

Community Tree Nurseries in Ghana, West Africa;  
A Case Study of the Collaborative Community Forestry Initiative (CCFI)

By

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The thesis, “Community Tree Nurseries in Ghana, West Africa; A Case Study of the Collaborative Community Forestry Initiative (CCFI),” is hereby approved in partial fulfillment of the requirements for the Degree of MASTER OF SCIENCE IN FORESTRY.

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## PREFACE

A couple of volunteer experiences led me to conclude that I did not want to pursue a career in physical therapy as I had previously planned, and I was undecided as to what I would do upon graduation from Alma College. Just about the time I began to consider the possibility of joining the Peace Corps following completion of my undergraduate degree, I attended an informational talk on the Peace Corps Master's International program in forestry at Michigan Technological University given by Blair Orr.

I wasn't sure that I wanted to pursue a career in forestry, but it seemed that some of what I would learn at Michigan Tech would be more useful to me in the future than what I had spent the previous four years studying. As I was already considering the Peace Corps, I decided to apply to the program.

The courses I took on campus before departing for Ghana prepared me well for what was to come; traditional forestry classes as well as some dealing with the social aspects of international development.

My assignment in Ghana was to manage a community owned tree nursery that was but a part of a larger rural development project with both environmental and social concerns. This project that I worked with proved to be an ideal study topic for this thesis given my interests in environmental and social issues.

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## Chapter I

### Introduction

The West African nation of Ghana has traveled a rocky road since gaining independence from Britain in 1957. At independence the future was bright for Ghana, however, government instability and economic hardship prevented the country from moving forward. Today, Ghana continues to rely heavily on agriculture and its deteriorating natural resources. Despite significant intervention by international aid agencies, many Ghanaians do not have access to quality health care or education. Likewise, unsustainable agricultural practices and poor natural resource management are common.

As a less developed country, Ghana has been the recipient of many aid programs from bilateral and multilateral agencies. These programs have sought to ‘develop’ the country; to bring modernization and to reduce poverty. Many of the aid programs have had little positive impact on Ghana’s poor; some have actually made life harder for poor people.

Development assistance to countries of the South has often been ineffective in improving the condition of the poor. Some development efforts have concentrated on improving the technology employed by those the project is to benefit. However, the technology to be used has frequently been inappropriate; designed by ‘experts’ with little or no understanding of prevailing conditions in the project area. Another approach to development recommends macroeconomic policy reforms by the recipient government.

Such reforms have often made it more difficult to obtain adequate health care or to use natural resources sustainably.

The participation of those that development is supposed to assist may greatly increase the effectiveness of development projects. Participation by the intended beneficiaries increases the likelihood that development projects will adopt technology that is appropriate to the situation and will meet the needs of those that are to benefit.

The Collaborative Community Forestry Initiative (CCFI) in Ghana is an example of a rural development project that enlisted the participation of those that the project was designed to benefit. (APPENDIX 2 is a list of acronyms). The CCFI project sought to address environmental degradation in particularly stressed areas of Ghana as well as to improve the condition of small-scale farmers in those areas through the planting of trees and modification of agricultural techniques.

In this thesis, the CCFI project will be examined in depth with comparisons made to common approaches to development. CCFI is a complex rural development project involving various collaborators, both governmental and non-governmental, with ambitious goals in which some of its strengths reveal some of its weaknesses that must be properly dealt with in order to achieve greater effectiveness in similar projects.

Some background information on Ghana will be provided in Chapter II. This chapter will cover both the political and economic situation in Ghana since its independence and the physical environment of Ghana. The effectiveness of different approaches to development will also be reviewed in this chapter. Chapter III will outline the development of CCFI, its objectives, and the role each collaborator was to play as part of the project. Motivation and methods will be discussed in Chapter IV. Results of



this study and discussion of the CCFI project can be found in Chapter V. Ways in which CCFI evolved overtime will be described and an evaluation of the project will be presented. In the final chapter, CCFI will be compared to common approaches to development and its success will be compared to its objectives. Recommendations for similar types of rural development projects will also be given.

## Chapter II

### Background

#### A. Ghana

##### *Politics and Economics*

The British Protectorate 'Gold Coast' became 'The Republic of Ghana' when, on 6 March 1957, it was the first country in sub-Saharan Africa to gain independence from colonial administration. Geographically, Ghana is located on the Gulf of Guinea surrounded by the Francophone nations of Cote d'Ivoire, Burkina Faso (formerly Upper Volta) and Togo (Figures 1 and 2). Ghana occupies 238,540 square kilometers with a coastline of 539 kilometers (CIA, 2000). Led by Kwame Nkrumah, the country showed great prospects upon independence and became known as the Black Star of Africa.

However, shortly after independence, widespread mismanagement and corruption in state run enterprises and farms began to diminish the luster of the Black Star and inflation and debt were on the rise. Growing discontent with the economic and political situation led to the removal of Nkrumah as head of state in 1966 in a bloodless coup while he was out of the country. This ushered in a period of growing internal and external debt and political instability during which there were seven changes of government from the time of Nkrumah's removal until Flight Lieutenant J.J. Rawlings seized power 31 December 1983. Early on, Rawling's government, the Provisional National Defence Council, sought assistance from the socialist bloc. However, aid failed to materialize and the country continued to suffer from poor economic management and



Figure 1: Map of Africa (<http://www.cia.gov/cia/publications/factbook>)



Figure 2: Map of Ghana (<http://www.cia.gov/cia/publications/factbook/>)

the severe drought of 1983. Ghana began negotiations for development assistance with the IMF and World Bank in 1983 (Naylor, 2000).

As a result of these negotiations Ghana entered an economic recovery program (ERP). The first part of this program was to implement austerity measures such as user charges for education and removal of subsidies to stabilize the economy. The ERP led to increased health care, education, fuel, and fertilizer costs for the people. The second part of the ERP increased privatization of state run enterprises, decentralization of government, promotion of export crop production, and the liberalization of foreign exchange markets in order to decrease the scale of state activities and increase efficiency. Complying fairly well with the IMF prescription has led to reduced inflation and an annual economic growth rate of 2.5-4% since 1992 (Konadu-Agyemang, 2000) thus building donor confidence and attracting foreign investment. However, due to the devaluation of the currency many are unable to afford basic health care or education. This situation is exacerbated by the low priority given to these sectors in the national budget; about two percent of the national budget went to the health and education sectors in 1997 (Konadu-Agyeman, 2000). Should the government wish to devote more of the national budget to basic services it would be difficult because of debt servicing commitments. Although Ghana has complied fairly well with the guidelines set forth in the ERP, so much so that official overseas assistance continues to increase, it has had little positive impact upon typical Ghanaians (Konadu-Agyeman, 2000; Naylor, 2000). It is unfortunate that, in a country with so many natural resources, over 30% of the population live below the poverty line (CIA, 2000) and the per capita income is less than \$400 (World Bank, 2000).

Today, as at independence, natural resources and agriculture are of great importance to Ghana. Gold, timber, industrial diamonds, bauxite, manganese, fish, and rubber are still critical exports and subsistence agriculture accounts for 40% of its GDP and 60% of its workforce (CIA, 2000). The staple agricultural crops grown are yam, cassava (manioc), plantain, maize, millet, rice, beans, and guinea corn. Vegetable crops such as tomatoes, pepper, okra, garden eggs, groundnuts (peanuts), and several types of spinach are also grown. The main agricultural export crops are cocoa, palm oil, coffee, and rice. Of growing importance are non-traditional export crops such as pineapple, cashew, cotton, and shea nuts.

A walk through the cloth section at Kumasi's central market with its innumerable variety of designs and colors may give some indication as to the diversity to be found throughout Ghana. Of its over 19 million people, 99.8% may be said to be black African with the major tribes being Akan (44%), Moshi-Dagomba (16%), Ewe (13%) and Ga (8%). Ghana is a very spiritual country in which 38% of the population claim indigenous beliefs and practices, 30% Muslim, 24% Christian, and 8% other beliefs and practices (CIA, 2000).

With two successful democratic elections, 1992 and 1996, in which President Rawlings and his party, now called National Democratic Congress, retained power and a smooth transition of governments in 2000 when J.A. Koufour was elected president and the New Patriotic Party came to power, Ghana may yet shine as the Black Star of Africa. However, Ghana still has many obstacles to overcome to become a middle-income country as stated in its Vision 2020. Education, health care, and a degrading natural environment are some of the most challenging issues the country faces in achieving

middle-income status by the year 2020. Ghana, in its attempt to overcome these challenges, continues to rely on overseas assistance and an increasing cooperation with non-governmental organizations (NGOs).

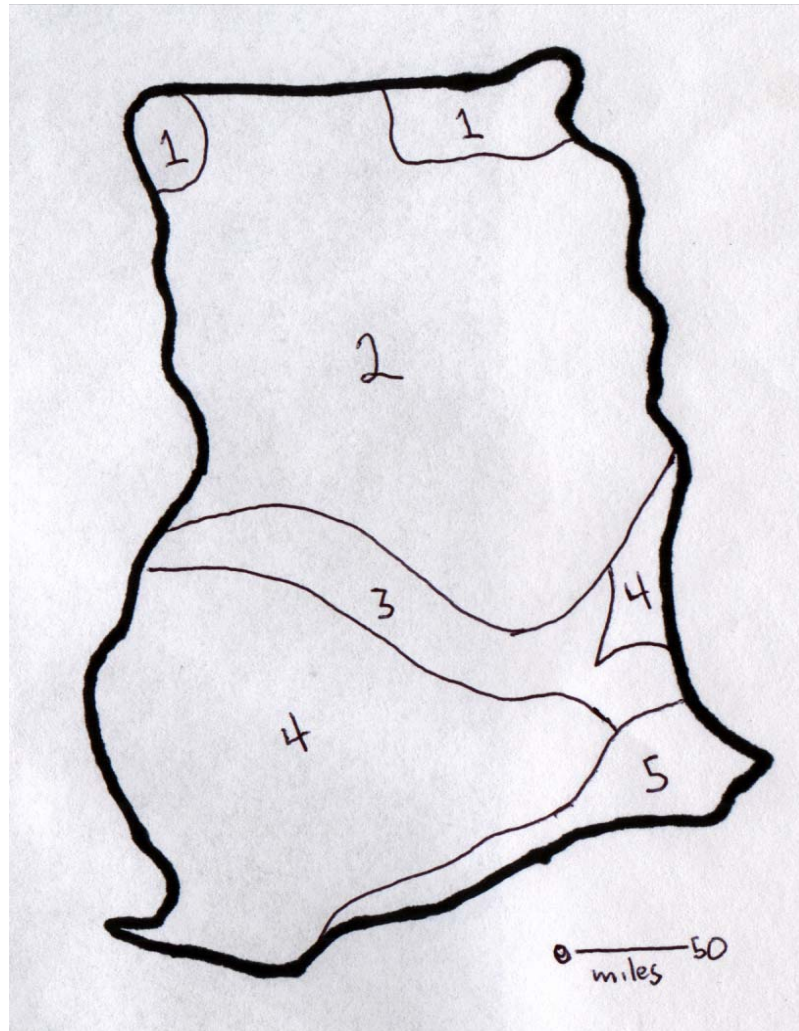
### *Environment*

As Ghana was formed as a result of colonial administration rather than along tribal or ecological boundaries, its geography is nearly as diverse as its people. Bramer and Wills (1962) classified Ghana into five land use zones; compound farming areas, interior savanna, forest, derived savanna, and coastal thicket and savanna (Figure 3).

The compound farming areas are found in the extreme northwest and northeast of the country and are characterized by high population densities, poor soil fertility, and lack of exploitable natural resources. Rainfall averages 38-50 inches annually in a unimodal pattern. There is continuous cropping of millet and guinea corn in fields near the family compound with tobacco, okra, sweet potato, hot pepper, and/or tomatoes being grown in a garden just outside the compound (Bramer and Wills, 1962).

The interior savanna zone is similar to the compound farming areas except there is a low population density. This is the largest zone and contains extensive unfarmed areas due to poor soils. Although a small part of the southern tip of this zone has a bimodal rainfall pattern, a unimodal pattern is more common and rainfall averages 40-60 inches annually (Figure 4). Staple crops include guinea corn, maize, and millet; in areas with adequate rainfall, yam is cultivated.

Lowland tropical rain forest vegetation makes up the forest zone. This zone has a bimodal rainfall pattern with 45-90 inches of rain annually. The staple food crops of

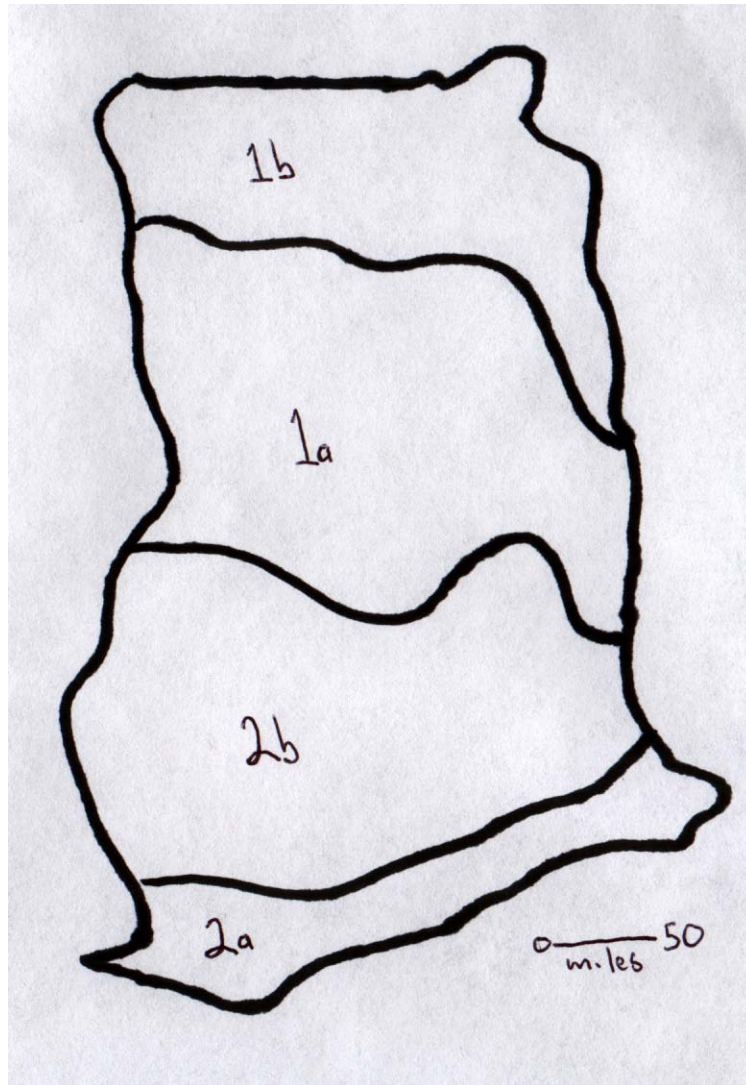


key

1. Compound farming area
2. Interior savanna
3. Derived savanna
4. Forest zone
5. Coastal thicket and savanna zone

Figure 3: Land Use Zones in Ghana adapted from Bramer and Wills (1962)





key

- 1a. Wet season April-October
- 1b. Wet season May-early October
- 2a. Wet seasons March-July and September-November, with a major maximum May-June
- 2b. Wet seasons March-July and September-November, with two equal maxima May-June and September-October

Figure 4: Rainfall Patterns in Ghana adapted from Bramer and Wills (1962)

plantain and cocoayam are intercropped with cash crops such as cocoa. The soils are generally fertile provided that they receive significant fallow periods. There are high population densities around cities and low population densities in unexploited areas; fallow periods vary inversely with population density. The major industries of this area are logging and mining.

The coastal thicket and savanna zone is marked by subzonal diversity. Average rainfall varies from 20-45 inches or more, but is unreliable, with the start and length of the rains highly variable. Parts of this zone were formerly lowland tropical rain forest, but are now composed of grasses, shrubs, and scattered woodlands. Staple crops include maize and cassava. In some areas it is possible to produce palm oil and coconuts. The derived savanna zone falls somewhere between the forest zone and the coastal thicket and savanna zone; it may be seen as a transition between the two.

Although there is considerable variation among the five land use zones found in Ghana, they are alike in that they are all being degraded. Due to unsustainable timber harvesting, bush burning, animal grazing, indiscriminant land clearing, and unsustainable agricultural practices as well as increasing population pressure [(10.74 million in 1980, (World Bank, 2000); 19.53 million in 2000, (CIA, 2000)], Ghana is facing severe environmental challenges.

As Ghana is heavily dependent on agriculture, nutrient depletion or nutrient mining is of particular concern. Nutrient depletion refers to a net loss of plant nutrients from the soil or production system due to higher outputs than inputs. Nutrients are removed through leaching, erosion, and crop harvests and can be gained through rainfall,

manure, mineral fertilizer, and fallow. Because of high population pressure in parts of Ghana, it is not possible to allow the land to be fallow for a sufficient period to contribute to soil improvement. Also, although its availability is variable in some areas, the cost of mineral fertilizer is often prohibitive to many rural farmers. Drechsel *et al* (2001) studied nutrient depletion and economic growth in sub-Saharan Africa using a replacement costs approach. This approach assigns a monetary value to depleted nutrients, often the cost of purchasing an equivalent amount of nutrients in mineral fertilizers. For all of sub-Saharan Africa, nutrient depletion accounts for seven percent of the agricultural gross domestic product (AGDP). With less than five percent of its AGDP accounted for by nutrient mining, Ghana is not in the critical position of some other sub-Saharan countries but this is certainly not a sustainable practice.

### *Land Tenure*

Although land is certainly a part of the environment, land tenure and rights to the use of land, are separate issues and will be discussed in this section. Traditionally, different ethnic groups allocated land differently; women may not have access to land in some areas, land may pass patrilineally in one ethnic group and matrilineally in another, and in some areas outsiders may be allowed to farm, but not build on village land. In general, most land belongs to the stool (southern Ghana) or skin (northern Ghana). The stool or skin refers to the chief and/or elders that have been entrusted with the care and management of community lands. In most areas, community members are free to use community land for farming and building homes at no charge. When moving to a new piece of land, drinks or kola nuts and perhaps a sheep are given to the stool or skin to

signify the event, but there is no purchase price or rent. A community member has rights to that particular piece of land as long as it is in use, this may or may not include the fallow period, but he does not own it.

In some areas, especially the very distant rural areas, land tenure may be much the same as it was generations ago. In many areas Western style land tenure has mixed with traditional tenure practices further complicating land tenure in Ghana. Increasing population pressure combined with the complex tenure system is giving rise to a number of land management problems throughout Ghana.

Gough and Yankson (2000) noted a number of conflicts in their study of land markets in peri-urban Accra, Ghana's capital city. The Accra area is the homeland of the Ga people and the land therein is traditionally seen as belonging to them. Within the Ga tribe there are several stools that oversee the administration and management of different tracts of land in the area. Traditionally, residents of a particular community were free to farm and build on stool land as they pleased. Outsiders, those not from the community, were permitted to farm community land for a nominal fee. However, due to increasing population pressure, land is becoming scarce and community residents are commonly having their farms several miles outside of the main community and outsiders are having to pay more substantial rent (Gough and Yankson, 2000). Many communities have begun issuing leaseholds of 50 or 99 years to outsiders coming to establish larger homes outside of the city.

The demand for land is so great and the tenure so complex that there are now numerous disputes over land. The land surrounding most communities was never properly surveyed so there are disputes arising between different communities as to

where exactly the boundary is located. This sometimes results in the same plot of land being sold to two different people by two different communities. There are also cases of some less than scrupulous community leaders that have sold the same plot of land to two or more people. More often however, the disputes arise from poor surveying and demarcation.

In response to the increasing urban population, the government has recently begun acquiring more and more land just beyond the more densely populated areas of Accra. The communities from which the government acquires land are told that the land is being acquired to meet the needs of the growing population; health clinics, schools and apartments. The communities are supposed to receive compensation for this land but such compensation has frequently not been paid. Communities hastily establish poorly built structures to demonstrate the land is being used or they sell off as much community land as they can so that at least they will receive something (Gough and Yankson, 2000). Although the Gough and Yankson (2000) study focused on peri-urban Accra, there is no reason to think that similar land disputes will not be more frequent in other urban areas such as Cape Coast or Kumasi or even in rural areas that have a high population density, thus straining the land tenure system and encouraging short-sighted land management strategies.

## B. Agricultural/Rural Development

Although the efficacy of the 'development' of the South is questionable, the business of 'development' is booming. Experts, policy makers, consultants, academics, aid agencies, and national governments all have an interest in development besides

actually assisting less developed countries (LDCs) to develop (Blaikie, 1998). In fact, the term ‘development’ has no commonly accepted meaning or definition, thereby making it quite easy to mean whatever one wants or needs it to mean (Black, 1999). For much of the development community, at least until recently, development was seen to have the same meaning as economic growth (Lado, 1998).

Development, as an industry, began following World War II with the reconstruction of Europe and Japan. Much of the early United States foreign aid was geared almost exclusively toward advancing U.S. interests abroad. Such interests included developing markets for U.S. goods and commodities, preventing the spread of communism, strengthening military interests, and preventing the destabilization of certain areas through health and food security (Black, 1998, p. 118-119).

Given that many view development and economic growth as synonymous, it is logical that many development projects are evaluated on the basis of standard socio-economic indicators such as Gross National Product (GNP) or increase in per capita income. However, economic growth at the national level does not necessarily ‘trickle down’ to the masses and a country that has seen a dramatic increase in GNP may have significantly increased the disparity between rich and poor. Measuring impact monetarily does not necessarily account for changes in the standard of living or quality of life (Lado, 1998). What is the value of clean drinking water, access to a clinic, education, or sustainable farming practices?

Development institutions such as the World Bank and International Monetary Fund issue aid as part of Structural Adjustment Programs (SAPs). These SAPs are supposedly to aid in the modernization and growth of LDCs. In order to receive a loan, a

country must agree to follow the prescription of the donor agency. The prescription or condition for the loan usually includes devaluation of the national currency, reduction in inflation, down-sizing the public sector, cutbacks in government expenditure on health, welfare and education, financial reforms, privatization of public enterprises, export promotion, and other policies geared to enhancing national economic growth (Konadu-Agyemang, 2000).

Although SAPs have contributed to economic growth in recipient countries, they have done little in the way of increasing equity or improving the quality of life of the majority of the population. Often, quite the opposite has resulted. Devaluation of the currency and cutbacks on government expenditure have effectively cut many rural people off from access to quality health care and education. Government efforts to promote the cultivation of export crops have diverted resources from the small subsistence or semi-commercial producers making it more difficult for them to provide for themselves. Small producers are further hampered by the low state mandated prices for agricultural products designed to pacify urban populations and remain in power (Puplampu, 1999).

Despite the economic growth that may have resulted from SAPs, there has been little development in African countries. Chronic unemployment, chronic inflation, unpayable debts, denationalization of resources, growing poverty and inequality, environmental degradation, and a deepening of dependency are often results of aid programs (Black, 1999, p. 20). Following the world financial crisis of the 1980's, Africa is now more dependent on international aid flows for capital (Mosely, 1996).

With the little positive effect of aid in the South and the increasing foreign debt owed to donors, it is a wonder why it continues. Mosely (1996), however, shows that it

is in the best interest of each party, donor and recipient, to continue this seemingly futile relationship. Even though a recipient may not receive ‘development’, he will at least receive foreign currency. The donor on the other hand, continues to issue aid, regardless of the level of compliance by the recipient, to decrease the likelihood of default by the recipient as well as to ensure that his budget has been spent and will not be reduced the following year.

Recently Non-Governmental Organizations (NGOs) have begun to play an increasingly important role in the development of LDCs. The size, function, and area of expertise of NGOs involved in development activities varies considerably. At one end of the NGO spectrum is the small local organization conducting health education sessions to mothers in one district of a country. At the other end are large international bureaucracies such as CARE and ADRA involved in a range of sectors in a number of countries (Black, 1999, p. 85-88). Increasingly, multilateral aid agencies are enlisting the help of NGOs as they are seen to be able to accomplish objectives that national governments cannot or do not want to accomplish (Stiles, 1998). Effectiveness of NGOs may be attributed to their ability to work with local communities, their dedication to their purpose, and being relatively free of institutional constraints.

### *Food Aid*

The use of food aid has been a key element in agricultural development and trade policy for major donors. In the United States, the use of food aid to support development projects abroad is part of Public Law 480, also known as the Food for Peace Program. Under this program, the U.S. government buys agricultural commodities from U.S.



farmers. These commodities are then ‘monetized’ or sold at markets in the recipient country. The proceeds from these sales are then used to fund USAID sponsored development projects in the recipient country. Proponents of funding development projects in this way claim that it is a ‘win-win’ agreement in that it stimulates agricultural development in the recipient country and provides a market for future commercial exports for the donor. However, it does not appear that food aid is effective in promoting either agricultural development or establishing markets for commercial exports. In fact, it is questionable if food aid contributes much at all to development in recipient countries given that more than 70% of countries that began receiving food aid between 1965 and 1989 are still receiving it (Barrett, 1998).

### *Development Paradigms*

Throughout the development community there are a number of approaches or models that proponents of each claim to best facilitate the process of development. These paradigms are abstracted and idealized in theory, but in practice, in the field, they are contextual and changing, making it sometimes difficult to differentiate between supposedly competing approaches (Blaikie, 1998). In this section, classic, neo-liberal, and neo-populist paradigms will be discussed. These theories have been chosen because of their popularity, breadth, and the relative distinctiveness between them.

The classic approach was dominant in the development arena from 1950-1975. This approach favors ‘top down’ expert-led development projects based on increasing levels of technology. Local knowledge is seen as backward, part of the problem, and should be replaced with solutions provided by outside experts (Blaikie, 1998). This

approach has produced a great deal of research into the challenges of the South, however the intended beneficiaries of the research are not identified and local factors are not considered (Amanor, 1994, p. 12). It is assumed that research findings will manage to find their way into development projects and rural populations. If the technology generated does manage to make it out to the field, it often does not fit the needs or priorities of those who are to benefit from it, so it is not adopted (Lado, 1998). Today, this approach is widely seen as ineffective, however supporters claim that this 'top down' method could be effective with better management and technology.

The neo-liberal approach to development arose out of the ineffectiveness of the classic approach and is dominant today. This approach seeks to contribute to development with the use of economic solutions. Therefore constraints to market forces should be removed to allow the invisible hand of the market to allocate resources optimally (Blaikie, 1998). Structural Adjustment Programs are based on this approach, as is much of the aid issued by bilateral and multilateral aid agencies. Projects within this paradigm are pushed to earn profits so that loans may be repayed and investors may reap dividends. Just as governments of the North have sought to use aid to leverage change in their own interests, it is also so with multilateral aid institutions and multinational business interests (Black, 1999, chpt. 5). Privatization of government enterprises has become a condition for further aid or debt relief (Black, 1999, p. 112). This has effectively removed elected officials in the South from having any meaningful involvement in economic decisions (Black, 1999, p. 136).

Within the neo-liberal paradigm, indigenous knowledge is not viewed as a problem as it is in the classic paradigm, however it is reduced to market knowledge

regarding the choices available (Blaikie, 1998). The 'localness' of each particular community or situation is likewise considered with indifference.

The neo-populist approach views local knowledge and community participation as vital to the success of development projects. This approach emphasizes development agents working with local people to identify problems and mutually design appropriate technologies to overcome these challenges. Rapid Rural Appraisal (RRA), Participatory Rural Appraisal (PRA), and Participatory Assessment, Monitoring and Evaluation (PAME) are tools used to facilitate the design and evaluation of development projects (Blaikie, 1998; Kanshahu, 2000). It is believed that involving local people at the very beginning of a project will increase participation and commitment leading to greater effectiveness and sustainability; meaning that those involved will continue to benefit long after outside assistance is withdrawn.

This approach also recognizes the dynamism within project communities; not all community members share the same ideas about relevant problems or how to best solve them. Local 'big men' may seek to manipulate a development project in order to acquire disproportionate benefits for themselves at the expense of fulfilling the intended purpose of the project. It is for this reason that neo-populist approaches seek to empower subordinate groups in making claims on local resources and benefits of development projects (Leach *et al*, 1999).

#### *Another Way for Rural Development*

The above paradigms tend to focus development efforts in narrowly defined areas, be it the need for improved technology, macroeconomic policy reforms, or the

participation of the intended beneficiaries, without considering the overall context within which the proposed changes will take place. The systems or multi-sectoral approach, however, stresses that science and technology, economics, and social issues need to be considered to assist successful development in rural areas (Beets, 1990, p. 57-78; Kanshahu, 2000, 135-6). This approach recognizes the need to increase the productivity of small-scale farms, but this should be done gradually through the modification of traditional practices with emphasis on the sustainability of the system. The aim is to increase self-sufficiency of small, rural farms rather than producing for export or even predominantly cash crops as other paradigms advocate. The systems approach accepts the need for external inputs, but their use should be limited and only when adequate locally available resources cannot be found. Like the neo-liberal approach, the systems approach opposes government interference in the marketing of agricultural products, the supply of inputs, and the availability of credit. However, unlike the neo-liberal model, the systems model suggests that there needs to be appropriate macroeconomic policies to overcome the bias against agriculture in many less developed countries (Beets, 1990, p. 76). Also, along the lines of neo-populist thought, the need for popular participation in all stages of project design and implementation, and the strengthening of local organizations is recognized (Beets, 1990, p. 68; Esman and Uphoff, 1984, p. 57).

### *Summary*

Aid programs have generally had little beneficial impact in Ghana as a nation and often adverse effects on rural populations. The results have effectively put quality health care, basic education, and sustainable agricultural methods out of reach for many.

Despite government cutbacks in these sectors, Ghana continues to rely heavily on foreign aid, \$498 million in 1997 (World Bank, 2000). Increasing population pressure and poverty in rural areas encourages unsustainable land use practices thereby further degrading Ghana's agricultural land. For Ghana to develop, to increase equity and empower rural people, more aid programs need to be directed towards the rural communities and villages.

In the following chapters of this thesis the Collaborative Community Forestry Initiative (CCFI), a rural development project emphasizing the participation of rural communities in Ghana, will be described and evaluated. Reviewing the strengths and weakness of CCFI will help show, in broader terms, the critical components in rural Ghanaian development work. Recommendations on project design and comparisons to development theory will be made in the final chapter.

## Chapter III

### History of the Collaborative Community Forestry Initiative (CCFI)

#### A. Development of CCFI

Two United States Agency for International Development (USAID) and Peace Corps sponsored workshops led to what would become known as the Collaborative Community Forestry Initiative in Ghana. The first ( May, 1982) in Mombasa, Kenya, was the Anglophone Africa Forestry/Natural Resource Workshop and the second, (October, 1987) also in Mombasa, was the Food Aid and Natural Resources Programming Workshop.

Beginning in October of 1987, a number of diverse groups, governmental and non-governmental, from Ghana as well as overseas, participated in a series of four workshops to identify environmental and natural resource issues facing Ghana and to design a project which would address these issues. For a more complete description of this project development process see Burwell *et al* (1992). It was agreed that 20 community tree nurseries would be established in particularly stressed areas of the three northern regions of Ghana to combat the environmental degradation found there. The first three nurseries began operations in 1988. Although the participants reviewed other rural development projects in the planning stages of CCFI, the CCFI model is unique and should thus be viewed as a pilot project. It should be noted that in this participatory process, with collaborators of differing backgrounds and strengths sharing ideas and formulating a project, is one of the most significant aspects of the CCFI project. As donors are hesitant to fund workshops for the development of projects which may never

come to fruition or at least not in a manner that suites them, the importance of a participatory design process in contributing to a successful project cannot be overstated.

## B. The CCFI Model and Management

It is difficult to get a clear picture of CCFI in the early stages, its structure, how it planned to achieve its goals and, even what precisely those goals were. There is mention by Burwell *et al* (1992) of some documents that might shed light on this, such as old Peace Corps and Adventist Development and Relief Agency (ADRA)/Ghana reports and proposals. These documents could still be in Ghana, but as none of the personnel currently working with CCFI was with the project at that time, they don't know where they are or even what they are. It may be that there really never was much written down as to how and what was to be accomplished. In a report from a CCFI Annual Review Workshop, one of the guest speakers noted that a draft proposal, one of the documents not to be found, by Bruce Burwell (1989 as cited in Annual Review Workshop, 1993) was the most complete description of CCFI. Using Burwell *et al* (1992) as a basis and inferring from the reports of the early Annual Review Workshops, a reasonably close description of early CCFI follows.

The CCFI project was an ambitious project which sought to address environmental problems such as deforestation, desertification and decreasing soil fertility by planting both fruit trees and other woody species. Also, improving the condition of rural farmers, economically and nutritionally, was one of the aims of this project. These goals were to be met through education concerning the causes of environmental degradation and the implementation of agro-forestry techniques not previously utilized.

The community nurseries established to help facilitate this were to become economically self-sustaining to carry on the work of the project as well as contribute to community development long after funding was withdrawn. The nurseries were to receive support (inputs such as tools and polybags for seedling production and maintenance of nursery infrastructure and water source) for five years.

The project can roughly be broken down into three stages: infrastructure establishment, training, and development of self-reliance. The infrastructure establishment phase is more distinct than the others, but all three stages, to some degree, should be considered at any given point throughout the life of the project.

The primary objective of the infrastructure phase was the establishment of the nursery in each project village that would produce seedlings. Important considerations include where and in what village the nursery would be placed, the nursery's water source, and where the Peace Corps Volunteer manager would reside. Initially, the community was to construct housing for the incoming volunteer. As time went on, it was recognized that there was often suitable housing, sometimes with some minor repair work, available in the communities.

The training stage includes the training of nursery workers, community committee members, and the community as a whole. Training of nursery workers includes the technical skills required of nursery work as well as basic business and management skills. Training/education in extension, environmental issues, and literacy may also be available to nursery workers and other community members.

The final stage, that of self-reliance, is when outside support is withdrawn and the nursery is operated and managed entirely from within a particular community (Burwell *et*



*al*, 1992). Once the nursery was established, effort should be made to develop income-generating activities so that the nursery may support itself once funding was withdrawn. The withdrawal of CCFI support was gradual, over the course of a year, and was termed phase-over. At the end of phase-over, there was to be a ceremony in which the collaborators formally handed over the nursery to the community.

There were management mechanisms in place at all levels of the CCFI project. At the national level, there was the National CCFI Committee. This committee consisted of the ADRA Country Director, ADRA Program Director, Peace Corps Ghana Country Director and the Chief Conservator of Forests of the Forestry Department. This was the highest decision making body within CCFI and was responsible for the overall implementation of the project (Burwell *et al*, 1992).

Regional CCFI Committees were made up of field representatives from all collaborating agencies. Each Regional CCFI Committee should meet quarterly to plan and discuss field activities and any issues arising in the field. At the nursery level, overall management was the responsibility of the CCFI Nursery Community Committee with the day to day management being undertaken by the nursery manager, foreman and extensionist (ADRA, 2000).

Every year CCFI collaborators would come together for the Annual Review Workshop. This would give representatives from all levels of the project the opportunity to meet and discuss project issues. There were generally three full days of discussion, tea breaks with baboons stealing biscuits, and administrative sessions (Bergert, 1998).

The CCFI project was funded by a P.L. 480 Title II grant from the United States Agency for International Development (USAID). ADRA/Ghana's overall budget, of

which CCFI is a part, was based on monetized wheat received from USAID. The CCFI budget was put together primarily by ADRA's director, finance office and program office. Field reports were reviewed to determine the needs of CCFI such as staff working on the project and equipment to be given to the nurseries and farmers (Taylor, personal interview).

### C. The Collaborators and Their Roles

At the very heart of the CCFI effort was collaboration. Just as the participatory process in the project development phase enabled clear problem identification and facilitated a sense of commitment on the part of the collaborators, continued collaborative efforts were essential to the successful implementation of CCFI. The original collaborators and their roles will be discussed in this section. A diagram of the original CCFI organizational structure may be seen in Figure 5.

The Adventist Development and Relief Agency (ADRA) was a community development and disaster relief non-governmental organization (NGO) active in a range of sectors throughout the world. As the project holder, ADRA was responsible for the overall administration and implementation of the CCFI project. ADRA's specific responsibilities to CCFI included:

- identification and selection of communities to be nursery sites in collaboration with other agencies
- providing nursery managers accommodation and maintenance when required
- providing tools and materials for the nursery and arranging for their replacement when necessary

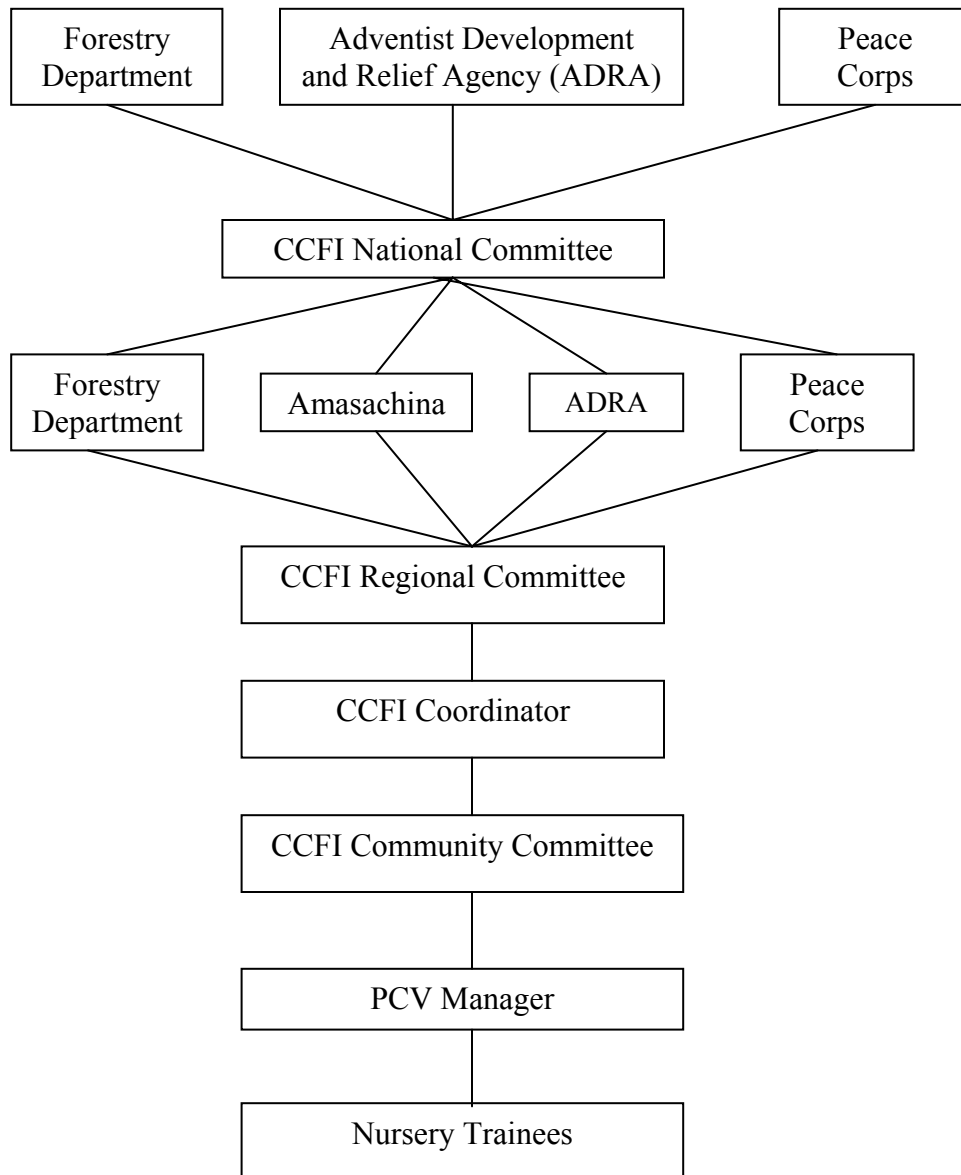


Figure 5: Original CCFI Organizational Chart

- providing training for nursery forepersons and trainees in agroforestry and extension activities
- providing technical support for the nurseries in collaboration with relevant government departments
- payments of allowances to nursery trainees and extensionist; distribution of food-aid to trainees, and reimbursements for expenditures at nurseries on a periodic basis
- dissemination of relevant reports/information to nurseries and organization of quarterly Regional CCFI committee meetings
- providing adequate water sources for nurseries in collaboration with local communities
- monitoring and evaluation of performance of CCFI nurseries; occasional visits to nursery sites, meetings with managers, trainees and farmers by ADRA staff and accredited officials (Abu-Bonsrah, 1996)

ADRA personnel with direct responsibilities to the CCFI project include the Program Manager, the Agroforestry Officer and the CCFI Coordinator.

The Program Manager oversaw the activities of the USAID funded P.L. 480 Title II program. Among other duties, field visits are made to all project sites throughout the year. As stated in an interview, “in order to know what’s going on, you have to go to the field.” (Taylor, personal communication)

The CCFI Coordinator was especially active in the site selection and establishment of the nurseries. Once the nurseries were established, it was the Coordinator’s responsibility to deliver inputs to the nurseries, oversee nursery activities, and communicate seedling production targets.

Perhaps most indispensable to the CCFI project was ADRA's Agroforestry Officer. His duties were not well defined so his activities included anything from providing technical support to the CCFI Coordinator to leading training sessions for nursery workers, farmers or Peace Corps volunteers to cross checking field reports of various collaborators. In short, the Agro-forestry officer ensured that CCFI operations flowed smoothly (Djarbeng, personal communication).

The Forestry Department of the Government of Ghana was involved in the CCFI project primarily in a technical capacity. They were to assist nurseries in seed collection and advise on technical and management issues in the nurseries. Forestry Department staff most closely associated with the project were District Directors and Technical Officers (TOs). Ideally, one TO was assigned to each nursery to facilitate seed collection and provide technical advice as well as to serve as a liaison between the Forestry Department at the district level and the individual nurseries (Abu-Bonsrah, 1996). Upon periodic visits to the nurseries, TOs were to make a record of current nursery activities and seedling stock.

The role of Peace Corps in the CCFI project was to supply volunteers to project sites to serve as nursery managers. It should be noted that of the four primary collaborators, ADRA, Forestry Department, Amasachina, and Peace Corps, it was only the Peace Corps volunteers (PCVs) that resided in the communities in which they worked. PCVs were to act as managers of CCFI nurseries and facilitate the process of enabling the nurseries to become self-sustaining agro-enterprises. This was to be done by transferring skills such as basic business management, record keeping, and leadership skills to nursery workers and community committee members. PCVs should have also

coordinated extension/outreach programs with the nursery extensionist to educate community members and farmers within the nursery catchment area as to the causes of environmental degradation and the benefits of tree planting activities (Abu-Bonsrah, 1996).

Initially, Amasachina, a Ghanaian rural development NGO based in Tamale, Northern Region, was very active in the CCFI project. The duties performed by Amasachina included the identification and mobilization of communities into which CCFI would enter.

The CCFI nurseries may be seen as the dynamic centers around which the project operated. The nurseries were originally set up to train community members in nursery management and technical skills such as seedling production and budding and grafting. The nursery staff were to be viewed as trainees, meaning that they would work at the nursery for a year or two, receive some training, then move on to allow room for other community members. Initially, most nurseries had five full time (30 hours/week) trainees and five part time trainees to assist at peak labor times. The 30 hours/week was quite flexible due to the nature of nursery work; at certain times of the year there is not much to be done regarding seedling production. The trainees were compensated with cash and/or food aid. Each nursery was also to serve as a seedling production center to address the tree planting aspect of the CCFI project by producing approximately 100,000 seedlings annually.

To produce the seedlings, a source for soil first had to be identified. This may be near the nursery, enabling the trainees to dig and transport the soil themselves back to the nursery. Sometimes however, there was a lack of sufficient quality soil to be found

within the community so it must be purchased elsewhere such as from large farmers or the Forestry Department. Once the soil was obtained, the polybags were filled. Polybags are plastic bags in which seedlings are nursed; sizes vary depending on the type of seedling to be nursed. The polybags were seeded roughly two to three months before they were to be planted, depending on the rate of growth of the particular type of seedling. Seedlings were watered, weeded, and shaded as needed while nursed. With the onset of the rains, seedlings were transported from the nursery to project communities. If no ADRA or Forestry Department vehicle could be obtained, a private one would be hired with the nursery being reimbursed for transportation costs.

The nurseries were intended to be community owned and managed with ADRA support for five years. In order to be selected as a CCFI site, a community should have several of the following:

- enthusiasm and interest in tree planting
- need; must be in an environmentally stressed area (prone to drought, flooding, fuel wood shortages, seasonal food shortages, etc)
- sufficient water availability; either existing or potential
- organizational base open to education and training
- demonstrated success with development projects
- good accessibility
- personnel for nursery management
- land for woodlots/nursery that can be granted permanently

(Abu-Bonsrah, 1996)

A team of representatives of the collaborating agencies would enter a community in what was referred to as the 'Animation' phase to discuss CCFI with community members and assess the feasibility of establishing a CCFI nursery. The community would then write a letter to the collaborators expressing interest in becoming part of the CCFI project. Once these steps had been completed and the community approved, the community then decided on the location of the nursery and what community members would make up the nursery community committee and nursery staff. The community could expect the following benefits as a result of having a CCFI nursery:

- easy access to tree seedlings
- nursery profits for community development and nursery expansion
- employment for some in the community
- training ground for nursery and agroforestry skills

(Djarbeng, personal communication)

The CCFI Nursery Community Committees were to be composed of six to nine respected and interested community members. The selection process would vary in each community due to norms specific to that community, but effort should have been taken to ensure that the different sections within the community were represented. These different interests may have included those of families or clans, ethnicity, religion, women, or youth. The committees were to meet monthly with other meetings added as necessary. The committee was to keep the community informed of nursery activities, seedling availability, nursery need and to assist in the development of income-generating projects (ADRA, 2000).



## Chapter IV

### Methods

Looking back, the seeds for this inquiry into the CCFI project were probably sown in my Pre-Service Training (PST) for Peace Corps in October and November of 1998. Like most people, some vague idea of ‘doing good’ was among my main reasons for joining Peace Corps. The CCFI project, from the little we were told of it prior to arriving in Ghana and the brief introduction at the beginning of training, appeared like it would benefit many rural people, as well as the environment, in a number of ways. It was not long into training however, that I began to suspect that all was not as it should be, or could be, with this project. There were the obvious conflicts between one of our PCV trainers and the ADRA trainer as to what we, the trainees, should be told about CCFI: the difference between reality and theory. Current volunteers would pass through training to assist with particular training sessions and further inform the trainees that CCFI in the field is not the same as CCFI at the Peace Corps training site.

When I arrived at my site, a site which more than one CCFI administrator had called “a difficult community,” I had no intention of beginning an in depth examination of CCFI. I just wanted to settle in and get a feel for the community and what I was supposed to be doing as far my responsibilities within CCFI; they called this ‘constructive hanging out’ in PST.

Early on, I observed various community committee members, workers, and others not directly related to the CCFI nursery of which I was the ‘manager’ trying to manipulate me to further their own interests as related to the project. At the time, I just attributed this to my being new (they were testing my limits) and that this was ‘a difficult

community.’ I had also noticed polybags containing seedlings that should have been planted months ago scattered about the village. When I asked one of the nursery workers why this was so, the response was simply that “some of these people aren’t serious.” Discussions with people in my community about the CCFI project led me to see not only some of its beneficial aspects, but also some of the negative aspects of communal ownership of a project and problems relating to poor communication and lack of understanding.

I was at my site for over a year before I decided to study the CCFI project in depth for this paper. In that time I learned to see some of the relevant issues from both the village level and that of CCFI administration due to my unique position in the project. This perspective provided me with an understanding of CCFI that would most likely not be possible for someone from outside the project and enabled me to see the issues more clearly and better ask the questions that I wanted answered.

It was time spent living in a project community and working with CCFI that allowed me to formulate many of the questions and issues that I wanted to discuss as part of this study. I reviewed Burwell *et al* (1992) to supplement the questions I had come up with on my own and read Bernard (1995) to facilitate my understanding and organization of this type of research. I was able to formulate a list of topics to be discussed in semi-structured interviews on a range of areas within CCFI. Topics discussed consisted of the objectives of the CCFI project, project administration, roles and effectiveness of the collaborators, nursery sustainability, education/extension activities, outplanting groups, and communal ownership.

In discussing topics such as project objectives, administration, and the roles of the collaborators, I sought to fill in gaps in my own understanding about CCFI as well as to determine the level of understanding on these topics by the various informants. Based on prior observations and discussions with Domiabra residents as well as fellow PCVs, I felt that not all involved in the project shared a common understanding as to what was to be accomplished and how this would be done.

Discussions with farmers focused on how much land they farmed, what they cultivated, and what some of the main constraints were they faced in farming. Once this background information was obtained, we would then discuss the ways in which CCFI has been beneficial to the farmer and in what ways the project could do more.

Nursery sustainability and community involvement or communal ownership were often discussed together as they are closely related. From my time in Domiabra, it was plain to see that our nursery was not on the way to being sustainable, nor was there much positive involvement in the nursery by the community. The nursery workers in Domiabra, especially the foreman, were knowledgeable and hardworking and there was a large market town only twelve miles from the village so it should have been possible to develop some secondary income-generating projects. However, I observed that the poor relationship between the nursery staff and the nursery community committee made this unlikely. I wanted to see if similar relationships existed in other project communities and if different nursery-community relationships provided different prospects for nursery sustainability. I also wanted informants to tell me their ideas on how to increase the likelihood of nursery sustainability and how to improve the communal aspect of the project.

Throughout all of the interviews, in the range of topics, I sought to obtain the informant's opinion on what was effective and what wasn't and in what ways that which wasn't effective could be improved.

Emphasis on different discussion topics varied with each interviewee's position in CCFI. Interviews were conducted with residents and nursery workers of the village of Domiabra, various PCV managers, and project administrators (Appendix 1). Informants will not be identified when quoted as some are rather critical of various collaborators or CCFI practices and could result in animosity toward the particular informant. The results of the Domiabra interviews cannot be generalized to other CCFI communities as the village dynamics, if not the cultural norms and perceptions, vary from community to community. However, by reviewing various project documents, including all of those regarding the CCFI Annual Review Workshops, attending workshops and meetings, and visiting nurseries to obtain a sense of common ideas and problems, I believe that I have a clear understanding of the CCFI project and its relevant issues.

## Chapter V

### Results and Discussion: Evolution and Evaluation of CCFI

In this section, some of the significant changes in CCFI and a number of issues relating to the success of the project will be discussed. Of the changes, most significantly, the project has expanded south to the coastal plains, establishing eleven nurseries in four southern Regions. There has also been change among the collaborators and the CCFI management structure, the inclusion of organized farming groups, and the ongoing evolution of the nurseries.

Although the issues will be discussed separately, they should be seen as interrelated parts of one whole. Some of these issues have been around since early in the project whereas others are fairly recent. It is not necessarily bad that many of these issues have been around for quite some time. On the contrary, some of these issues require vigilant attention and maintenance in order to ensure the success of a project such as this. Some issues, however, can and should be solved.

#### *Changes within CCFI Management and Administration*

Amasachina, the Tamale-based rural development NGO, had some difficulties working in the Upper East and Upper West Regions where they were not well known. This combined with questions raised as to their level of commitment led to their gradual withdrawal from the project (Burwell *et al*, 1992).

The Ministry of Food and Agriculture (MOFA) of the Government of Ghana was a relative late-comer to CCFI, joining sometime in 1995. The Deputy Director of Agriculture in charge of Agroforestry for MOFA became a member of the National CCFI

Committee. In general, MOFA is responsible for general outplanting activities in the field and conducting educational campaigns. Educational sessions consist of technical issues such as proper demarcation of plots and correct ways in which to plant and care for tree seedlings, choosing the best sites for particular agricultural activities and addressing general agricultural questions and concerns farmers may have. These are much the same duties MOFA's Agriculture Extension Agents (AEAs) perform normally. In regards to CCFI, the AEAs are also to assist project farmers in filling out project forms and questionnaires and ensuring that they are well understood (Abu-Bonsrah, 1996). The AEAs are also responsible for keeping track of the activities of the farming groups and submitting monthly reports to the area ADRA Field Project Officer.

The expansion of the project to southern Ghana in 1995-96 likewise necessitated an increase in CCFI staff. There was the need to create a CCFI Coordinator position for the southern nurseries similar to that of the north. This position however, was relatively short-lived. After a few years, the nursery infrastructure was in place and improvements in administrative efficiency made throughout the life of CCFI led to a decreased workload for the Coordinators. Their responsibilities were assumed by ADRA Field Project Officers (FPOs). Previously, the FPOs had dealt with farming groups associated with ADRA's various agricultural projects, registering groups, delivering food aid and checking progress. In addition to these duties, each FPO was to work closely with one to five CCFI nurseries, delivering nursery inputs and allowances and communicating relevant information such as seedling production targets. There should be constant interaction between FPOs and nursery managers and extensionists to ensure successful outplanting activities and monitoring of field activities (Abu-Bonsrah, 1996).

A CCFI Working Committee was also created as a result of the project expansion. This committee was composed of administrators and field staff of the four collaborating agencies. This committee was to meet quarterly to review reports, discuss relevant issues, and plan upcoming activities such as the Annual Review Workshop. Recommendations made at these meetings are then submitted to the CCFI National Committee. An updated diagram of the CCFI organizational structure is provided in Figure 6.

#### *Department of Cooperatives*

The Department of Co-Operatives of the Government of Ghana is also associated with the CCFI project. District Officers work with the farming groups to develop local level co-operatives. The groups are instructed on the principles, procedures and norms of working in co-operatives (Abu-Bonsrah, 1996). However, there does not appear to be much activity in this aspect of the project (Annual Review Workshop, 1999).

#### *CCFI Nursery Evolution*

CCFI has experimented with a number of ways in which to most efficiently and effectively produce seedlings. For example, in 1989 each nursery was designed to produce 100,000 seedlings with 5 permanent workers and 5 casual laborers to assist in peak work times (Annual Review Workshop, 1989). Little consideration was given to demand for seedlings or marketing as the seedlings of the woody species were being given away free. To help generate income, the nurseries could elect to raise fruit tree seedlings for sale (Burwell *et al*, 1992).

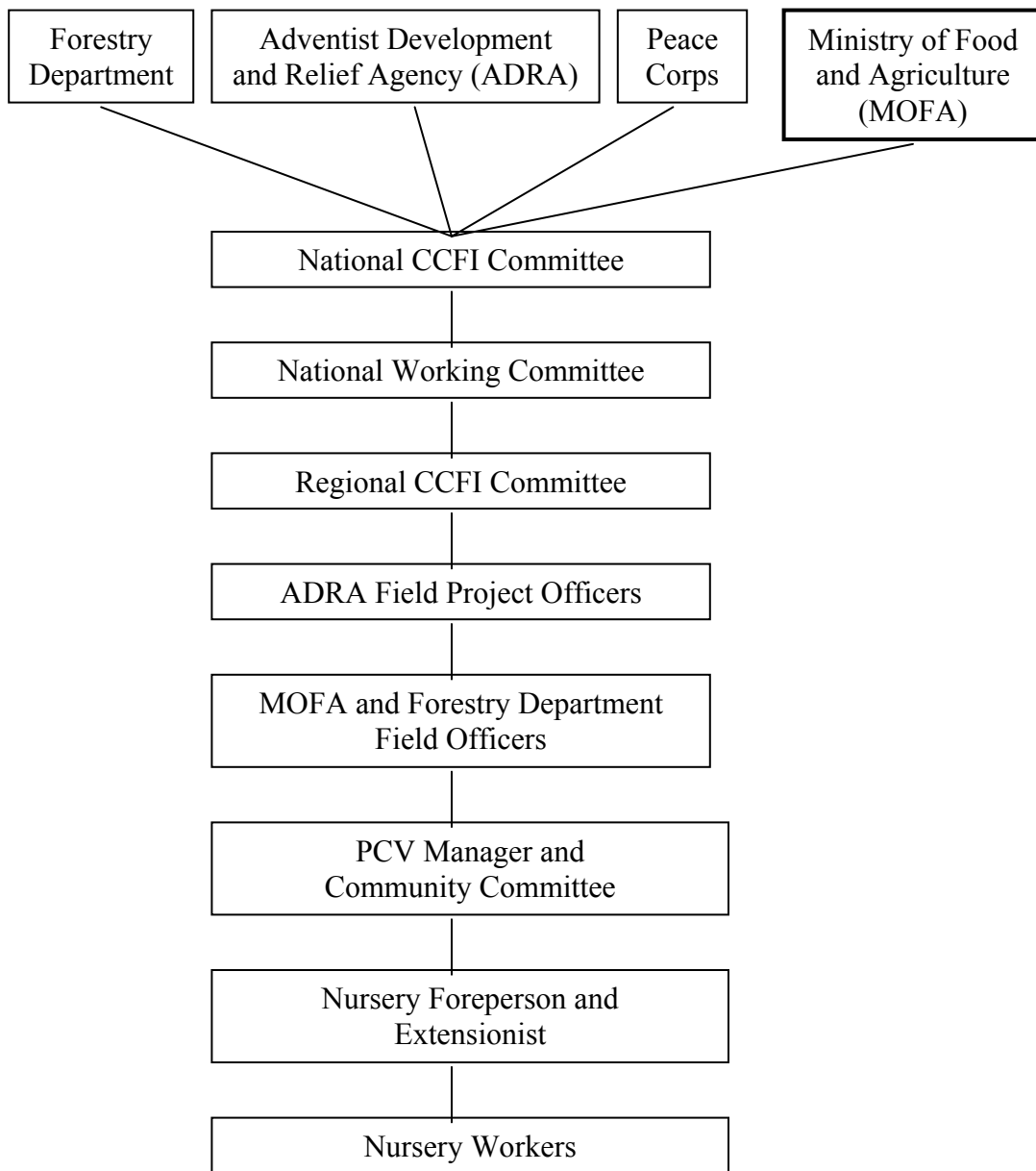


Figure 6: Updated CCFI Organizational Chart



For a few years a few of the nurseries attempted to produce seedlings based on what was called a 'pilot' approach. Within this method, there were up to 20 workers at the nursery being compensated on a production basis. However, as the workers were being compensated solely on the number of seedlings produced, there was little attention given to extension, nursery maintenance, or the development of other income generating projects (Burwell *et al*, 1992).

From project start-up through 1995, the nursery workforce evolved to what it is today. Ideally, at each nursery that is still receiving full CCFI support, there is one PCV manager, one foreman, one extensionist and four trainees from the community. It should be noted that at least 2 of the 6 community members at the nursery were to be women. Keeping with the concept of a training center, it is hoped that once trainees have received some training and experience in nursery skills they will leave the nursery to set up their own 'satellite' nurseries. Despite the fact that ADRA offers packages to encourage these satellite nurseries, it rarely occurs (Djarbeng, personal communication). The nursery workers are expected to work 30 hours per week (ADRA, 2000) and as of November 2000 were compensated as follows:

- foreman                    45,000cedis\*/month
- extensionist            42,000cedis/month
- trainee                    39,000cedis/month

\* As of November 2000, US \$1 was the equivalent of approximately 6,700 cedis and the daily wage for a laborer was 8,000 cedis.

In addition to their monetary allowance, each worker also receives one half bag of bulgur wheat and one third of a bag of rice every other month. Both the monetary and food allowance of each worker is part of the support given to each nursery by CCFI.

That is, each worker will be paid according to the above schedule regardless of the nursery's financial situation as long as the nursery is receiving full CCFI support. Some nurseries with available funds add to these allowances in the way of bonuses following outplanting or at Christmas.

The nurseries produce and distribute seedlings to ADRA registered farmers in the vicinity of the nursery. Following distribution of the seedlings, invoices are submitted to ADRA for payment. In addition to producing seedlings for the ADRA farmers, the nurseries are to develop other income generating projects that will contribute to nursery sustainability as well as the development of the community. Nurseries have tried several different secondary income projects under CCFI. Some examples are small animal production, dry season gardening, grain storage, and corn milling operations. The nurseries are to benefit the communities in which they are placed by developing projects that fill a demand currently within the community as well as making other tangible contributions to community development. The contribution to the community should be something that the people can see such as planting trees throughout the village or donating electric poles for a village electrification project rather than cash to a community development fund or to village elders (Djarbeng, personal communication).

In addition to having the nursery workers allowances paid by ADRA, the nursery also has access to an imprest account of 60,000 cedis per month. This account is for office supplies, nursery supplies, travel and transport, and repairs and maintenance of nursery buildings and tools (Abu-Bonsrah, 1996). The nursery purchases the necessary items or services and submits relevant receipts along with the monthly report to gain reimbursement. For projects that go beyond the allotted 60,000 cedis a written request

must be submitted to ADRA. A monthly report concerning nursery activities, issues and needs is to be completed and submitted to the ADRA FPO for that particular nursery.

### *CCFI Farming Groups*

Formal farming groups did not become a part of CCFI until late in 1995. CCFI nurseries had worked with community groups such as religious organizations and schools in the past, but there was little organization or planning in the tree planting activities. As a result, little attention was given to the planting and care of the seedlings. Also, as the seedlings were being given away free, they were seen to have little value. To rectify this situation, CCFI decided to form and work with farming groups following a specific agroforestry plan with the seedlings being received on credit. The farming groups consist of ten to twenty-five community members; ADRA prefers twenty members per group. The community members form their own groups with the assistance of the ADRA FPO and/or the MOFA AEA for the area. No more than two groups per village per year may be formed. Farmers must meet five of the following requirements to be considered eligible for participation:

- permanent resident of the community
- access to land (1-4 acres); own, lease with papers, or be farming stool land
- small farmer; less than 4 acres at present
- hard working farmer as certified by village elders and opinion leaders
- not indebted to any previous project in the area
- not capable of affording 2 balanced meals per day
- willing to work in cooperative or group setting

- willing to conform to project procedures and regulations

As part of these farming groups, farmers are entitled to agricultural inputs on credit. Among these are the seedlings, fertilizers, cutlasses, knapsack sprayers, and improved maize or other food crop seed. Farmers fill out forms requesting inputs and although there is no set package, most end up receiving approximately the same inputs. For example, a farmer may request 2 bags of ammonia which is too much for one acre, so he will be given one bag 15-15-15 NPK and one bag Sulfate of Ammonia.

In addition to inputs on credit, farmers receive food aid “to help in the lean season when there is little or no food in the system or when they are not able to help themselves.” One-third of a bag of rice and one-half of bag of wheat is given to each farmer four times throughout the lean season. This is to compensate for loss of yield due to the extra time and energy spent on caring for seedlings and the loss of crop space taken up by the tree seedlings.

The farmers are also to receive extension/education as part of membership in a CCFI group. This education includes information on cultural techniques, harvesting and storage, processing and marketing as well nutritional and dietary information for crops not traditionally cultivated such as soy beans.

The farmers have one year to repay the loans on inputs received, however most want to hold out until April to get the best prices on their produce. Given this, ADRA deems a farmer credit worthy and able to continue in the project if he has repaid 80-85% of his loan by January. An extension may be given on loan repayment in the event of severe flooding or drought as certified by official reports. Ideally, a farmer will cultivate one acre per year for three years.

Farmers may select one of three agroforestry plans determined by ADRA to implement on an acre of land. One is an alley cropping design in which 155 woody species are divided into three rows and 12 or 13 fruit trees are planted in each of two rows separating the woody species. Crops may then be cultivated within the alleys created by the rows of trees. There is also the option of planting a one-acre woodlot at a spacing of 2m by 2m. The final option is that of a fruit tree orchard. In this case, 26 trees are given on credit, but the additional 14 must be paid for upon delivery. Common woody species used in the project include *Cassia siamea*, *Gliricidia sepium*, *Albizia lebbek*, and *Leucaena leucocephala*. These species generally grow rapidly, coppice well, are useful as building poles, good for fuelwood, make good fodder for livestock, and improve soil fertility. The fruit species include mango (*Mangifera idica*) and cashew (*Anacardium occidentale*). In some areas fruit tree orchards are more popular than woodlots with the farmers; in other areas, the opposite is true. Likewise, the preference of one or another of the fuelwood species over the others has been observed in different areas in which the project operates. Although there are limited options to what farmers may plant and the manner in which seedlings are planted, the farmers do have some flexibility in adapting the CCFI project to fit their particular needs and preferences.

Farming groups are to elect their own president, secretary and treasurer. A bank account is to be established into which group members repay their loan. This is done by giving the money to the group's secretary who in turn hands it over to the treasurer for deposit at the bank. A receipt should be collected at the time of payment to the

secretary. Each group is also responsible for maintaining a record of its activities as well as a visitor's book to record the visits of various collaborators.

The creation of organized farming groups considerably improved the CCFI goal of getting tree seedlings planted and cared for in environmentally stressed areas of Ghana. However, this addition has not been without its share of challenges. Most notable are concerns about seedling survival rate and loan repayment. In some areas, seedling survival rates as low as 30% have been reported. Often rates this low may be attributed to particularly harsh conditions (drought) and animal grazing. Also, in some areas loan recovery is "not encouraging," as noted by one project administrator. This, however, seems to be improving as farmers are beginning to harvest fruits and fuelwood. Both low seedling survival rates and poor loan repayment, where they occur, may be at least partially attributed to insufficient outreach activities.

### *Collaboration*

As previously stated, collaboration is central to the CCFI project. Within the broad topic of 'collaboration,' the issues of collaborator commitment, communication and a clear understanding of the project will be considered.

Burwell *et al* (1992) noted the strong commitment on behalf of all collaborators early in CCFI. Various potential collaborators came together to discuss relevant issues and formulate a design by which specific goals could be achieved. This fostered a sense of commitment as each group determined its own role in the project. However, Burwell *et al* (1992) also noted that the level of collaboration had decreased and the project was in danger of not progressing past the point it had already achieved. In fact, this was

recognized by the CCFI Coordinator as early as 1991, “There is the need to strengthen the Collaboration through proper communication and commitment (Annual Review Workshop, 1991).” In many of the interviews questions were raised as to the level of commitment of various collaborators. Often, MOFA and the Forestry Department are cited as lacking in commitment to the CCFI project. While this may be true, it cannot be said that all individuals within these two agencies are not committed to CCFI, just as it cannot be said that all the PCVs and ADRA staff have high levels of commitment. The level of commitment varies within each organization and region. In discussing the collaboration, one PCV responded that the Forestry Department is “completely complacent. I have no idea who those people are.” However, another responded that the Forestry TO in his area is very good. If the commitment of MOFA and the Forestry Department is generally less than that of Peace Corps and ADRA, it should be remembered that they are government agencies in a less developed country, and as such, they are often grossly underfunded and underequipped. For example, several of the field officers are responsible for large areas and working with many farmers, yet have no means of transportation. Also, these agencies have other responsibilities; CCFI is just a small part of what they do.

Another reason for the lack of commitment of some could be the view that CCFI is ADRA’s project. This may be observed at the village level in the way that participants use the terms ‘ADRA’ and ‘CCFI’ interchangeably. Although one ADRA administrator denied that CCFI is exclusively ADRA’s project saying, “We’re here to help farmers, not to glorify ourselves,” there is some basis for such a view. Often issues are discussed at meetings and workshops, but policy is ultimately decided by ADRA. This is somewhat

understandable as ADRA has to operate within the framework provided by its contract with USAID. However, this fact does little to facilitate a sense of collaborative decision making. Several informants expressed concern as to the low level of collaboration in decision making, both on behalf of collaborators other than ADRA as well as those to benefit from the CCFI project.

A high degree of communication, or flow of information, between collaborators is essential for a collaborative effort to be successful. Despite continued efforts in this direction, there is still room for improvement within CCFI. As early as 1989, the issue of poor communication between collaborators was raised (Annual Review Workshop, 1989). One of the areas that needs attention is the flow of information between nurseries and ADRA head office. Nursery reports are frequently late and do not contain sufficient information concerning nursery activities and needs. Likewise, follow-up by FPOs is often lacking (Annual Review Workshop, 1996). There is also concern as to the low level of communication between ADRA farming groups and CCFI field staff. One informant expressed her frustration, “In the field, the AEAs aren’t around even to listen to farmers’ concerns so they (AEAs) can’t communicate them to the FPOs or other big men.” In areas where the MOFA AEA is not active, it is difficult for farmers to communicate their concerns about the project and problems they may be having. Although the FPOs may listen to farmers’ concerns, their schedules are often full and follow-up may be inadequate or late in coming. Ideally, there should be quarterly meetings at the regional level in which CCFI field staff, nursery representatives and representatives from the farming groups meet to discuss issues and plan activities for the upcoming quarter. However, the agenda is often quite full and “it all depends on how



you express yourself” whether or not the big men will listen. A farmer may have a good understanding of a particular issue or situation, but may not be so proficient in English so is not given due consideration. “That is the main problem. It should be improved,” an English literate nursery worker stated in an interview.

In several of the Annual Review Workshop reports there has been mention of the need for greater clarity not only of the responsibilities of each collaborator, but also of CCFI itself (Annual Review Workshop, 1989, 1991, 1993, 1996, 1997). As CCFI is a pilot project, this is understandable. Even with a well established project or one that follows the model of another, collaborator responsibilities and project objectives should be constantly reviewed and must evolve to meet the changing needs of the project or the changing environment within which the project operates. CCFI has shown some adaptability in this respect, the addition of MOFA and the creation of the farming groups are two notable examples, but a clear understanding of what each collaborator is to do for its part in CCFI is not as it should be. Although Burwell *et al* (1992) noted a “clear definition” of each collaborator’s role, this appears to have faded with time and the only written documentation concerning these roles to be found is in Abu-Bonsrah (1996) given to PCVs in their Pre-Service Training.

Decreasing levels of commitment, communication, and role definition can limit the success of a project such as this in that they can lead to something of a vicious cycle with one collaborator decreasing commitment as a result of perceived decreased commitment on the part of another. Although this has happened to some degree with CCFI, it is not something that is inherent in the project design. The Annual Review

Workshops and Regional Quarterly Meetings should be forums in which to discuss and resolve these, as well as other, issues.

### *Participatory Design*

In 1992 Burwell praised the participatory design of the CCFI project and at most of the Annual Review Workshops there has been talk of the collaborators coming together to discuss issues and agree on changes to be made to increase the effectiveness of CCFI (Annual Review Workshop, 1991, 1992, 1993, 1994, 1997, 1999, 2000). The way in which CCFI came into being and the continuation of the Annual Review Workshops are undoubtedly strengths of this project, however, it is not truly participatory in the sense that the beneficiaries, the farmers planting the trees and the project communities, were not involved in the design process and are only minimally consulted in the ongoing implementation of the project. Although the CCFI project does use appropriate technology to meet real needs of project communities, implementation may have been more successful if those that the project was designed to benefit had had some input from the beginning. Even if the design had turned out exactly as it did without their input, the communities may have had a better understanding and commitment to the project before the first tree seedling was outplanted. As it is, however, many within project communities do not have a clear understanding of CCFI thereby decreasing project effectiveness. This can be seen in low seedling survival rates and poor loan repayment in some areas and the generally poor functioning of the Community Committees.

### *Project Monitoring*

The CCFI project has done an admirable job of instituting various structures to monitor field activities, such as field visits and monthly reports from the nurseries and field staff. However, in practice, these structures are often not adequately utilized resulting in inaccurate or nonexistent field data. Early in the project, there were no records kept concerning the area of land planted with seedlings nor the survival rates of planted seedlings (Annual Review Workshop, 1990). This was one of the concerns that the formation of farming groups was to address. Working directly with farming groups, CCFI field staff should be better able to monitor and record such data as number and type of seedling planted and seedling survival rate. This has certainly improved with the creation of the farming groups, but all field data should not be considered to be completely accurate. Due to some of the constraints discussed in the above section, accurate monitoring and reporting do not always occur. ADRA requires AEAs to sample 6 farmers out of a group of 20 when gathering field data (Djarbeng, personal communication). However, an AEA may choose to visit the six most accessible farmers in a group rather than six farmers randomly selected. Also, an AEA may adjust field data so that seedling survival rates he reports may be higher than what they actually are in the field. If the farmers are seen to not be doing well, it may imply that the AEA is not doing his part. One ADRA administrator commented that seedling survival rates in reports “are sometimes higher than what they are in the field.” To help ensure greater accuracy in field data collection, ADRA administrators will periodically cross check FPO reports when visiting project sites. Another issue is that ADRA may be working with farming groups in a given area that are not part of CCFI, however when the FPO is recording data

for the district, data concerning all of the ADRA farming groups for that district, not just CCFI farming groups, are recorded. Therefore, it is difficult to determine precisely how many seedlings have been planted as part of CCFI and their survival rates.

### *Education*

Another reason for the creation of the farming groups was to improve upon the low levels of environmental/agricultural awareness being communicated to communities around the CCFI nurseries. Whereas it had formerly been the responsibility of the nurseries to undertake such activities, MOFA assumed primary responsibility in this direction upon joining CCFI. Although this has greatly improved with the addition of MOFA, the extension/outreach program is still not what it should be, as noted in several interviews. AEAs are to visit farmers at least twice a month, however this is not often the case. It is more likely that an AEA will periodically announce a meeting in a particular community in which he will discuss concerns that the farmers have and offer advice. However, it was observed that some more knowledgeable farmers, through longer involvement with the project, have been serving as informal extension agents to fellow community members. It has also happened that the AEAs have not had adequate technical knowledge to assist farmers in the chosen agroforestry regime. In response to this, ADRA has sponsored training workshops for AEAs in which they receive instruction in ways to better assist the farmers.

At start-up, all nursery workers received training in nursery related skills. Instruction was in the areas of seedling production, budding and grafting, small animal production, and other secondary income projects, along with record keeping and general

business skills. Since the original training, there have been ADRA sponsored workshops as well as Peace Corps In-Service Trainings in which one nursery staff member accompanies the PCV manager. In general, the technical skills transferred to nursery workers have been very good. Business and management skills transfer, however, has not been as effective. Several informants noted this as a weak point. These skills include bookkeeping, leadership, administration, and marketing. It is hoped that one or more of the nursery workers or community committee members will acquire sufficient business and management skills to effectively manage the nursery as a self-sustaining community owned enterprise following the withdraw of CCFI support. The PCV should be the main facilitator in transferring these skills, however, there are a number of challenges that this process faces. Probably the biggest obstacle to this is the hierarchical structure of Ghanaian society, the tendency to defer to the ‘big men.’ As foreigners and managers, PCVs are seen as ‘big men’ despite the fact that most have limited agricultural backgrounds and are unfamiliar with the local environment. This can be seen in a statement of one PCV manager, “It’s better when I’m travelling because a lot more gets done. But if I’m around, even if they (nursery staff) know what to do, they’ll wait to run it by me.” Another is simply the fact that many forepersons or nursery extensionists don’t want the added responsibility. If one of the workers gradually takes on more of a leadership role, namely keeping the accounts book, he may be seen as more likely to misappropriate nursery funds. In communities where nursery staff is viewed to have access to benefits that others in the community don’t, this is not a desirable prospect. This was observed in my community as I tried to encourage one of the nursery workers to accept more managerial responsibilities. Also, illiteracy may be a barrier to

administrative skills transfer. Even when a worker possesses adequate literacy, but has had little formal education, he may feel intimidated by the responsibility. These last two barriers are compounded by the fact the manager, whose duties are to be assumed by a worker or workers, is a foreigner and is generally seen to have management skills superior to community members and to be above misappropriating funds. Finally, some of the skills to be transferred, namely accounts keeping, may not be realistic in this setting. Many of the PCVs interviewed had difficulty in recording and accounting for nursery transactions and assets with the degree of precision advocated by ADRA.

Initially, the CCFI Nursery Community Committees did not receive any training. Although this was recognized as a problem area early in the project (Annual Review Workshop, 1993; Burwell *et al*, 1992), it was not until 1999 that Community Committees received any formal training regarding CCFI. This training consisted of leadership, communication, team building/conflict management, problem solving, and project evaluation/identification modules.

### *Communal Ownership*

The CCFI nurseries are to be thought of as belonging to their respective communities under the management of the CCFI Nursery Community Committees. The communities are to offer support for the nursery activities in return for some material benefits such as contributions to community infrastructure development. Although this seems reasonable and may be attractive to foreign aid donors, it may not be realistic on the ground. Many PCV informants stated that their communities don't really see the nursery as being for them. The nursery may be called the *blofonyo, obrunni, yevu,*

*nasara*, or *batoure* (white man) nursery in Ga, Twi, Ewe, Kusal and Hausa. This is seen even among nursery workers as reported by several PCV informants.

Also, the extent of interest in nursery activities in many communities is limited to interest in the nursery's bank statement. Even in communities where the nursery committees or certain individuals do not inhibit nursery activities, support is not as desired. If community members have a proper understanding of what the project is trying to accomplish, they generally see it as a good thing and are in favor of it. However they may not actively support the nursery through such means as communal labor or even promoting the nursery in the community. As one project administrator stated, "Some of it is support in the sense that nobody worries you. They (the community) let you do what you are doing. But in terms of active support, I don't think so."

Few of the CCFI Nursery Community Committees can be said to be functioning well. This was noted in several interviews with PCVs and administrators, as well as being acknowledged in the reports following the CCFI Annual Review Workshops of 1997, 1999 and 2000. Following training, the performance of the community committees has generally not improved. Even with training, none of the committee members can be seen to be more knowledgeable in running a nursery than the nursery foreperson and extensionist. However, as the committees are told to act as a "board of directors," they may try to dictate how nursery activities are to be managed. This may be somewhat reasonable in the formation and management of secondary activities, but not in the day to day operations of nursery nor as regards the production and distribution of seedlings. If community committees attempt to assume the role of nursery manager tension may be created to the degree that nursery success is threatened. Although the foreperson is better

qualified to decide such matters, personal politics may override technical expertise. At the village level this can be significant. Neither party will back down for fear of losing face and permanently conceding authority to the other.

Although not a typical example of CCFI communities, one particular community may illustrate how communal ownership may inhibit the success of this type of project. This community had been without a chief or village head for over ten years before CCFI entered the community. Although there were a number of respected elders and other village leaders, there was no one with the authority to effectively mobilize significant communal efforts. The original CCFI community committee was largely non-functional except for one member continually embezzling nursery funds. The then current PCV spent considerable time in dissolving this committee and establishing a new one. The new committee was comprised predominately of English-literate youth. While the youth are a significant component of the village dynamic, they lack some of the wisdom and foresight of some of the older members of a community. In this instance, many of these new community committee members were not full-time farmers and had little understanding of how to effectively manage a tree nursery. This gave rise to almost continual conflict between the nursery staff and the community committee, thus preventing any significant progress toward long-term nursery sustainability.

### *Food Aid*

Throughout the development community, the use of food aid is a controversial topic. This is no less so within the CCFI project. Although both ADRA farmers and nursery workers receive food as part of involvement in CCFI, these should be seen as two



different strategies. For the nursery workers, the food aid should be seen simply as part of their allowance; some comes in the form of cash and the other in the form of wheat and rice. The farmers' food aid however, may be seen as an inducement to devote some farm space to tree seedlings and modify their farming practices. Usually the recipients are in favor of using food, but some other CCFI collaborators are also in favor of it. However, there are also a great many opposed to its use. For some, the objection is purely ideological in that they disagree with giving 'handouts' to people in order to induce them to participate in a project designed for their own benefit. For others, the objection is more practical; some people may join CCFI solely for the food aid and may not be serious about the farming. While it does not appear to be widespread, some farmers do only register for CCFI in order to receive the food aid. When asked about the prevalence of this, one project administrator responded, "[I] can't give a percent, but it's there." This administrator went on to say that there have been many farmers that have adopted some of the farming methods CCFI promotes without the incentive of food aid and their farms are as good or better than those of farmers receiving food aid. Although many within the project would like to have the food aid withdrawn, the author was informed that this is unlikely due to the constraints imposed by ADRA's contract with USAID.

### *Nursery Sustainability*

Sustainability, a broad term with no commonly accepted definition, is of increasing concern in the development arena. For CCFI, nursery sustainability is obtained when a nursery is able to make twice its operational costs. Very few, if any, of

the CCFI nurseries will continue on as they are now once all outside support is withdrawn. The limited progress made by nurseries toward sustainability was noted as early as 1992 (Annual Review Workshop, 1992). Although this concern was noted early on, the outlook for nursery sustainability has not greatly improved. One area that must be considered is location. This is more important at the beginning of a project as it is unlikely that a nursery will be moved once the infrastructure is established. With the early focus of CCFI being geared more towards tree planting than nursery sustainability, many nurseries were placed in areas that are difficult to get to and where the development of a market, for seedlings or anything else, would be difficult. Hopefully, people and groups will continue buying and planting trees, but even at more accessible nurseries with greater surrounding populations, the demand for seedlings is going to dramatically decrease with the cessation of the ADRA farming groups. Therefore it is necessary to develop other income generating projects to be financially self-sufficient. There have been some notable successes in this respect, but for the most part, many nurseries lack any appreciable means for generating income outside of that gained from the production of seedlings for ADRA farming groups. There have been a great number of projects attempted by the many CCFI nurseries to gain income from sources other than seedling production (Annual Review Workshop, 2000; Burwell *et al*, 1992). Some examples of secondary income-generating projects include rearing of chickens for meat or eggs, dry season gardening, grain storage, and renting a donkey cart. Some of these smaller projects have met with minimal success in that they meet their expenses, but few have been able to make any significant contribution to the nursery. Probably the single most significant inhibitor to the success of such projects is lack of commitment by the nursery

workers, although in some communities nursery committee members may be involved. This lack of commitment stems primarily from how those involved view the ownership of the nursery. Although this is a community project in which the ownership of the nursery is to be communal, it is often not viewed as such. Often the nursery is seen as belonging to ADRA or “for the white man.” Many PCV informants cited this lack of commitment or sense of ownership by nursery staff as a significant obstacle to nursery sustainability. Another factor is that many in the project communities don’t fully understand the phase-over process or, if understood, many don’t believe that it will actually happen. Once support starts to be withdrawn, it is too late to develop and implement a significant project. One nursery worker expressed hope that come phase-over, ADRA will “consider” them, meaning that ADRA will reconsider phase-over and continue to support nurseries that have yet to become self-sustaining. Also, many of the workers, understandably, are not interested in spending additional time and labor on projects that won’t directly benefit themselves. Why would anyone want to put effort into a money making venture when there is the very real possibility that someone who has not contributed in any way to the establishment of the project, such as the community committee or village elders, may step in and take the money? Although noble, it is not realistic to imagine that a few will gladly work only to share the benefits with all.

In order to increase chances of sustainability, the idea of nursery privatization is gaining acceptance and being seriously discussed at all levels of CCFI. Following recent CCFI meetings and discussions, it seems that an acceptable form of privatization would not have the nursery and all of its income belonging to one or a few individuals (Annual Review Workshop, 2000). Rather, the community must continue to benefit from the

nursery to a greater extent than just having it near by. This could take many different forms and would vary with the nursery's relationship to its particular community. One possibility is that the nursery be handed over to the foreman or extensionist with the understanding (written agreement) that the nursery would give a percentage of its profits to the community committee to support projects in the community. In such a case, those that came to 'own' the nursery would be motivated to manage well and put adequate effort into other income generating activities because it would be in their own best interest. Even though they would be giving some of their profits to benefit the community, they really couldn't complain because they wouldn't have had the means to start such an enterprise on their own. The main concern with a scenario such as this is how the nursery is to be handed over to individuals. The nurseries were established and maintained as part of a community project and project implementers cannot justify just 'giving' it to one or a few individuals without some form of compensation to the village. There may be nothing wrong with this, especially in communities that have shown little or no interest in the nursery in the past but there are a few hard working and dedicated individuals, workers or committee members, it does not appear acceptable to many within ADRA, Peace Corps, MOFA or the Forestry Department.

### *Accomplishments*

Although the CCFI project may not have fully realized its lofty goals, it has covered considerable ground along that path and some project accomplishments will be discussed in this section. As the original focus of CCFI was environmental degradation, seedlings produced as a result of the project will be reviewed first. There have been

several million trees produced and distributed to environmentally stressed areas of Ghana. It was reported at the 2001 Annual Review Workshop that approximately 8 million tree seedlings have been raised and 21,000 acres have been planted with tree seedlings in the last five years as a result of the CCFI project (ARW, 2001). Even considering inaccurate records on seedlings planted and the low survival rates prevalent in some areas, there are millions of trees that would not have been planted if not for the efforts of CCFI. This means that there is a little more soil fertility, a little less soil erosion, and some people don't have to walk so far to find building poles or spend money on charcoal.

Despite the shortcomings of the outreach program, rural farmers are beginning to see the value of planting trees on their farms. This is no small accomplishment given that in many areas where CCFI has operated trees were traditionally not planted. In some areas tree planting was taboo, "God plants trees, people don't" or "If you plant a tree, you will die when it reaches maturity." In others, they were not seen as useful, "you can't eat trees." When asked if he planted trees on his farm when he was younger, one farmer replied, "I don't know what cassia is; I think it's going to spoil my land. Through ADRA I see that it's good." In addition to the formal outreach the project has conducted, there is growing informal extension being done by the farmers themselves. As farmers are harvesting fruits and wood from trees planted 3 or 4 years prior, their neighbors that took no interest in the project initially are beginning to see the benefits and are planting trees on their farms. This is one positive impact of CCFI that will not be fully seen until long after the project has gone.

The human development as a result of this project, though not easily quantifiable, is also something that should be recognized. A number of nursery workers have greatly improved English language skills and some have even become literate as a result of working with CCFI. Many individuals, nursery workers, and ADRA farmers, have benefited from the knowledge gained through participation in CCFI by applying it to their own situation. Examples here include producing seedlings for use on their own farm and to help meet demand if the CCFI nursery falls short. Some nursery workers have been quite successful in starting projects in their own homes such as snail or poultry production that they first learned about in a CCFI training workshop. A fine example of this may be seen in the home garden of one of the workers from the Zebilla CCFI nursery. There is even a story of one man that was able to save enough money through his nursery allowance and improved farming methods to finally pay his wife's dowry and get her back from her family home. Because many wells had to be established to meet the water needs of the nurseries, community members in areas that had water problems now have access to clean drinking water.

Though many of the nurseries will not be sustainable come phase over, most communities have realized some benefit from hosting a CCFI nursery. This may include environmental education programs at the local primary school, donation of resources for community projects, and planting of trees within the community for shade, soil preservation, and fruit. There are a few nurseries for which sustainability is more likely. One of which, at Amlakpo, has opened an agricultural kiosk at the nearby market town in which agricultural inputs such as fertilizers and seeds are sold to local farmers. This project has been so successful that the nursery has subsidized the pay of local teachers.

Another nursery, Amedeka, is producing poultry for both eggs and meat and is in the process of rearing goats for the local market. A sand-wining project, the harvesting of sand from a river bottom, has also been undertaken because of the demand of the concrete industry in nearby Tema. Because of the amount of work to be done within the nursery, this operation employs community members other than nursery workers.

### *Summary*

The CCFI project sought to address problems of environmental degradation in particularly stressed areas of Ghana as well as to improve the standard of living for people in those areas. This was to be done through the planting of tree species that were good for fuelwood, building poles, and increasing soil fertility and fruit tree species from which farmers could realize economic benefits. The project was implemented through the collaboration of overseas development agencies, Government of Ghana ministries, and local communities.

The technology selected for this project, planting trees and altering farming systems, was appropriate in that it could be easily adopted by those it was to benefit. The tree species and agro-forestry methods selected fit with the goals of the project. In short, CCFI encouraged small-scale farmers to be better small-scale farmers rather than shifting to monocropping for export as with other rural development projects (Raintree, 1986).

CCFI, being a pilot project, faced its share of challenges. A good deal of adaptability was demonstrated in facing some of these challenges. With the withdrawal of Amasachina and inadequacies in extension and outreach activities, the Ministry of Food and Agriculture was enlisted as a collaborator. As the original method of

distributing and planting tree seedlings failed to achieve the desired goals, formal farming groups were established to facilitate this. The project also did well in providing training to various collaborators and community participants when there was a demonstrated need for such training.

There were some challenges, however, that the project failed to fully resolve. The poor functioning of community committees and communal ownership in general was never properly acknowledged and dealt with, thereby decreasing the potential for nursery sustainability. Also, although the extension/ outreach aspect of the project did improve over time, it did not quite live up to expectations. This may be due in part to reliance on collaborators that could not completely fulfill their roles.

As a pilot project, with no specific model to follow, it is noteworthy just how much CCFI was able to accomplish. There are many inherent qualities in the design of CCFI that could be emulated, while its shortcomings should serve as lessons in designing future projects.



## Chapter VI

### Conclusion and Recommendations

#### Conclusion

Much of the assistance that Ghana has received to promote 'development' has been in the way of Structural Adjustment Programs. Although the Economic Recovery Program instituted in Ghana in 1983 based on International Monetary Fund and World Bank recommendations, the neo-liberal model for development, has yielded some economic growth at the national level, it has done little to improve the quality of life for the majority of Ghanaians. Such programs seek to facilitate modernization and economic growth, which many consider to be synonymous with development. While government efficiency may be increased and trade liberalization may attract foreign investors, rural people find it increasingly difficult to obtain basic services or practice sustainable farming techniques. Therefore, to promote development in rural areas and to increase the quality of life of rural people, development projects should seek the participation of those that are to benefit rather than assuming that changes made at the national level or research conducted by experts will automatically bring benefits to rural communities.

The CCFI project is an example of one such project that sought to facilitate rural development through the participation of rural communities. Of the developmental models discussed in Chapter II, this project may be seen to be most closely related to that of the neo-populist approach. However, it is not fully neo-populist and does have some elements of the 'classic' or, technocentric, and systems models of development.

Although the project objectives were somewhat vague in the beginning, they were neo-populist and systems oriented in that they were to address environmental degradation and rural poverty through the participation of local people. Likewise, the technology, planting trees on farms and in communities, was appropriate and met the needs of the people. The woody species planted would maintain or increase soil fertility while decreasing erosion and supplying building materials and fuelwood, thereby decreasing the need for expenditures on fertilizer, fuel and building poles. The fruit trees would increase farmer income through the sale of harvested fruit.

One of the biggest strengths of the CCFI project has been its ability to adapt to meet changing situations and needs. Throughout the life of the project, the organizational structure of the nursery has continued to evolve, experimenting with ways in which to most efficiently produce seedlings. Also, as it became apparent that the original method of outplanting was not sufficiently meeting project objectives, formal farming groups were created. Not only was this more effective in the tree planting aspect of the project, but it also greatly improved the benefits to the local people as they were able to acquire inputs on credit and receive instruction on improved farming methods.

Incentives to induce participation and education in ways to modify current practices are both advocated by the systems approach (Beets, 1990, p. 63-69). Food aid as an incentive was not seen to increase participation, in the sense that it motivated participants to seriously engage in tree planting activities or modify agricultural techniques. It did, however, serve to induce some to participate purely for the free food. Inputs of credit, on the other hand, did induce farmers to undertake activities that they may not have otherwise. Many of the farmers I spoke with, formally and informally,

acknowledged that while they did like the food aid, they would have joined the project without it; receiving inputs (tree seedlings, fertilizer, and improved seed) on credit was an important factor in their decision to participate.

The addition of the Ministry of Food and Agriculture (MOFA) to the CCFI project was also a significant adaptation. There was a demonstrated lack of extension/educational activities directed toward the intended beneficiaries within CCFI. MOFA, through its Agricultural Extension Agents (AEAs), was thought to be able to improve upon. Although farmer education/outreach never quite reached levels desired by the project, the participation of MOFA did increase these efforts. Perhaps this would have been more effective had MOFA be a part of the project from the beginning. They were not involved at all in project design and it took some time before they were fully integrated into the project. It was not until late in the project that MOFA achieved a clear understanding of CCFI as a whole and their role within project (Djarbeng, personal communication).

The design of the project, for the most part, was also good. Rather than seeking to alter macroeconomic policy like the neo-liberal model or promoting unsustainable reliance on mechanization and costly fertilizers like the technocratic approach often suggests, the CCFI project sought to promote rural development through the participation of the intended beneficiaries. Although the ways in which CCFI originally sought to meet its objectives, decreasing environmental degradation and improving the condition of rural people, were not well defined, the project did identify relevant problems. Even though the original implementation strategy proved inadequate, this evolved with time. Formation of farming groups, issuing inputs on credit, and modification of existing

agricultural practices through extension/outreach activities enabled CCFI to better meet its objectives. The agroforestry systems advocated by the project were appropriate in that they were easily adopted by the small-scale farmers that the project was designed to benefit. Although many of these farmers had not traditionally planted trees, they were already familiar with some uses of trees (fuelwood, building poles, fruit). Through outreach activities, farmers also came to be aware of other benefits of trees (maintaining soil fertility, decreasing erosion). This modification of traditional systems is advocated by Beets (1990, p.68-69). The systems approach recognizes the need to increase productivity, however, this should be an evolutionary process with traditional techniques being the starting point. Although CCFI farmers also receive external inputs (fertilizers), the amounts are modest. This is also recognized by the systems approach; external inputs are required for development, but they should not be relied on in an unsustainable way (Beets, 1990, p. 70-72).

The mechanisms to record and review the progress of CCFI, submitting monthly reports and periodic meetings, that evolved throughout the implementation of the project were not as effective as they may have been. Early on, there were no records kept as to what was planted on what amount of land. This made it difficult to assess the effectiveness of the outplanting activities. MOFA AEAs did improve the monitoring and reporting of field activities, however, constraints within that agency, discussed in Chapter V, decreased the accuracy of such field reports. Early Annual Review Workshops produced meaningful discussions and policy changes based on these discussions were often forthcoming, however, this decreased over time (Burwell *et al*, 1992). Decreased effectiveness of these otherwise well designed structures may have resulted from

commitment and understanding on behalf of some of the collaborators that was less than what was necessary.

In many respects the design of the CCFI project may be seen to facilitate effective rural development. Appropriate technology was promoted to meet local needs with the participation of local communities as advocated by the neo-populist and systems approaches. Although community participation was essential in project implementation, it was non-existent in the design phase of the project; the technology was introduced by outside experts as in the classic paradigm. The CCFI project did make significant impacts in project communities (planting trees, improving farming systems), however, effectiveness may have been enhanced had the local communities been involved from the earliest stages, thereby increasing empowerment and commitment (Stiles, 1998; Uphoff, 1991, p. 488-491).

The communal aspect of the CCFI project, though well intentioned, did not fit well in many project communities and may have decreased the likelihood of nursery sustainability. Although broad based community participation has been encouraged as a means of promoting effective development (Kanshahu, 2000), this fails to recognize that communities are made up of diverse individuals and groups having different values and priorities (Leach *et al*, 1999; Blaikie, 1998). Local elites within a community may attempt to influence or manipulate a development project in order to bring disproportionate benefits to themselves at the expense of the rest of the community (Leach *et al*, 1999; Esman and Uphoff, 1984, p.277). Although this was observed in CCFI, it does not appear that it was wide spread. It was more often reported that many within project communities were not committed to the development and sustainability of

the CCFI nursery because there was little feeling of ownership. Although many communities in Ghana are familiar with some communal activities (e.g. communal workdays in the village), community wide ownership of a commercial venture is not often to be found. The systems model would suggest that communal ownership in this situation would be too great of a change in traditional behavior to be adopted by local communities (Beets, 1990, p. 67-77).

### Recommendations

As the CCFI project is coming to a close (outside support is scheduled to be withdrawn from all nurseries by December 2001), the recommendations that follow will be made for similar such projects. The recommendations are based upon the experience of two and a half years spent living in rural Ghana and working with the CCFI project, the review of CCFI reports, and interviews. Therefore, at best, one can only partially generalize these recommendations to other projects in other parts of the world.

Regardless of the location of the community and its history, there will be a hierarchy in which different community members have different status and values, again requiring one to alter these recommendations to fit the local setting.

*There should not be communal ownership of the nurseries.*

Although communities are often treated as homogenous in development projects, this fails to recognize that there are in fact any number of elements within a community based on age, wealth, status, gender, ethnicity, and other factors. The values and resource priorities of community members are diverse and sometimes conflicting (Leach *et al*,

1999). Therefore it is not reasonable to assume that those within a project community assigned the task of managing a project will manage in the best interest of the community at large or even as the project was intended. It may be more likely that local elites, those least in need of 'development,' will maneuver the project to serve their own purposes (Blaikie, 1998).

In a project such as CCFI, it is unlikely that the nursery workers will have any great sense of commitment in establishing the nursery as a money making enterprise if they do not feel that it is for them or that the community committee or village elders may come to eat with them when they haven't helped to prepare the meal. Although it may be more time consuming in the early stages of a project, it would be time well spent to search out interested and motivated individuals or groups within the community and work with them. Measures could be instituted to ensure sure that the community as a whole benefits, in addition to those of trees being planted and knowledge gained through the project, at least as long as there is outside support.

*There should be cautious reliance on government agencies.*

This is not to say that such agencies should be excluded from the project or even that they might not play a significant role. However, adequate consideration needs to be given to whether or not a particular agency will be able to fulfill its commitments to the project. Governments of the South are often underequipped to provide adequate support to this type of project (Esman and Uphoff, 1984, p. 266). However, project participants should be aware of local agencies and extension agents as a potentially useful resource. If the field officers of a local government agency are able to provide useful input, project

participants should be encouraged to seek their assistance. However, should field staff be underequipped or lack the appropriate technical knowledge to advance the objectives of the project, project effectiveness will not be threatened.

*Forming and working with appropriate groups is essential.*

As was learned in CCFI, organizing the intended beneficiaries of a project into groups facilitates the dissemination of information as well as furthering project goals. Implementation of the project was greatly improved when CCFI began to work with organized groups rather than distributing tree seedlings in a “haphazard” manner as was originally the case. Working with local groups to design and implement rural development projects is also advocated by Cernea (1991, Chpt 10) and Esman and Uphoff (1984, 16-31). These authors also note, however, that groups are more effective when they have been created from within the community rather than by some outside agent. If groups are to be formed as part of a project, consideration should be given to who becomes a member to ensure that those intended to benefit actually do (Cernea, 1991, Chpt 10; Leach *et al*, 1999). It must be recognized that within communities, no matter how small, there are a variety of interests represented by different individuals. When entering a potential project community, development agents should spend adequate time in identifying which community members should participate in the project. Although this may be time consuming, it is worthwhile to expend the extra effort to identify and seek the participation of those most motivated to participate in a development project and those that may benefit the most from such efforts (Uphoff, 1991, 488-491).



*Food aid should not be used to encourage participation.*

In some projects food aid may serve as an incentive to achieve project goals. For example, if the goal is to aforest a particular area, food may serve as compensation for participants' time and labor spent planting trees. However, this was not the primary aim of CCFI. Although the objectives of CCFI were in part environmental, they were also to improve the livelihoods of rural farmers through planting trees and modifying farming methods. Although the recipients no doubt enjoyed receiving the food aid, it does not appear that food aid significantly induced farmers to seriously apply the farming techniques advocated as part of this project. On the other hand, food aid did encourage at least some to join the project that had little intention of participating, thereby generating debt for themselves while their seedlings wither and die in polybags.

*Annual review workshops and quarterly meetings should be included.*

Such meetings offer the opportunity for project participants to come together and discuss the progress of the project, communicate changes made by the project administrators, and identify issues that may lessen the effectiveness of the project. These discussions can enable the project to evolve to meet changing circumstances and increase project success. However, it is important that changes agreed upon be implemented in a timely, fashion otherwise commitment to the project on behalf of the participants may decrease. Likewise, if changes cannot be implemented due to constraints such as the contract with the donor agency, commitment may decrease if the reasons why such changes cannot be implemented are not clearly communicated to participants.

*The intended beneficiaries should be included in the project design and implementation.*

Indigenous farmers have shown a thorough knowledge and understanding of their local environments that is anything but backwards (Appiah-Opoku, 1999). Outside experts and extension agents should therefore work with local people to identify and generate the appropriate technology to meet the needs for a given situation (Lado, 1998; Kanshahu, 2000). The likelihood that the project will succeed and be sustainable is increased through community participation in design and implementation not only because the needs and technology are locally identified and developed, but also because the people may be more committed to the project because it is theirs.

*The bookkeeping promoted for the nursery should be appropriate for the community level.*

Although keeping written records of assets and financial transactions should be promoted as part of the educational aspect of a CCFI-like project, the implementing agency should ensure that the level of sophistication of such records is appropriate to the village context. Many rural farmers have limited formal education and keep no written records of their farming activities. Expecting community members to adopt formal accounting procedures may require too great of a leap in local knowledge and effectively inhibit project participants from keeping any written records. Training of project participants in record keeping skills should begin early in the project and the level of sophistication should not exceed that which is required to keep the nursery operational following the withdrawal of outside support. If more advanced techniques are required

during the implementation of the project, these responsibilities can be assumed by project field staff such as the PCV.

### *Summary*

With so many people involved in small-scale agriculture and widespread poverty in rural areas, development projects such as CCFI are the type that should be promoted in Ghana. The economic recovery program instituted, with its emphasis on macroeconomic policy reforms, appears to have done more harm than good. Likewise, projects designed from afar by outside experts with little knowledge of local conditions run the risk of failure because the technology devised may not be acceptable to the intended beneficiaries or the project itself may not address issues and priorities of the local people.

Despite its shortcomings, the CCFI project was successful in many ways. Trees planted as part of CCFI have helped to offset fuelwood shortages, maintain soil fertility, and decrease erosion. Farmers have been able to increase their incomes as well as improve their agricultural methods. Even some of the weaknesses of the CCFI project may yet prove useful if they serve as lessons to others considering similar projects.

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APPENDIX 1  
INFORMANTS

## INFORMANTS

Amuah- Domiabra CCFI worker, farmer. Interviewed on October 10, 1999.

Asuku- Domiabra CCFI worker, farmer. Interviewed on October 10, 1999.

Ayitey, Daniel- Domiabra CCFI Foreman and Committee member, farmer. Interviewed formally on October 10, 1999 and September 17, 2000; informally throughout 1999 and 2000.

Brown, Adam- PCV manager, Tempene, Upper East Region. Interviewed on March 30, 2000.

Burns, Chris- PCV manager, Tongo, Upper East Region. Interviewed on August 21, 2000.

C. K.- Domiabra farmer. Interviewed on November 11, 2000.

Cofie, Peter- Domiabra CCFI Extensionist and Committee member. Interviewed formally on October 10, 1999 and October 27, 2000; informally over dinner almost daily throughout 1999 and 2000.

Dalton, Meredith- PCV manager, Papaase #2, Central Region. Interviewed on June 6, 2000.

Djarbeng, Vincent- Agro-forestry Officer, ADRA/Ghana. Interviewed on March 3, 2000 and May 16, 2000

Freitas, Amy- PCV manager, Paga, Upper East Region. Interviewed on April 7, 2000.

Meyers, Dusty- PCV manager, Zebilla, Upper East Region. Interviewed on August 23, 2000.

Okine, Jonas- Domiabra CCFI Committee member, farmer. Interviewed on October 12, 2000.

Sey, Aba- Assistant Peace Corps Director/Environment. Interviewed on December 12, 2000.

Taylor, Mildred- Program Manager, ADRA/Ghana. Interviewed on June 3, 2000.

Zapotocky, Scott- PCV manager, Amedeka, Eastern Region. Interviewed on January 7, 2001.



APPENDIX 2

ACRONYMS

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AGDP	Agricultural Gross Domestic Product
ADRA	Adventist Development and Relief Agency
AEA	Agricultural Extension Agent
CCFI	Collaborative Community Forestry Initiative
ERP	Economic Recovery Program
FPO	Field Project Officer
GNP	Gross National Product
IMF	International Monetary Fund
LDC	Less Developed Country
MOFA	Ministry of Food and Agriculture
NGO	Non-governmental Organization
PAME	Participatory Assessment, Monitoring and Evaluation
PCV	Peace Corps Volunteer
PRA	Participatory Rural Appraisal
PST	Pre-Service Training
RRA	Rapid Rural Appraisal
SAP	Structural Adjustment Program
TO	Technical Officer
USAID	United States Agency for International Development