into pieces and pound it. Then we dry it out and shred it for spreading over the fields.”

Lidupala is an insecticide that old men say their fathers taught them how to make.

Its use tapered off when imported pesticides such as DDT were cheap and readily available. Concern deserves credit for re-introducing this method, effectively reducing use of chemical pesticides while improving crop growth and storage.

The maize crop is harvested in June and July and this year the Lutegos wait anxiously to see if the new methods deliver the goods.

“Harvesting and threshing is an exciting time,” says Antoni. “The whole family is involved. It looks like a very good crop but will it last us the whole year or might we even have a surplus? My father seems very happy.”

John Lutego:

“This season I estimate I harvested 25 bags from just one third of my farm. Last year the whole farm yielded only six bags. This year the yield is increased fourfold. The result is two big new cribs as well as the old one. Not only do we have sufficient [sic] to eat well for the year but we also have a surplus to sell. This means money, which is something we have never had.”

Farmers did report surprising increases from plots they farmed “the expert way,” but someone who got 25 bags from 1.5 acres would have had to use enormous amounts of fertilizer and have had incredible luck. In this case, the person who invented the Lutegos is also being inventive about the yield increases farmers report. 25 bags would be a surprising but not impossible yield for the entire 4½ acre farm to jump to in a year if the starting point was really 2 bags per acre, though hardly a miracle if one started with the assumption that a rock-bottom family devoting their labor to the task can expect 4 bags per acre. Saimon says that in an exceptional year when inorganic fertilizer is applied and the rains are good, he could approach this sort of yield from “the best acre ever,” but 75 bags from a 4½ acre farm is unheard of in Malangali – though that is a reasonable inference for the reader to make. By challenging tradition with scientific method, the aid agency appears to have worked wonders: from 3 bags full (the headline, though the text speaks of 6 bags) to 75 bags. Now, thanks to the personal touch of the European agency, the Lutegos have surplus, they have money (something they never had, although they were inexplicably buying grain), and they are about to forever escape severe hunger:

Subsistence farming for the Lutegos has meant barely enough to eat and trade for clothes, school books and other essential items. With a real surplus to sell, they have taken the first step out of subsistence farming. But what will he do with the money?

“The money I will use first of all to pay the cost of educating my children,

and to buy fertiliser which is important if I am to continue with this better farming system.”

Matatu, John’s 15-year-old daughter, started secondary school this year, the first member of the family to have secondary education. For Antoni, things are looking up too. The monthly market in Malangali is the place to go to meet friends and buy things. But it is no place to be without some money or something to sell. Now Antoni can go. He brings a chicken to sell for a little extra cash. He has a shopping list for the family – soap, school books and some clothes for himself.

The Fihavango family differs from the pathetic portrait in this brochure. In addition to the animals and employment discussed above, family members have a long history of engaging in small businesses, such as tending chickens, to raise cash. Saimon’s mother, for example, cooks *bagia* (fried cowpea balls) and other snacks, and brews alcohol for sale. Saimon also has two older brothers by his father’s senior wife who completed secondary school and are now teachers in other parts of Tanzania, though the text is true inasmuch as his younger sister was the first from his mother’s womb to attend secondary school.

“I can now spend more time with my friends and feel happy. We have a football team in the village and I like to play, but you must be feeling strong and have eaten well. I’m now an adult. In the future perhaps I will marry and have children. But such a plan is not possible until I feel confident of the future. If the harvest continues to be good, I can start to plan.”

The reader can infer that, thanks to Concern, people like Saimon can now have sports, families, and happiness. In fact, in June 1998, about ten years after the filming of the video, Saimon had finished building his own house of fired brick. He finished paying brideprice the day before our interview and was planning an August wedding. He and his bride hoped children would follow within a year.

His father is also planning:

“I am planning to expand my farming. This year I will cultivate three acres by the advised method. Maybe I will buy an ox and plough so I can cultivate a lot more land.”

Mzee Fihavango’s herd has fluctuated between a reported low of seven and high of twenty. He has farmed with an ox plow since long before the arrival of Concern.

The Lutegos have completed Step One of a three step programme out of subsistence farming. It only required extra knowledge and hard work, involving things like better soil management, earlier planting, regular weeding, compost making and crop rotation.

Step Two is only possible when the farm is generating a surplus. It involves some financial investment, such as the purchase of fertiliser or oxen to expand the amount of land cultivated.

Progress to Step Three would bring them into the arena of money management, savings and credit facilities and marketing of produce.

Savings and investment are among the prime preoccupations of many Malangali residents.

For reasons discussed in the following sections, most families experience enormous difficulties in securing reliable income from their farms. I argue that Concern missed many prospects to use their resources to help area residents enhance their income opportunities by focusing on incremental increases in yields for low-value crops.

The Lutegos are representative of the people who live behind development policies and programmes – people with ordinary needs, hopes and dreams. True development listens to them and seeks to take them one step further on the ladder of development.

The process has begun which will give the Lutegos and their neighbours the hope of a secure and happy future.

Saimon is quite complimentary of the work Concern did, although some parts of the brochure’s text that I translated for him called forth his hearty laughter. His response to the final sentence, translated back to English, was, “It is true, now I live without

problems, I live well, with happiness and security.” In addition to the hard work he has done as a contractor and wage laborer, he generously attributed some of this to what he learned from Concern: “They gave big profit by teaching,” he said, but he then disputed the claim that the organization was one that “listens.” “*Walikuwa wanasema. Lakini kuuliza? Hawajawahi,*” he said, “They were telling us things. But to ask? They never have.”

The lack of attention that the projects paid to local voices was a frequent topic of discussion among expatriate staffers throughout Concern’s time in Malangali. Despite this shared interpretation by most parties in Malangali, though, these wrinkles were ironed out of the fund-raising and educational material that followed the above trope. For the brochure to achieve its goal of informing Europeans about why its work is essential, the agency must show that Malangali residents do not know things and that Concern experts do. Any admission that the reverse might sometimes be the case would not only confuse the European public, it would also confuse the agency’s ability to engage in the work it does in the ways it is accustomed. The confidence instilled in aid agencies’ donors and employees by documents such as this brochure both helps generate funds and, in a real way, helps generate the ability of the agency’s staff to engage in international aid.

Lest the brochure’s reader feel too comforted in the happiness of the Lutegos, the facing page of this final section shows another skeletal African boy at an emergency camp, with a second photo showing him healthy after six months at a Concern feeding center. In this European construction, the African farmer is desperately poor and ignorant, but not without hope. The programs formed on these images that arrive in places like

Malangali have definite political, economic, and social consequences. While the intentions of Concern's planners are earnestly directed at ending problems of material poverty in Africa, it is nonetheless essential to examine the assumptions upon which their programs are constructed. This pamphlet, Concern's own unabridged text, introduces donors and many Concern staff to Malangali, and thus it is appropriate to use it for the first examination of the organization's conceptual premises in this dissertation.

The project proposals Concern submitted to the ODA and the E.C. in January 1991 are similarly instructive (Concern 1991). Although the language has been modified from the simplistic to the technocratic, the analysis remains the same: Malangali farmers are incapable of meeting their subsistence needs, and so need the expertise of the development organization. As with the brochure, the proposal begins by touting Concern's early success: "100 per cent increases in yields have not been uncommon" (p. 1). The proposal then cites scientific-sounding figures and facts, for example that "out of 95,200 ha of arable land in Malangali Division, 23,000 ha (24%) are estimated to be cultivated at present... These drier areas are characterized by sandy soil of low organic matter content resulting in poor water retention..." The only source given for such assertions is Concern's 1989 planning document, which is less than authoritative, and a document based on research I regard as inadequate (JNSP 1988) that "observed that 43% of villages experienced a food deficit."

The evaluation of local farming practices uses quite different language than the brochure to reach a similar assessment.

Crop husbandry tends to be of a low standard. The quality of cultivation is normally poor, and sowing takes place without secondary tillage. Plant

populations can be as low as 50% of optimum rates and the suitability of various seed varieties in the different agro-ecological zones is not understood (p.1).

A table plots current yields against potential yields for four major crops, and Latin names are given for three insects responsible for crop losses (p.2).

Is this technical language meant to engage the interest of specialists in African agriculture? Quite the contrary, the intended audience consists of desk-bound bureaucrats in London and Brussels who are unlikely to have any ability to question the “facts” put forward. The point of making the proposal resemble a scientific paper is to demonstrate that the NGO has done its homework, has become eminently knowledgeable about the area in which it proposes to act, and therefore meets all the qualifications necessary to receive funds. The scientific tone compliments the intelligence of readers at the funding organization even while it deadens any interesting features of the particular project into the bland uniformity of development-speak. What the NGO proposes is both intoxicatingly specific and deliciously vague:

The strategy which will be adopted under the new proposal will enable farmers to modify their farming systems so that they need use few external inputs and minimize risks. Farmers will be trained to exert optimum control over factors such as timeliness of operations, quality of cultivation, optimization of plant populations, and effective weed control. All these factors will lead to sustainable increases in production and can be combined with techniques of intercropping and organic manuring to further increase annual production (p. 2-3).

The document gives firm numbers, for instance foretelling that 1,035 total farmers will participate as contact farmers (p. 4), and that these individuals will construct contour bunds on 138 hectares annually (p. 5).

The proposal makes a point of addressing the specific concerns of the European

funding agencies. Section headings call attention to MONITORING and SUSTAINABILITY, as well as ENVIRONMENTAL CONSIDERATIONS and WOMEN. Monitoring is important because funders want to feel that their investments will not be lost in the ether, even if the functions of the proposed annual evaluation include such gibberish as “to assess the effectiveness of achieved outputs in making progress towards the objectives especially with reference to target groups” (p. 8). The other three topics receive similar treatment in the proposal, and are the subject of detailed discussion later in this dissertation. For now, it is enough to note that the document addresses the topics of most concern to the funders, using language that is designed to persuade bureaucrats to approve large cash transfers.

Given that the proposal claims to represent the apex of technical knowledge about Malangali, it is worth our attention that neither the overall analysis nor the outline of the narrative differ substantially from “The Personal Touch” brochure. Whether it is people who are invented in the brochure or statistics that are fudged in the proposal, the end results are documents that raise funds for work in Malangali while bearing only a passing resemblance to conditions actually experienced by area residents. Regardless of their accuracy, however, the projects Concern ran during the 1990s strove for allegiance to following the understandings of European funders, be they small donors or large agencies.

Agriculture

This section examines agricultural conditions in Malangali in the context of the economic goals and limitations before area farmers, and the choices many people make regarding their farms and agricultural development programs. I first present some additional background material, including a brief overview of a literature on agriculture in

Tanzania that focuses primarily on various agronomic limitations to crop production and the possibility of state efforts to overcome them. I then investigate how the division's residents experience farming and agricultural development mandates. Most people in Malangali identify themselves as *wakulima*, people who farm (*kulima* is the infinitive of the verb "to farm"). This marker reveals little, however. One may, for example, identify oneself as a craftsperson, a government functionary, or a small-business person in addition to being one who farms.¹¹ Because no income sources in Malangali are adequate to support a household, farming is one activity – among diverse economic strategies – in which every Malangali resident engages.

The notion of "peasant farmer" in need of socialist development was especially prevalent in government circles in the 1960s and 70s, and continues to shape the thought of many officials. President Nyerere often described a peasantry primarily reliant on the farm to meet basic family needs, perhaps with access to markets for some sale of farm surplus (Nyerere 1968: see especially pp 106 - 144).¹² He saw danger in practices of wage labor whereby one family would get wealthy quickly while their employees/ neighbors would remain as poor as they had been despite their hard work. To combat such

¹¹ For example, Christina Sambena, Concern's horticulturist, identifies herself as a farmer when she talks about problems on her own fields, but distinguishes herself from "the farmers" when talking in a professional capacity. What is more, on the birth certificate she had issued for her daughter after breaking up with the father, she listed her own professional title while writing the father's occupation, in English, as "peasant."

¹² Debates of the definition of "peasant" have become a small cottage industry, most notably on the pages of the *Journal of Peasant Studies*. Henry Bernstein gives a hint of the discussion of which Nyerere's thought forms a part: "On one side of the middle peasants are poorer peasants, many of whom are unable to reproduce their means of production in the face of multiple pressures – including competition with other peasants over land, labor, access to inputs, to credit, or to markets. This means that they become marginalized as farmers or are ultimately dispossessed and proletarianized. On the other side, rich peasants are those who have been able to accumulate and to employ the labor of others" (Bernstein 1990: 73).

“kulakization” and at the same time increase overall national agricultural production, Nyerere proposed his famous *Ujamaa*, African Socialism. In his theory, people “would live together in a village; they would farm together; market together; and undertake the provision of local services and small local requirements as a community” (Nyerere 1968: 124). Much has been written about *Ujamaa*,¹³ first why it ought to succeed (Proctor 1971, Kisula 1973, Omari 1976, Coulson 1979, Mwansasu and Pratt 1979), why (often from a sympathetic leftist perspective) it may not have succeeded (Mc Henry 1979, Von Freyhold 1979, Hyden 1980, Coulson 1982), then why it could not succeed (Hedlund and Lundahl 1989, Yaeger 1989, Townsend 1998). Only now are histories that benefit from time and accurate (dispassionate) information finally coming to press.¹⁴

All of this international attention is worthy of note in part because it so far removed from the lives of Malangali residents. For those who were adults at the time, *Ujamaa* was part of a series of edicts that purported to transform their lives, but in the end left them hardly better off. Never once did the policy figure in daily conversation with farmers unless I brought it up myself. Yet teachers and government administrators in the area occasionally referred to Nyerere’s theories in respectful tones, and academics continue to enquire about it. The government has long since abandoned any pretense of creating a socialist peasantry, but Nyerere’s image of the rural population as malleable preindustrial

¹³ See McHenry 1981 for a bibliography of most works relevant to *ujamaa* villages up to 1980, with almost 500 references.

¹⁴ Scott (1998), writing from second-hand sources, offers perhaps the most cogent insights yet into the relations between state and peasant in the *Ujamaa* period, suggesting that Nyerere’s policies evinced a tendency of governments to view rural populations as manipulable cogs in need of state alignment rather than citizens capable of making autonomous decisions about their own life conditions. McHenry (1994) produces a commendable reassessment of the history of the *Ujamaa* years, though his nostalgia for the idealism of the time is palpable in his writing.

peasants who will yield to state crafting continues to stir imaginations.

Concern documents depict Malangali cultivators as “subsistence farmers,” a step below the notion of “peasants” as farmers of small plots who often yield a small surplus to sell. “Subsistence” is the notion of the farm as basically a self-contained unit that in the average year is just able to produce enough food to feed itself. In *Stone Age Economics*, Marshall Sahlins both presents a case showing that people living in subsistence economies may in fact represent “the original affluent society,” and also demonstrates how “in treatises on economic development [they are] condemned to play the role of bad example” (Sahlins 1972: 1). Although Sahlins is writing primarily about hunter/ gatherer societies, his observations that people who are dependent on their own interactions with natural resources are often comfortable in terms of calories and contentment may also hold for many people who work the land (Allan 1965). Such a perspective does not account for the people of Malangali, who are embedded in networks of money, commodities, pathogens, values, laws, and mandates that, as Allan discusses (1965: 48), alter their patterns of production and demand from any idealized subsistence norm.¹⁵ Nevertheless, the image of Malangali farmers that is portrayed in documents such as *The Personal Touch* (Concern n.d.), while ignoring their entrenched modernity, harkens to a notion of

¹⁵ Haugerud finds that in Embu, Kenya, “A minority of households fairly consistently produce more than they need to feed the family, while others usually underproduce.... The survival of households who usually underproduce is linked to the existence of a set of households who consistently produce beyond their consumption requirements. Social relationships among households help to define access to any surplus product, whether the producers make that product available to others as a purchasable commodity, as a gift, or as in-kind payment” (Haugerud 1995: 177). In agreement, I would stress a point she makes elsewhere (1995: 139) that the networks upon which households depend to meet their consumption needs extend far beyond the locality, while suggesting below that “underproducing” is often an *intentional* strategy, though one that its practitioners may or may not see as preferable, by which Malangali residents hope to meet requirements for both food and money.

African primitives that at once fetishizes and deprecates their abilities to attain their own livelihoods. The subsistence concept is often expressed as the norm by outside agencies, as seen in the Concern documents examined above, with most development agency reports for the 1980s and 1990s assiduously avoiding engaging the historical implications of colonialism, *Ujamaa*, or postcolonial globalization (Hoogvelt 1997). In fact, both Concern and UNICEF have operated in the area on the assumption that subsistence is an ideal that many farmers are not even able to achieve regularly. Framing the agrarian problem around the premise that people are unable to grow even their minimum food requirements has led to development projects that address issues which differ from the problems perceived by those who farm.

Malangali farmers share two common objectives: farming for food and farming for profit. Wealth ranking surveys done for Concern's unpublished Wider Impact Study (WIS) indicate that about one household out of three does not produce enough food to last through the year, nor a sizable crop for sale. My research suggests that, while many of these households have important food deficit problems, household survival strategies are not adequately explained as failure to meet the subsistence objective. For example, one young woman showed me the grain storage crib she shares with her husband, which only had about 2 bags (200 kilos) of maize left in it in October. The amount of food was not nearly enough to feed her family until the next maize crop could start to be harvested in April, but she was not worried. She uses her maize to brew beer, which she sells for cash. With this cash she is able to buy replacement maize as well as additional maize for food. This is just one strategy of many used by households farming below subsistence that will be

discussed below.

Equally important, and equally overlooked, is the importance many local farmers have long placed on production of crops for sale. Although production of surplus crops has long been a government objective in order to feed plantation and city residents and as a source of export revenues, the farmers producing surplus have been the object of little special attention. Nyerere worried about the existence of an exploitative “kulak” class of wealthier farmers, so he actively sought to undermine those farmers who produced outsized surpluses. Concern’s focus on “the poorest of the poor” turned a blind eye to growers of surplus on the theory that such people were both extraordinary and by definition outside of their mandate. But growing a surplus is an ideal sought by many who are not able to achieve this goal consistently. The potential profits from sale of crops determine the production strategies that most farming households make in any given year.

Livelihood

I argue that many farmers who grow at subsistence level in contemporary Malangali have the ability and the desire to grow surplus if crop prices were better, and many who grow below subsistence choose to do so because they decide they are better off investing their labor elsewhere and buying food (Berry 1993). These decisions, entirely overlooked by planners,¹⁶ are based on prevailing prices for both grain and fertilizer that have mitigated against cultivators’ decisions to farm for surplus, a direct result of IMF-induced Structural Adjustment policies. The fact that farmers are making conscious decisions to produce less food and to exert their energies elsewhere is positive for

¹⁶ In a policy review written for the OECD, for example, Bevan, Collier, and Gunning argue (98-9) that “prices matter” to only a marginal degree for Tanzanian agriculture, perhaps only as a disincentive to expansion for production of food crops such as maize. My findings are completely at odds with this analysis, and with Collier, Radwan, and Wangwe 1986 discussed below.

some few who have been able to realize greater returns from their alternative investments. The majority of those who depend on their farms, however, are materially less well off as a result of these shifts in crop and fertilizer prices. They have adjusted themselves to what they see as the most immediately advantageous position given prevailing economic conditions, but they have few ways to compensate financially for the surplus sales that they are now choosing not to pursue. By not understanding local strategies and objectives, planners have overlooked a critical downshift in the livelihood opportunities of many Malangali farmers.

In order to advance this argument I must first show that farmers are producing less than they are capable of. Agriculture development models rest on the assumption that farmers are growing crops at maximum capacity given their state of knowledge and technology (see Helleiner 1968, Stevens and Jabara 1988: 59-84): “the key to agricultural development is to make it possible and attractive for the operator of each farm or holding to change practices in ways that will increase production on a sustained basis” (Johansen 1968: 13). Improving farmers’ welfare then rests on teaching new techniques and/ or introducing new technologies and new seed varieties. These are the focal points of both Concern’s and the government’s agriculture extension activities (Komba 1992, Rutatora and Rutachokozibwa 1995). If, conversely, farmers actually know how to produce more crops than they are choosing to grow (as suggested also by Esther Mgale’s recent research in Dodoma (1996: 110-6)), then we must question the very basis on which such agriculture development programs are predicated.

Brown and Hutt (1935) describe well the pre-colonial Hehe pattern of scattered

residences and shifting cultivation. A noteworthy feature of shifting cultivation systems is that farming rarely taxes the capacities of either the cultivator or the land. Only with intensified farming do potential limits start to be approached. Boserup's basic hypothesis has been amply demonstrated: farmers adopt new techniques and technologies when their need for greater production outpaces the difficulty (in extra time or investment) of the innovations (Boserup 1965, and see Bryceson 1990, Berry 1984, Guyer 1981; discussed in Maddox 1996: 45). This idea is generally posited in opposition to neo-Malthusian theories of population growth, and in fact one of Tanzania's few "overpopulated" areas, the fertile slopes of Mt. Kilimanjaro and neighboring northern hills, displays a degree of agricultural intensification unmatched elsewhere in the country.¹⁷ Malangali has never experienced population pressure such as that seen on Kilimanjaro, but it has experienced great agricultural intensification since pre-colonial days. This is due in part to population growth, including the Bena immigration, which has forced the reduction or elimination of fallow in many areas. Gazetted forest areas that are now off limits to shifting cultivation, and more intensive settlement patterns (including villagization) that make rotating cultivation of distant fields less attractive, also demand more intensive cultivation on more permanent farms. By far the greatest cause of intensification, however, has been marketing opportunities for cash crops (Bryceson 1990). Government policies, often subject to change, have frequently provided incentives for farmers to grow surplus food throughout the past century. These incentives have included guaranteed minimum

¹⁷ Spear (1996) in particular demonstrates the cycle of agricultural intensification around Mt. Meru in response to colonial policies of land alienation (for settler agriculture) and closure (for forest reserves), in addition to rapid population growth in the years after the 1928 census.

prices, state purchasing boards (inefficient as they may have been) that came to farms to haul off crops, subsidies for inorganic fertilizers, and sometimes legislated production mandates. Not all farmers responded identically, but crop production on average used to be so far above subsistence that Iringa Region was known as “Tanzania’s breadbasket.”

Declining grain production has been attributed to many factors. Researchers have cited declining soil fertility due to overproduction and poor farming techniques (Lundgren 1978, Christiansson, Mbegu, and Yrgård 1993, World Bank 1996a), as well as soil erosion (Christiansson 1981, Stoorvogel and Smaling 1990, Brekke, Iverson, and Aune 1999). Scientists and Malangali farmers alike point to decreased rainfall, which is often blamed on local deforestation – not on changing weather patterns linked with global warming from hyper-industrialization in the wealthy world. Farmers in Malangali, though, have an additional, equally sophisticated explanation about why their farms do not yield the amount of maize they would wish to grow: profitability, or lack thereof. From the very first village meetings when I was introduced to explain the work I would be doing, my synchronic notes show farmers in Ipilimo asking, “Will you be able to help figure out how to get better yields? What should we do about the high price of fertilizer in relation to the very low price of maize?” “What could be done about the high cost of fertilizer?” I was asked in Tambalang’ombe. Men and women on my first day in Isimikinyi wanted to know about “the high costs of fertilizer, 6000/= (\$10) for a 50 kg bag last year, 10,000/= (\$17) this year.”

Farmers complained about fertilizer and grain prices in every village during every season. At first I ignored their litany, thinking it was just the usual complaints one could

expect from farmers anywhere. Now, after countless conversations where women and men have sat me down and diagramed their cost factors and profit expectations, I appreciate their point: growing surplus is often not cost effective. This hit home most plainly when asking an old man in Kingege about his farming practices. Yes, he had been taught to farm “the expert way,” *kitaalamu*. Yes, his yield went up significantly as a result. Does he continue to farm the expert way? “Why should I?” he asks. If crop prices were higher he would eagerly plant all his land the modern way. But now it is just not worth the effort. Where would he sell his surplus? With such lousy prices he says he prefers to save himself the headache and with his wives grow only as much food as his family needs.

The major issue farmers addressed to me involved assessing the ratio of maize prices to fertilizer prices. Inorganic fertilizers of several different chemical compounds are available at agriculture supply stores in Makambako and Mafinga. Farmers discuss at length the relative merits of CAN, TSP, and Urea. For us it is enough to know that CAN is the cheapest, TSP usually the most expensive, and the latter is said to have the most beneficial effects for the crop/ soil combination in Malangali. People talk about the best timing and amounts of fertilizer to add. Most farmers have an ideal regime they would apply if they could buy all the fertilizer they needed. Most make compromise substitutions, either by using less fertilizer than ideal, applying it less often, or using a less suitable variety. An additional strategy is to apply fertilizer to only a portion of the farmed area. People regularly estimate that fertilizer increases a field’s yield by about 150%. An average Malangali acre grows about four 100-kilo sacks of maize without fertilizer and about 10

sacks (roughly one metric tonne) if fertilizer is applied.¹⁸ With these facts in mind, farmers often outline the decisions they are making about how much to plant and with what fertilizer regimen. Although I have never seen anyone write the equation with such specificity, their discussions lead to the following representative aggregate table:

	Cash investment	Yield	Return if all sold in June (4,000/= per bag)	Profit (June sale)	Return if all sold January (12,500/= per bag)	Profit (January)
Without fertilizer	0	4 bags	16,000/= (\$27)	16,000/= (\$27)	50,000/= (\$83)	50,000/= (\$83)
1 bag fertilizer	11,000/= (\$18.50)	10 bags	40,000/= (\$67)	29,000/= (\$48.50)	125,000/= (\$208)	114,000/= (\$190)

Table 2.1: Profits per Acre

A farmer with the means to buy fertilizer and to hold off on sales until the market peaks is obviously going to be rewarded, besting the field without fertilizer by over \$100. But if harvests from both fields are sold early, the difference is only 13,000/=, about \$20. Early sale has a marketing advantage beyond the general need to pay off back debts. Trucks are more likely to come to the villages in the early months looking for maize for the cities. The monthly market is bustling with eager buyers from Makambako and Iringa. By October such traders are rare, having already procured their stockpile for arbitrage sale in the lean months. Receiving a high price depends on the local market – where the price is high because the sellers are few, rather than because the quantity demanded is high.

¹⁸ Estimates of planted area are usually round figures of guesswork, and sometimes confuse acres with hectares. Similarly, most estimates of yields in Malangali are round approximations, since only the small proportion of crops that get sold to traders are measured with any specificity.

Because everyone knows the price will be very high by January, people struggle to be ready by having sufficient food on hand before the price rises, even if they did not farm the food themselves. Those least able to farm enough food are also those least able to buy food in the lean times, and thus resort to other means – borrowing food (often in exchange for labor, discussed below) or doing without. For the large majority, selling all or even much of the surplus at peak price season is only a goal, not reality. Thus the marketing equation they use anticipates the profit margin from early sale.

I use fertilizer in this discussion as a leading proxy for all extra inputs to the maize field, and maize as a proxy for all crops. Other inputs are also subject to people's cost/benefit analyses, and their risk assessments. These include purchase of improved seed, and farming methods that can increase yields but also increase costs – such as the extra labor required to measure planting holes with string, a method advocated by development agents. All the extra inputs, for the maize field and for other crops, are factored into a mental calculus such as above to produce one answer: worth it or not worth it.

Many “improved” (*kilimo bora*) or “expert” (*kitalaam*) methods produce yield increases small enough to be considered not worthwhile in the marketing equation. Nonetheless, people might adopt them to see incremental increases in yield for household needs and small sale. Among methods recommended by Concern, fertilizing with compost is one such method. Compost pits add only a small amount of extra labor, much of that not during peak farming season, and no extra expense. Though many farmers say compost only really increases yields when used in conjunction with inorganic fertilizer or manure, the high adoption rate shows that many people find it worthwhile. On the other

hand, measuring seed spacing with string is not generally worth it, although many farmers have adopted roughly the recommended spacing and seeds-per-hole regimens. WIS research shows that these choices have much to do with marketing. We can speculate that when market conditions are good, people will adopt methods that lead to even the most marginal increase in yields. When market conditions are poor, as has been the case in Tanzania for several years, people will be less interested in incurring costs to increase outputs.

Even given these low returns, many farmers would like to include fertilizer in their farming plans. Several factors discourage timely application of fertilizer, however. The first is actually raising the cash at the appropriate moment. Fertilizer must be applied in January or February, when cash reserves are often at their pre-harvest low. (Lucky families receive timely assistance from their employed kin at just this moment in the agricultural cycle.) Second is procuring the fertilizer and getting it to the fields. A 10,000/= (\$17) bag of CAN weighs 50kg. Joseph or Godi will accept orders before they take their jalopies to Makambako and bring bags back as far as the Mwilavila square at their convenience, for 500/= (85 cents) a bag. A third problem may arise at the critical moment, however: TFA (Tanzania Farmers' Association) often runs out of stock during the growing season. If funds and fertilizer are both available at the right time, most farmers will choose to use at least some fertilizer on some of their fields.

Farmers also make deliberate decisions about many other aspects of planting. These decisions include acreage to plant, technique (spacing, ridging, etc.), timing, and use of labor. Each decision carries costs and risks. Early planting, recommended by

agriculture extension officers, involves preparing fields before the rains start and planting on first rainfall. Yields can increase substantially by planting early. However, the month before the rains start is the hottest of the year, and the soil is rock hard. Since soil preparation involves turning all the soil in the field to the depth of about a foot with a hand hoe, early planting means incredibly hard, hot work. I was reasonably fit during my field research period, even biking 100 miles in the mountains one hot December day before the rains. The bike ride was nothing compared to my exertion tilling dry Malangali soil. By contrast, after a few days of rain the soil turns over like butter. In addition, seeds planted at first rain may well sprout and dry up before the rain sets in for real. The poorest farmers do not have the surplus seed stock necessary to replant if early planting fails. Better-off farmers may be able to withstand initial failure, but they also face a serious potential loss. Most farmers spend a lot of time sorting through their harvests for the biggest, healthiest specimens, which they set aside for seed and would be loath to watch wither if the first rains were merely a tease. Therefore, because of the effort and risk involved, most farmers opt against early planting.

Once the rains start in earnest, the busiest month of the year gets underway. This is the month for all hands on deck. Relatives return from far away to help get fields tilled and crops in the ground. Cousins, daughters, sons-in-law, anyone who can be recruited is likely to be seen clutching a hoe during this month. There is a simple biological factor at work here. The crops that get the most rain give the highest yield. Therefore people want to get as many of their seeds in the soil as soon as they can once they determine that the rains have set in for real. I again learned this the hard way. I waited to plant a small

field of maize behind my house until about a month after the rains started. The result was a field of pathetic stalks that produced a total of maybe a pint of useable maize. People know that the rains will end by early April, so it is essential to plant in order to best maximize the 3 ½ months of rainfall on which they can plan.

The choices that go into use of labor complicate the picture substantially.¹⁹ Not only is this first month the crucial time to plant the family farm, it is also the peak season for local wage labor. Better-off farmers and salaried employees know that every additional person-day during these weeks means additional acreage that can be planted and grain to be harvested. A small hiring frenzy begins in which people are paid wages as high as 700/= (\$1.15) a day. An extra acre can be planted in at most 5 person-days, or 3500/= (\$5.85). A planter considers that 10,000/= (\$17) for a bag of CAN may increase yield from 4 to 10 bags for an acre, while hiring extra labor to plant a spare field can bring in that extra 6 bags for about 5000/= (\$8.30). The planter's goal for hired labor is to get as much acreage planted as quickly as possible, often with little direct supervision, and without specific instructions for farming technique. People are therefore often hired on a per acre basis at 3000 to 3500/= (\$5 to 6). Planters also often hire men with ox-plows to farm land for up to 6000/= (\$10) an acre. People gave three reasons why they were willing to pay more for oxen plowing: it is faster, thus allowing more acreage to be planted at peak rains; the cattle fertilize the land as they walk; and the oxen plow turns land

¹⁹ The findings presented here contradict those of Collier, Radwan, and Wangwe (1986: 132-3), who, in a book published by the International Labour Organisation, contend "that as long as households are on similar production functions it will not benefit one household to sell its labor to another rather than work its own holding." My findings hold with Sender and Smith (1990: 50): "more rapid increases in wage employment constitute a much firmer basis for improvements in the material living standards of the rural poor than the fashionable prescriptions derived from a 'pro-peasant', 'family farm' perspective."

deeper than the hand hoe, thus noticeably increasing yields. (People also rationalized that the cattle plowing was worth more because of the large capital outlay to buy the equipment and care for the oxen.) Roughly 1/3 of farmers employ outside labor during planting. However, a survey of salaried aid and government employees showed that all employ paid farm labor except for teachers, whose fields are prepared for free by students.

With wages running up to twice as high as during the slow season, we could expect this to be an indicator of a shortage of labor. This is not exactly the case, however – more people go looking for casual farm employment every day than can find work available. Certainly many people choose not to work below a certain wage threshold, instead deciding to farm their own fields – there is a bottom – so the labor market seems to quickly level off at a point that entices people away from their own farms. Once this point is found, people decide on a daily basis whether to work for themselves or seek casual employment. Thus, though I did not hire a single agricultural laborer during my first season in Malangali, people making the rounds looking for work did visit me daily. Unfortunately, planting came too early during my stay for me to have a clear picture of what was happening during that first season, and the next time around I was preparing to leave the field a week after the late first rains. I was able to chart the speed with which prices find their level in regard to ox-plowing prices, though. Before the 1996 rains Baba Ajabu, a man with more than 30 cows, was predicting that he would be earning 10,000/= (\$17) an acre for plowing that year. Farmers without cattle were meanwhile worrying about whether they could afford to hire a team at a cost of 5000/= (\$8.30) per acre. Baba Ajabu was at work plowing the moment the rains started. He tilled his own

fields on the first two days, then spent the rest of his waking moments behind the oxen plowing for 6000/= (\$10) an acre. This was the same price in Mwilavila, Isimikinyi, and Tambalang'ombe, and while I know of some people who paid less (because of connections with the men plowing) I heard of nobody who paid more.

From the point of view of the laborer, working for wages is not a good deal. With 3500/= (\$5.85) in wages the laborer will have enough cash to buy at most a couple of bags of maize at harvest time, whereas own-field labor would produce at least 4 bags for the same effort. Aside from oxen plowing, there is no long term advantage to selling labor during the peak few weeks, assuming each farmer has unlimited land available for family crops. (Not all people have unlimited land, but many do. Families often hold rights to land in unrestricted forests or in distant villages. Land is also available for rent at minimal cost, 500/= to 1000/= (a dollar or two) an acre, and is available for the asking at the behest of village government. People with limited land may include the very elderly, for whom clearing new fields is too much work, and women without family help and not positioned to rent.) Unfortunately, many people find themselves living in a calendar cycle where they need cash immediately at planting time. The following chart is suggested by discussions with Malangali residents:

	Early Rains (Dec-Jan)	Early Harvest (May-June)	Dry Season (Nov-Dec)
Calendar 1	Sell labor/ buy maize	Sell maize/ store a little	Use up cash and maize
Calendar 2	Plant own fields/ eat old maize	Sell maize/ store maize	Use up cash to buy fertilizer/ keep maize
Calendar 3	Buy labor/ sell maize	Store maize (sell a little)	Sell maize/ buy fertilizer/ have cash savings

Table 2.2: Calendar Cycles

People live on different calendar cycles in Malangali. As the chart suggests, some people are regularly in a position where they run out of both food and money at planting time. This is often a matter of planning for adversity, not chance misfortune. People who run out of food much earlier than first rains tell me they go to neighbors or friends to borrow food. The first time the food may be given unsparingly. The second time it will often be given in exchange for labor. The labor can be given immediately or reserved for farming season. Bwana Rufe ran out of maize when a child died and he had to feed the many guests who came to the funeral. His neighbor Martha Chaula gave him a few sacks of maize to carry him through the year. He received her generosity graciously and without comment. The next month he came and rethatched a section of her roof, work valued at about 12,000/= (\$20), or roughly the value of the maize at that moment. The dry season is actually one of great industry, so there are many opportunities to work off debt obligations then, especially for men who can help with construction. However, because this labor is valued in cash lower than at planting time (400/= or 500/= a day instead of 700/= to 900/=, a low of 60 cents to a high of \$1.50), or because it is appreciated more at the later date, borrowers are often in the position of working off their obligations during these wet weeks. Put another way, it is very difficult to go hungry in Malangali. There are enough avenues that one need not starve, even without food in one's granary. But it can also be very difficult to see personal "*maendeleo*" (progress, development), because the barriers between Calendar 1 and Calendar 2 can be insurmountable.

People sometimes engage in wage labor for extra cash once they have seen to it

that enough of their own land has been planted to see them through the year. For some people this is a considered strategy. By planting less of their own land and then earning money to buy fertilizer, they can get similar yield results without having so much area to weed, guard against pests, and harvest. Other people work for a few days to meet some immediate cash need, such as 1500/= (\$2.85) for a new hoe. Such casual labor is easier to participate in during weeding time, the second and third months of the agricultural cycle, when there is not so much urgency about attending to one's own fields. Wage rates for weeding are lower than for planting, falling to about 2000/= (\$3.30) an acre or 500/= to 600/= (up to a dollar) per day. Double-weeding produces significant yield benefits, but not all farmers are able to weed a second time. Many men go off to Usangu Flats to work in the rice fields for cash as soon as their family plots are planted, and are not seen again until after weeding has passed. Extended family who come from the cities for planting usually leave once seed is in the ground, not to return again until the post-harvest season of weddings.

The bulk of Malangali farmers more closely follow Calendar 2. Most people talk of the ideal of hanging onto crops to sell for big money in December or January, but by the time the price does start to rise very few sellers remain. During my initial survey, I was unable to understand why so few people said they had any cash savings, yet many had consumer goods like bicycles or metal-roofed houses and plans for spending in the upcoming year.²⁰ Eventually, I realized that people were growing their savings in their

²⁰ The seemingly obvious answer would be that people lied when they said they had no cash savings. I pursued this avenue for some time, only to decide that for this question people were basically telling me the truth. I developed an internal polygraph that was fairly reliable, as shown by following up on seeming mistruths. People who did set off the polygraph would, when pressed, sheepishly detail 5 or 10,000/= (ten or twenty dollars) of

fields. Many farmers fill their granaries with enough maize to make it through the year, perhaps with some reserve as well. The rest gets bagged and quickly sold. Many people accumulate debts that fall due at harvest, including food loans to make it through the last month or so. Others make plans for what they will do when they finally have their annual burst of cash – a radio, some more zinc sheets for the roof, new wraps for a wife or wives, shoes for the children. Brideprice is scheduled to fall due in June or July, and when a groom cannot complete his obligations the remainder is scheduled to fall due immediately after the following harvest. Weddings follow in August and September, requiring sacks of rice bought with proceeds of maize sales. Also, many funerals occur starting in April, at least partly because of the malaria cycle.

Calendar 2 farmers are quite susceptible to changing market conditions. In this era of low grain prices, they make annual considerations about whether and how they should plant their fields of surplus. Many farmers have a baseline, roughly the amount of land they need to plant in maize to see them through the year. Beyond this amount they must make decisions based not only on maize and fertilizer prices, but also on other economic opportunities for their labor. The objective of surplus crops is to earn cash, so any potential surplus must be weighed against other cash earning opportunities. Such opportunities might include alternative crops, local wage labor, or temporary labor migration. The nearby tea estates paid 13,000/= (\$21.50) a month in 1995, rising to

cash on hand, and intended uses – not enough money to make the investments that followed the harvest. I found during the surveys that people would often intentionally lie to me at first, perhaps to see if I was on the ball, and then laugh when I caught them at their game. Then they would open up with verifiable veracity. Often people's openness came only after they had interviewed *me* extensively (about America, religion, my alleged love life, or my family) and decided I passed *their* truth tests.

17,500/= (\$29) a month in July 1996. This income has associated costs for housing, food, and transport, but is still much more reliable than even the best-case scenario from Table 2.1. Planting rice down the escarpment at Usangu can bring in more cash for a brief period. Work on the sugar plantations pays comparably to tea, but is much farther away and therefore strains ties to family and friends. Many people express a preference for staying at home year round, but speak of “*maisha magumu*” (life is hard) to explain why they or their family members must hunt for work elsewhere.

From a policy point of view, the acceptance that Malangalians have of wage labor should provide food for thought. Migrating for work has been almost a phase of life for young people for many decades. Many older people I interviewed had spent some period of months or years away. I also talked with many young adults who lived in other parts of the country but hoped or planned to return to Malangali someday. Perhaps Malangali’s location close to the main highway makes it unusual, but the many Tanzanians from all parts of the country whom I have met living and working away from their home areas leads me to suspect that it is rather typical. Migrant wage labor supports those who remain on the farms by remitting cash that is in extremely short supply in the villages. Plantation laborers also need food grown for them, which raises the quantity of grain demanded from the farms and consequently raises the price. Some Malangali farmers take the 4:30 a.m. bus to the weekly market at the tea estates, returning the same evening. I long thought they were going to visit relatives, until I went over the day’s proceeds with passengers one Sunday evening on the Kwacha bus. Plantation workers paid enough of a mark-up for the grain and beans that the trip was profitable even after paying bus fare for vendor and

baggage. When planners consider low grain harvests to be an agricultural problem, they focus on small increases of yields that often do not interest growers. I suggest policy planners look instead to wage labor opportunities available for Tanzanians. More wage labor means more cash returned to those who remain on the farm and higher prices for the farmers' grains. Tanzanians worried about their livelihoods cannot decouple wage labor from the rural farm. The two strategies have been entirely severed, however, in the thinking of those program planners at both the local and national levels.

Before talking about the implications of differences between how planners and farmers perceive local agriculture problems, we should contemplate the ideal that many farmers hold: living in Calendar 3. A farmer who can sell crops in December or January will have plenty of cash to buy fertilizer (thus ensuring high yields in the next cycle) and will have money left over for many of the needs that many households are compelled to forego (such as school fees or medicines). Although many people expressed this as their goal, I did not meet a single farmer from Malangali who successfully realized this strategy in 1996. The reasons were both social and economic.

There are many social factors that make it difficult for farmers to hold off their grain sales until prices peak. One big factor is simply that everyone knows who has big grain stores, and therefore who can be called upon for loans or assistance. Better-off people are expected to give larger contributions at weddings, funerals, and bride-price raising parties (the last only among those who identify themselves as Bena). Such contributions are always written down in a notebook that is then the subject for discussion, praise, and admonition. People call on the better off for casual labor

opportunities and for food loans, as well as for emergency cash. Of course, some people are more stingy than others, but within limits. When Baba Aizaki wanted to borrow 5000/= to buy a watch, he was unable to get cash from his father, the wealthy witch doctor. But when Baba Aizaki's infant son was hospitalized, the grandfather was the first to help out with several thousand shillings. I think that people convert their surplus grain rather quickly to illiquid assets (through a brief transition as money) in part because they will be less subject to social pressures on their wealth, in addition to making them less vulnerable to thieves. Cattle are impartible, metal roofs are impartible, so people can legitimately claim that they do not have the assets available to help.²¹ Whether people convert grain to other assets early in the season in order to fix their own wealth, or whether they just find themselves unable to wait any longer (for example, if they are building a house, December crop sale would mean putting off construction an entire year, starting the *following* July), their surplus grain does not usually remain in their granaries until prices peak.

1996 was a horrible year for the one man I know who did delay all his grain sales

²¹ I for one was able to beg off certain social obligations when I was able to demonstrate that all my assets were tied up in the construction of my house – especially when I started selling off furniture to finance cost overruns. People assumed from the outset that I was inherently wealthy, and their research substantiated their findings. How much was my airplane ticket? Do I own a car in the US? How much is my camera worth, and did not my protests that it was a gift just show how much casual access to money I had? I eventually decided it was futile to pretend to be a struggling student when in fact the value of my dollars made me the wealthiest person in Malangali. Instead I sought ways to meet local expectations for a moderately wealthy man, and in the process learned what the role entailed. People with whom I had little personal connection might ask for help but were ready for the polite rebuffs they received. Those with whom I had developed bonds occasionally came to me in an emergency. If I lent them money it was almost always repaid on schedule, though it might then be followed by another loan application. When I gave money on my own initiative, such as at a funeral or for hospital expenses, I invariably had the favor returned in a dozen small ways, such as beans, eggs, interventions on my behalf if I did something impolitic, introductions to potentially useful informants. My usual 500/= contribution at funerals (85 cents) was generally the highest recorded in the logbook. For me this created a personal dilemma on how to balance such a conspicuous display of wealth by local standards with what in my own heart I knew to be a woefully small donation to a grieving family.

until December. Teksi teaches agriculture at Malangali Secondary School. Malangali is far from his home on Kilimanjaro, so he has no local obligations, perhaps explaining why he could hang onto his surplus so many months. He has a regular salary with which he can buy fertilizer, has access to the school tractor to plow his fields and student labor to weed for him, and is trained in the economics of farm management. He has good land on loan to him from the school, and his yields are excellent for the area, about 16 bags per acre. As the rains began, though, he found himself stuck with 30 bags of maize he was unable to sell. The market price was still only 7000/= (\$11.30) for local maize, not the 12,500/= (\$21) it reached the year before. His maize could have fetched more were it a local variety, for which there was a local market for beer brewing. But his improved seed made bitter beer, so was only useful for cooking *ugali*. Nobody was buying locally, and selling in the market town of Makambako meant a big hit in transport costs. Traders come to the monthly market to buy grain in June, July, and August, but by November did not bother making the trip. He could still sell his maize and make a small amount of money, but he had another problem. Teksi is the eldest son of his Chagga family, and now that his father is dead most family obligations have devolved on him. His youngest brother and sister are both in secondary school, which he pays for entirely. His sister's school fees and expenses were raised mid year, from about 15,000/= (\$25) total to 63,000/= (\$105) at her school in Wanging'ombe. Her younger brother's fees jumped similarly. For Teksi to sell at the prevailing prices would mean a serious shortfall in meeting these obligations. Along with other sudden needs he was called upon to fulfill during the year, only the hope of a late price surge kept him from submitting to a soaking.

When I left on December 19 he still had 30 sacks of maize, but he was going to have to sell for far below what he was hoping and needing. That a man in his position, an educated expert on agriculture with resources to grow surplus and not sell at harvest, was so publicly destroyed in the market, could not help but stand as a cautionary example for others hoping to live in Calendar 3.

Farming is not as lucrative these days as many farmers say it once was. The farm continues to provide bedrock security, but bedrock is a difficult foundation on which to build something grander. A young woman wanted to know about poor people in the United States. I explained the Social Security system, unemployment insurance, and welfare benefits. Helena's reaction was to ask why poor people do not return to the farm. "*Shika jembe,*" she said, "Grab a hoe." Most people have confidence that grabbing a hoe will at least help them make it through the year. Recent years have made this bare minimum closer to the level that many expect. Development programs for Malangali farmers, however, address neither farmers' desires to produce above subsistence nor their abilities to do so.

Agents

I close this chapter by looking briefly at how, when enacted as programs, assumptions like those revealed in the Concern brochure limited the communication between aid agencies and Malangali residents. If the brochure's assumption were true, that people are farming below subsistence and wish to increase their yields to the subsistence level, then we would expect to see farmers adopt any technique that proves it can produce an increase. In fact people generally adopt only those techniques that can

produce increase without greatly increasing aggregate labor or cash investments. Most people are not interested in scraping out every last grain of maize from their fields given current market conditions. I look first at one Malangali resident who tried to gain advice from extension workers about the farming issues of interest to him. I then offer a first glimpse of these extension workers, Tanzanians who have been raised in rural areas like Malangali and schooled in knowledge systems of African agriculture such as those expounded by Concern. The ways these extension agents reconcile often conflicting understandings of African agriculture reveal much about how agricultural development programs have become as pervasive as they are, and also about why they have achieved such limited results.

The case of Alfred Ndandala is demonstrative. During the first days of the rainy season in December 1995, Ndandala was not involved in planting maize. He was busy planting tomatoes, which he had sold successfully the year before to traders from far away. His wives were at work planting maize, and between them were able to get quite enough seed into the ground for the entire household. (All three wives and their children live together with Alfred in one small compound.) Ndandala's activities on the family fields, when he had seen to his tomatoes, centered on beans. The wives shared an interest in cowpeas. After harvest the main sitting room was filled with sacks of beans, which Ndandala sold for cash. He also made money through goat husbandry. His wives joined in a weekly rhythm of preparing deep-fried *bagia* snacks for sale on Sundays after services at the Catholic church. The Ndandala household is plenty busy, too busy to waste time micromanaging their maize plots. Extension agents only minimally addressed their

interests. Alfred would stand in deep discussion with the horticulture agent, Mara, talking about the relative merits of different varieties of tomatoes. He would try different types of seeds, keeping careful track of the qualities of his different beds. Already an adult by the 1970s, he learned to read during the adult literacy campaigns of the Nyerere era.

Although he is not a fast reader, he keeps meticulous accounts and talks in detail about the choices he makes on his farm. With three wives and quite a few children, he is not in a position to travel in search of work. But he is a proud father and a man of status in his community (he is subvillage chair), as well as an agricultural innovator. He has one main interest from his farm: profit. He knows the family subsistence needs will be met, especially now that he has so many children old enough to help on the farm. Yet most extension activities are aimed to increase his maize yields instead of looking to help with the house's profit centers of tomatoes and beans and cowpeas.

IFAD, the International Fund for Agricultural Development, took on Malangali as one of its several project areas in Iringa and Mbeya region in the mid-1990s. IFAD did not coordinate its activities with Concern, but did make use of many of the same government extension staff and similar analyses of local conditions. In affiliation with the World Bank, IFAD determined that beans were a potential income source for farmers. This was a case where a formula analysis – beans are a viable cash crop for African farmers – accurately corresponded with local conditions, despite the lack of any local research. Many sacks of seed beans were delivered to my next door neighbor Yuster's living room one December afternoon. Selected farmers soon came for their allotments. The beans were part of a loan scheme, whereby farmers were to pay for their seed with the proceeds

of the following harvest. These were agronomists' seeds, however. The beans yielded well, but nobody liked the taste. Participating farmers could not sell the beans to anyone. Instead they sold their regular beans and suffered through cooking for the year with the inferior variety. (I could not taste any difference in relative blandness.) I do not know any of the farmers who planted the seed (distribution was outside of my study subvillages), but I heard enough of their reactions from Yuster to have an idea of what happened. People welcomed the free seed, planting it as well as their regular beans. I do not know whether they reduced the acreage they planted with their normal beans, but I am pretty sure they did not mix the varieties.²² When the new seed bombed in the market, farmers mostly repaid the seed loan, but grumbled that the scheme was a bad idea. What makes this tale noteworthy is that it is one of the few agricultural extension activities that addressed the profit potential of field crops, despite the desires for cash income of most Malangali farmers. By conceptualizing Malangali residents as primarily subsistence farmers, activities that could generate income given prevailing market conditions received very low priority.

Another IFAD activity highlights extension worker attitudes toward their jobs vis a vis farmers. IFAD's chief local activity is a fertilizer loan program. IFAD brought fertilizer for ad hoc groups of five (usually male) farmers in a few selected villages, including Isimikinyi. The farmers were supposed to repay their loans through sales of their increased crops, which in fact the Isimikinyi group did diligently. Noteworthy are the

²² One taped interview in Isimikinyi was recorded while Bibi Mwenda, her daughters, and I sorted through big piles of fresh beans, pulling out the largest specimens of the right purple hue to put aside for next year's planting. Farmers, as noted above, are quite serious Mendelians.

attitudes of the agriculture extension staff toward the loan scheme. As government personnel seconded to Concern, they are responsible to both employers. Concern has no fertilizer component to its Malangali agriculture programs. Although early reports include discussion of fertilizer, by 1990 the documents deal exclusively with organic farming methods. Staff was trained by Concern to teach farmers methods of using compost, locally grown pesticidal plants, and leguminous nitrogen fixers including tree crops, beans, and *marejea* (sun hemp) to improve soil fertility. The extension staff brought these recommendations to the farms. But they were also receiving government instructions about fertilizer recommendations, including the IFAD program in 1996. In a discussion with Wale and Kwomo, two agricultural extension agents, they expressed no confusion. They have two bosses, they explained. Their job is to convey whatever messages their bosses choose to promote. If Concern says one thing and the government another, then they will deliver the Concern message on days they are working for Concern, and the government message on days set aside for other work. Wearing a reversible hat, they will easily sell composting and fertilizer to the same farmer in the same year. If, as often happens, the messages they are supposed to deliver are changed from one year to the next, they deliver the new message and forget about the old. They are “experts” to the farmers, but concede authority to greater experts in the hierarchy.

What really shows the extension agents feel no contradiction are their own actions as farmers for food and profit. On their own plots, the extension agents use both compost and fertilizer, and do quite well as a result. Wale and Kwomo do not teach anything that they are not willing to try themselves. They are not passive automatons

(unlike, for example, American telemarketers), doling out only that information about which they are instructed. Instead, they make on-the-spot judgements about what messages they think farmers are willing to listen to. Their experience shows, for example, that farmers really have little interest in using string to measure the spacing of their fields. So the extension agents suggest ways that farmers can eyeball the spacing the agents are taught is optimal, but then *report back* that they have taught the string method as planned. They were quite sheepish about admitting this (the Concern WIS supervisor was also active in this discussion), but when pressed – and promised no punishment – they confessed. I have often seen other extension staff engage in similar fictions. The staff are rarely explicit about their multiple roles as implementers of externally-designed programs and insiders knowledgeable about local agricultural conditions.

Because they are not encouraged to provide feedback to program designers, the extension workers usually remain silent to their bosses as they go about the task of promoting practices they doubt will be effective. Farmers are much farther from the channels of communication about what kinds of programs will be implemented. While they actively seek ways to make profits from their fields, they have no means to report their efforts to those who fund the agricultural programs that become available to them. Neither extension agents nor other area farmers can therefore influence the type of support they receive for their agricultural activities.

I argue that the best thing development programs do is to make available resources that people otherwise would not have. Ndandala and many others have shown that they want agricultural extension assistance in the face of uncertain and disadvantageous market

conditions. Yet the sorts of assistance they want, such as off-farm labor or on-farm profit opportunities, are generally unavailable to them in a substantial form, and they have no means by which to solicit such aid. Instead, development planners continue to construct programs based on the representations of incapable subsistence farmers perpetuated in aid brochures and policy documents, to which Malangali residents have no opportunity to contribute.

The extension system has many problems in effectively delivering its messages. These are mostly topics for another discussion (including the WIS report). Of issue here are the ways that extension and supervising agencies choose to design actions with Malangali farmers, and the ways the farmers in turn interact with the realities these actions create. How the extension staff perceive the farmers is a question to which we return in detail in Chapter 7. This chapter has begun to address several questions that will be pursued in the chapters that follow. How do the government and agencies like Concern understand the local situation? And how do these various takes on reality weave a lattice of perception and action through which we can try to view the lived experience of Malangali residents? In this chapter we have looked at some of the many ways that farmers, their extension agents, and a European NGO perceive farmers and their fields. These perceptions combine in the creation of the underdeveloped farmer, who becomes an object for particular types of development programs. Perception and action are tensions that underlie many other aspects of the development encounter as well. What these programs try to do, and the results they end up achieving in light of Malangali residents' own understandings, is a theme I will continue to investigate in the chapters

that follow.