

**PROMOTING SUSTAINABLE AGRICULTURAL AND
ENVIRONMENTAL PRACTICES AMONG WOMEN OF THE
WA DISTRICT:
A CASE STUDY OF THE SUNTAA-NUNTAA'S PROJECT IN
THE UPPER WEST REGION.**

BY

CHRISTOPHER TAMPAN-NAAH



**THIS DISSERTATION IS SUBMITTED TO THE
UNIVERSITY OF GHANA, LEGON, IN PARTIAL
FULFILMENT OF THE REQUIREMENT FOR THE AWARD
OF MASTER OF ARTS DEGREE IN ADULT EDUCATION**

NOVEMBER 2003



I

DECLARATION


I declare that this dissertation is the result of my own research work conducted at the Institute of Adult Education, University of Ghana, Legon, under the Supervision of Mr. A. D. K. Amedzro.

References cited in this work have been duly acknowledged.



.....
CHRISTOPHER TAMPAN-NAAH
[CANDIDATE]

INTEGRI PROCEDAMUS



.....
MR. A. D. K. AMEDZRO
[SUPERVISOR]

II

DEDICATION

I dedicate this work to my wife and children.



III

ACKNOWLEDGEMENT

I would first and foremost use this opportunity to express my warmest appreciation to Mr. A. D. K. Amedzro of the Institute of Adult Education, University of Ghana, Legon, for the guidance given me in writing up this work.

I also acknowledge with gratitude the help offered me by the Director of Suntaa-Nuntaa, Mr. Robert Loggah and his Assistant, Mr. Jonas Kpierekoh and staff.

My special thanks also go to the Librarian of the Institute of Adult Education, University of Ghana, Legon, Mr. Newlove Osei-Asante and his Assistant, Mrs. Florence Agyemang for the encouragement they gave me when hope was running out. Not least, my thanks also go to Ms. Alice Dakorah (Department of Statistics –Wa), Miss Roberta Adombia, Ms Ajara Mamele Asani and Mr. Foster Kotoku of Wa Polytechnic for typing out this work and Miss Nancy Yelpoe for material support she gave me.

IV

ABSTRACT

This study explored how “Suntaa-Nuntaa” a local Non-Governmental Organisation (NGO) in the Upper West Region of Ghana was able to provide disadvantaged rural women with income-generating activities that took into account environmental practices. The main elements of the Suntaa-Nuntaa programmed laid emphasis on the organization, sensitization and education of women through women groups that it formed in Wa District of the Upper West Region.

The study was conducted in eighteen (18) of fifty-three (53) women groups established by Suntaa-Nuntaa in the Wa District, using simple random sampling. Again a simple random sampling procedure was used to pick 30% of individual respondents from each of the eighteen (18) groups giving a sample size of 107 individual respondents. Individual interview schedules and focus group discussions were employed to elicit responses from the respondents.

In general, the findings showed that Suntaa-Nuntaa was able to lead women of the Wa District to identify the factors which are responsible for degrading the environment, for example, bushfire, tree felling, and bad farming practices. Through its methods of education and sensitization, Suntaa-Nuntaa was able to

make beneficiaries of the programme appreciate the harmful effects of land degradation.

By using drama, workshops and field demonstration, Suntaa-Nuntaa was also able to equip beneficiaries with skills of tree planting, animal rearing, honey production and simple accounting procedures. Ultimately, Suntaa-Nuntaa was able to empower women and thus made them capable of freeing themselves from poverty, ignorance and suffering which significantly improve their living conditions.

V**MAP AND TABLES****CHAPTER I**

Figure	1.1	Map showing Study Area.....	4
--------	-----	-----------------------------	---

CHAPTER II

Table 3.1	Sample Frame.....	32
-----------	-------------------	----

CHAPTEIR II

Table 1	Age Distribution of Respondents.....	40
Table 2	Educational background of Respondents.....	41
Table 3	Preferences of teaching methods for individuals.....	50
Table 4	Concerns of Human Activities.....	56
Table 5	Effectiveness of Suntaa-Nuntaa's Programme.....	61

VI**TABLE OF CONTENT**

DECLARATION.....	I
DEDICATION.....	II
ACKNOWLEDGEMENT.....	III
ABSTRACT.....	IV
MAPS AND TABLES.....	V

CHAPTER I**Introduction**

1.1 Background of Study.....	1
1.2 Physical characteristics of the Upper West Region.....	3
1.3 Climate/Vegetation Characteristics.....	6
1.4.0 Socio-Economic Background.....	6
1.4.1 Population.....	6
1.4.2 Economic Activities.....	7
1.5 Causes of Environmental Degradation.....	8
1.6 Background of the Suntaa-Nuntaa Project.....	10
1.7 Project Goals of Suntaa-Nuntaa Project.....	10
1.8 Statement of Problem.....	11
1.9 Purpose of Study.....	13

1.10	Objective of Study.....	13
1.11	Research Questions.....	14

CHAPTER II

Literature Review

2.1	Women.....	15
2.2	Women in Sustainable Agriculture.....	17
2.3	Women Groups.....	21
2.4	Environmental Concerns.....	24
2.5	Non-formal Education.....	27
2.6	Non-Governmental Organizations (NGOs).....	29

CHAPTER III

Research Methodology

3.1	Research Design.....	32
3.2	Sample Frame.....	33
3.3	Target Group.....	33
3.4	Sampling Technique.....	33
3.5	Research Instruments.....	36
3.6	Field Work.....	36
3.7	Limitations of Study.....	38

3.8	Data Analysis.....	39
-----	--------------------	----

CHAPTER IV

Presentation and Analysis of Data

4.0	Introduction.....	40
4.1	Demographic characteristics.....	40
4.2	Educational background of respondents.....	42
4.3	Responses from focus group discussions.....	43
4.3.1	Reasons for joining Suntaa-Nuntaa groups.....	43
4.4	Methods of teaching and skill training.....	45
4.5	Provision of environmental education.....	52
4.6	Responses from the individual interviews.....	57
4.7	Change in habits and attitudes.....	60
4.8	Other activities provided by Suntaa-Nuntaa.....	64
4.8.1	Honey/Sheabutter/Dawadawa processing.....	65
4.8.2	Susu Scheme.....	66
4.8.3	Petty trading.....	66
4.9	Problems encountered and solutions sought.....	69
4.9.1	Draught.....	69
4.9.2	Bushfire.....	70
4.10	Analysis of Suntaa- Nuntaa Programmes.....	73
4.11	Area of Operation.....	73

4.11	Reasons for Focus on Women Groups.....	74
4.12	Teaching Methods of Suntaa – Nuntaa.....	74
4.13	Programme’s position on its benefits to participants.....	77
4.14	Programme’s challenges.....	78

CHAPTER V

5.0 Discussions, Summary, Conclusion and Recommendations

5.1	The processes of environmental degradation.....	79
5.2	Elements of the Suntaa-Nuntaa approach.....	80
5.3	How Suntaa-Nuntaa approach has worked in practice.....	83
5.4	Benefits of the Suntaa-Nuntaa project.....	85
5.5.0	Conclusion and recommendations.....	86
5.5.1	Conclusion.....	86
5.5.2	Recommendations.....	87
	Bibliography.....	89
	Appendix A: Focus interview guide.....	92
	Appendix B: Interview for individual women.....	93
	Appendix C: Interview for project staff.....	94

Chapter One

1.0 Introduction

1.1 Background of Study

It is generally believed that an increase in the level of knowledge and skills of women in less developed communities will result in an increase in their participation in economic, social and political life of the various communities to which they belong. In a published report by the World Bank it is stated "a country with larger gap in school enrolment will have low productivity than another with similar capital and labour resources but a small gender gap in schooling" (World Bank, 1993 P.1).

Dzodzi (2001) asserts that the existing gender hierarchies and gender discrimination affect men and women's livelihoods and status in society. During the past 15 years, according to the same writer, there has been the need to encourage women to increase their participation in income generating activities to improve their living conditions and the communities in which they live.

The traditional tasks associated with providing food for the family such as storage, preservation and preparation, fetching water and fuelwood combined

with child bearing and other household duties by and large remain women's responsibility (Non-Formal Education Exchange-NFEE, 1981).

The report also maintained that in a world that is becoming more and more reliant on money as a medium of exchange, women need access to income for personal sustenance. This is true in most rural societies today where women remain responsible for the education and socialisation of children.

Duncan (1997) presents agriculture as an area of great importance when it comes to female employment because significant numbers of women in the rural areas of Ghana are employed there. However, women face a lot of problems in areas of land ownership, access to credit and extension services. As an area of employment, agriculture can be seen as an income generating activity which, if developed could serve as a source of economic empowerment alleviating poverty among the vast majority of women in Ghana. Governments all over the world are increasingly finding it difficult to find lasting solutions to the world's problems (Katsriku and Quaye 1996). This situation, they observed, is worse in Africa and other developing countries which are grappling with issues of globalization. Non-Governmental Organizations (NGOs) are a response to

situations seeking to lead local people to take initiatives that can better their lives in the face of complex challenges.

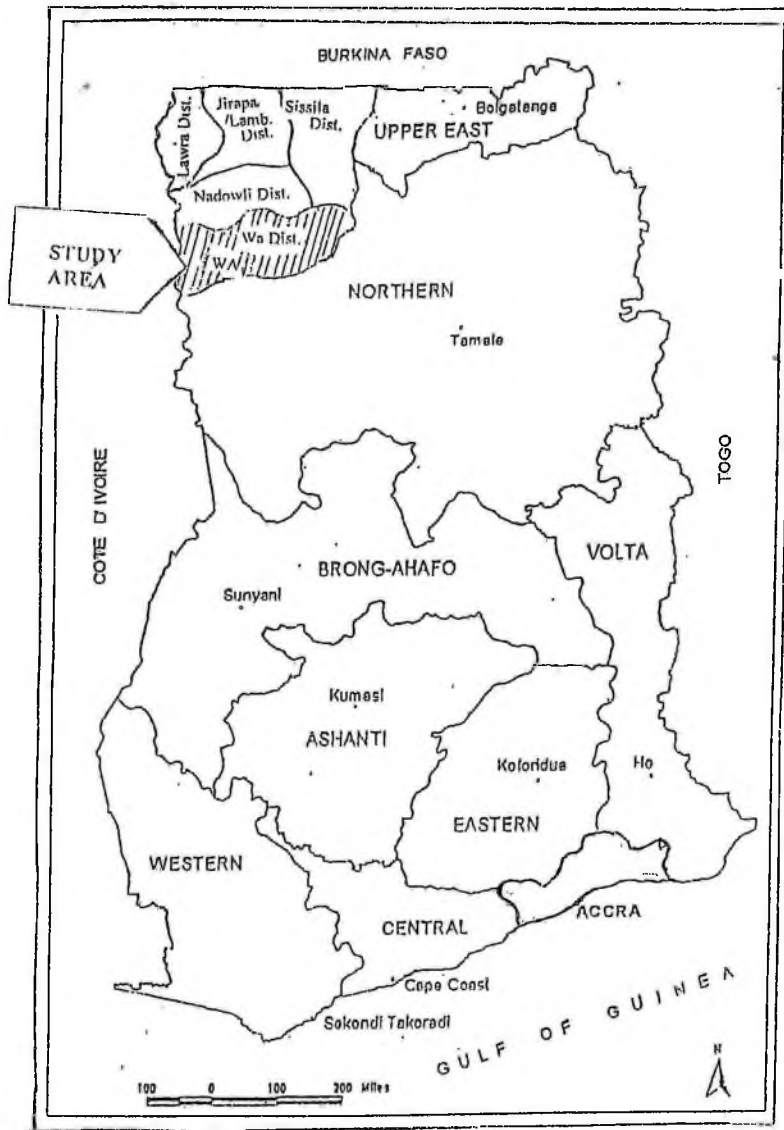
In Ghana, over the past 20 years, the state machinery has been so over-stretched that it has become increasingly difficult to solve all problems of government and civil societies at the same time. NGOs have intervened to help manage some of the problems of civil society. A report on the status of women in Ghana (1985-1994) holds that it was not until the UN Decade for Women that the attention of NGOs and other donor agencies were drawn to issues of gender and development in less developed countries. After 1995, NGOs became more involved in strengthening food and other forms of family survival. The activity of such NGOs with women related activities has concentrated on income generation, functional literacy, numeracy skills and family planning (NCWD 1995).

1.2 Physical characteristics of the Upper-West Region.

The Upper-West Region (UWR) created in 1983, is the youngest of the 10 administrative regions of the Republic of Ghana. According to the living standards indicators of the Ghana Living Standards Survey - GLSS of 1999, the Upper- West Region of Ghana is the least developed among the regions. Wa is the capital town of the Upper- West Region. The UWR is bounded in the north

by Burkina Faso, to the east and south by The Upper-East and Northern Regions respectively as indicated in the Map below (Fig.1.0). It has 5 administrative districts namely, the Wa District, Nadowli District, Jirapa/Lambusie District, Lawra District and the Sissala District. (See Map on page 5).

FIG 1.1
MAP SHOWING STUDY AREA



The Wa District which is the study area is bounded in the north and west by the Nadowli and Sissala districts, to the south by the Northern Region of Ghana and to the west by the Republic of Burkina Faso as shown in Figure 1.1.

1.3 Climate/Vegetation Characteristics

Lying completely within the Guinea Savannah, the area experiences high daily temperatures averaging 28°C. Rainfall is low and erratic and comes in four months of the year from May to September, followed by a prolonged dry season from October to April. The vegetation is a typical Guinea Savannah vegetation characterised by grass and scattered trees of the fire resistant type (Nabila, 1990).

1.4.0 Socio-Economic Background:

1.4.1 Population: The people of the Wa District are Walas and Dagaabas. The Walas who are in the minority live in Wa and its environs. The Dagaabas on the other hand, are in the majority and occupy the rest of the District. There is however, no settlement with a pure Wala or Dagaaba stock. Owing to migration and economic activities in the district over the years, there has been a lot of inter-marriages. Currently, the population of the Wa District stands at 244,454 (Ghana Statistical Service, 2000).

1.4.2 Economic Activities:

The people of the Wa District are predominantly farmers. Farming activities of this area are greatly influenced by the climate of the area. Temperatures are generally high and rainfall is low and poorly distributed among the rainy months of the year. UNEP (1999) puts the total number of farmers at 90% of the total population of the Wa District, with the rest engaged in commercial and administrative activities.

Agriculture is carried out mainly at the subsistence level. The often erratic rainfall and dwindling vegetation cover have resulted in low domestic incomes. The farm family is the primary unit of production and provides the main agricultural work force (Nabila, 1990). The head of family and family members constitute a decision-making body on what to grow and what technology to adopt. Closely related to this is the division of labour by gender with some roles associated with women such as processing of farm produce, selection of seed for sowing, harvesting and winnowing. The men on the other hand, loosen the soils for sowing and weeding.

The farming activities in the Wa District have been influenced by climate, soils and family size. Cropping is done by inter-planting of cereals with legumes and

a rotational bush fallow and mixed cropping involving crops and livestock. The bush fallow system involves the cropping of a piece of land and leaving it fallow when the fertility runs down, and allowing it to regain its fertility. With time, the farmer goes back to this piece of land when the fertility is restored. This system of farming was popular with the people of the Wa District when the population was small. However, it still remains a practice for remote areas (Nabila, 1990).

The shortened fallow period from 8 years to 2 years means that, less land is now available and also that, extensive areas of land have been destroyed. This has consequently led to extensive land deterioration and has also resulted in decreasing food production (UNEP, 1991). As virgin land is rapidly being converted into farmland and abandoned, the fertility recovery rate is low and yields have tended to decrease with time.

1.5 Causes of Environmental Degradation:

Pritchard (1979) observes areas lying on the desert margins as having reached a final state of deterioration. This, he blamed on repeated cycles of drought and rapidly growing population indulging in deforestation, over cultivation and overgrazing.

In the Wa District of the UWR of Ghana, intensive methods of farming to meet household needs have resulted in harming the environment on which human,

plant and animal life depend. Socio-cultural practices that have resulted in land degradation include indiscriminate bush burning where large tracts of bush are set on fire.

In the dry season, hunters often set the bushes on fire in order to drive game in desirable directions. Similarly, during the process of slash and burn on farmlands, nearby vegetation is also engulfed in fire that eventually spreads out. The felling of trees for wood fuel for domestic use and the practice of charcoal burning also contribute a lot to the destruction of the forest trees in the Wa District. Other causes of land degradation in the Wa District of the UWR include over-grazing by livestock, which is further worsened by lack of proper management practices.

The poor farming systems and other socio-cultural practices have resulted in low crop yields and this has reflected in malnutrition especially among children in the Wa District. A survey by UNICEF in 1995, showed that the high incidence and chronic nature of child malnutrition in the Upper West Region, of which the Wa District forms a part, shows a structural situation of food insecurity. In addition to the reduced yields is the drying up of water bodies, for example, rivers and ponds, which most of the people in the district depend on, for water for domestic and other uses.

1.6 Background of the Suntaa-Nuntaa Project:

A local Non-governmental organisation by name "Suntaa-Nuntaa" meaning, "help one another, love one another" with environmental concerns was established in 1990. As a commitment, Suntaa-Nuntaa encourages cooperation and also empowers the poor of the rural areas, especially women.

Suntaa-Nuntaa places emphasis on the involvement of women in agro-forestry and income generating activities. One of such programmes is the "Women Mean Business Project" in the Upper West Region. The project aims at promoting food security and environmental awareness among the rural women groups with the purpose of raising the living standards of participating communities through the provision of technical and financial assistance.

1.7 Project goals of Suntaa-Nuntaa

The project goals of the Suntaa-Nuntaa are to increase long-term food security in the five districts of the Upper West Region through enhanced environmental practices. The main issues considered here are the low agricultural production and food insecurity. Suntaa-Nuntaa tackles the poor farming methods and

practices responsible for degrading the environment and causing soil erosion as they affect food production (Suntaa-Nuntaa 1990).

Suntaa-Nuntaa seeks to introduce women to sustainable agricultural methods and create environmental awareness among the women groups. Suntaa-Nuntaa provides environmental education to selected rural communities in the five districts of the UWR and promotes agro-forestry and sustainable agriculture. The provision of training and technical assistance to expand and improve agro-forestry activities is high on their agenda. (Suntaa-Nuntaa, 1990).

Suntaa-Nuntaa stimulates women groups to plant fruit and multi-purpose trees individually and/or collectively on group and individual farm plots. (Suntaa-Nuntaa, 1990).

Suntaa-Nuntaa embarks on tree nurseries and tree planting on plots. Through training and education, the groups are enabled to run their own nurseries. Women are made to understand the need to embark on tree planting and the benefits derived from this.

1.8 Statement of Problem:

Until the early 1970s, development policies and programmes frequently overlooked the role of women in the developmental processes in developing countries. This led to the Declaration of the United Nations Decade for Women

from 1975-85 (NCWD,1995). In Ghana, the recognition of women's participation in the development of their own communities to help improve their living conditions has been given attention. This has led to the formation of numerous women's groups whose activities have been specifically geared towards the active involvement of women in community development, by providing them with the required knowledge and skills.

In the Wa District of the UWR of Ghana, for instance, the rate of environmental degradation as a result of negative socio-economic practices such as overgrazing, bush burning, monocropping, have raised serious environmental concerns within both governmental and non-governmental circles. The destruction of the environment has reduced crop yields and rendered farmlands unproductive. Land degradation activities have also destroyed ecosystems and as a result, water sources are drying up. All these have led to cases of malnutrition especially in children and also situations of inadequate and often diseased water supply sources for domestic and other uses. Wood for building and for use as fuel is becoming very scarce so much so that women have to travel long distance for fuelwood.

A project that is committed to increasing household food security with environmental concerns is the "Suntaa-Nuntaa agro-forestry project".

Established in 1990. It is an indigenous NGO with its head office at Wa, the capital of the UWR of Ghana.

Among its stated aims and objectives, Suntaa-Nuntaa hopes to improve the living conditions of women in the Wa District. Through non-formal education in areas of agriculture, agro-forestry and environmental awareness, Suntaa-Nuntaa is determined to provide the necessary knowledge and skills to make women more productive and functional in their communities. The question then is, how has Suntaa-Nuntaa helped rural women in its catchment area to improve their living conditions and communities in which they live, through sustainable agriculture and environmental education?

1.9 Purpose of Study:

The objective of the study was to find out how the Suntaa-Nuntaa programme has helped to influence the environmental and agricultural practices of the beneficiary communities in the Upper West Region of Ghana.

1.10 Objective of Study:

The main objective of the study is to find out how the Suntaa-Nuntaa programme has helped to influence the environmental and agricultural practices of the beneficiary communities in the Wa District of the UWR of Ghana.

1.11 Research Questions:

- (i) What are the elements of the Suntaa-Nuntaa Project?
- (ii) How has the approach worked in practice?
- (iii) How has the approach influenced the environmental and agricultural practices of the beneficiary communities and individuals

Chapter Two

2.0 Literature Review

This Chapter reviews literature on the role women play in agriculture in rural areas; particularly women groups in agricultural activities. There is the need to increase household food security through sustainable agriculture, and it would take into account the importance of the environment and the need to conserve it. Another area is Non-formal Education, which has the power of awareness creation in matters of agricultural and environmental issues. Non-Governmental Organisations have also been considered since they create a vehicle through which desirable development is achieved.

2.1 Women

One of the first commissions set up by the United Nations according to Boutros Ghali one time United Nation's Secretary General, was on the Status of Women (NCWD 1998). He observed that over the past 20 years, World Conferences on Women, held in Mexico City, Copenhagen and Nairobi have to a large measure strengthened the economic, social and political dimensions of the role of women. In 1979, the General Assembly of the UN adopted the Landmark Convention for the Elimination of all Forms of Discrimination Against Women

(CEDAW). The Secretary General of the United Nations noted that despite all the efforts made in women's advancement they are still given second priority everywhere. He is also of the view that women do not share equally in the fruits of labour and face discrimination in one form or the other (NCWD 1998). After 1985 NGOs became more involved in the strengthening of women's financial status to promote greater economic security by way of guaranteeing food and other forms of family survival. The activities of such NGOs have concentrated on income-generating activities, functional literacy numeracy skills and family planning in less developed countries (NCWD 1995).

The United Nations General Assembly Resolution FXXXX 1974 has been very beneficial to Ghanaian women because it emphasized women's participation in development and the need to integrate them fully into the process of development especially those in rural areas. It was on the strength of this that the National Council on Women and Development (NCWD), the national machinery charged with the advancement of women in Ghana in 1974 was established (NCWD 1998).

The National Council on Women and Development (1998) reports that women are poor because they have less economic opportunities and less autonomy than

their male counterparts in society. Their access to economic resources, education and training, support services and participation in decision-making process is limited. Social roles and reducing social services for women have worsened their situation, and calls for concerted efforts at improving their living conditions.

Piepmier (1980) points out that women groups can play an important role in reaching out to help women to become a part of the social and economic life of their communities. Women groups are an effective means for women to gain access to resources and become active participants in social and economic development. Indeed, women groups provide an organisational basis for women's economic ventures.

2.2 Women in Sustainable agriculture

Agriculture contributes the highest proportion to the Gross Domestic Product (GDP) of Ghana and employs 51 percent of the economically active population as farmers or farm labourers (Guri 1997). Women constitute 51.0% of the agricultural labour force and produce 70% of the national food crops output (Dzodzi 2001). Agriculture is essential to life; for some, agriculture is seen as a way of life and yet for others it is seen as a profession or a science, but for all it

is a source of sustenance (Non-Formal Education Exchange – NFEE 1983). Again agriculture is seen as an activity that relies on both the physical environment and the human culture (NFEE 1983).

The relationship between agriculture and the physical environment is a complex one that presents a big challenge in education for development. To be able to serve as increasing food security, agriculture has to adapt to a number of diverse social and physical factors.

Agriculture is the use of human effort to acquire the products of plants and animals (NFE Exchange 1983). A definition like this includes not only activities such as hunting, fishing, gathering and forestry, but also food production and food storage, marketing, transportation, financing and technology. On the other hand, agricultural population is seen, as comprising both the owners of agricultural land and those who simply work it, either seasonally or for subsistence (NFE Exchange 1983). In Ghana, small-scale farmers most of whom are women produce the bulk of the food crops but government policy in the agricultural field has not been favourable towards them. This has resulted in a decline in food production (Dzodzi 2001). Iddi (1996) reports that low production-productivity is due partly to the weather, inadequacies of traditional

farming practices and the ineffectiveness of the extension services in dealing with the small-scale farmers.

He also observes that after a prolonged decline in agricultural productivity there has been a shift in policy in favour of allowing donor-sponsored project intervention in Northern Ghana. This effort was to reactivate agricultural programmes through agricultural information and advice to farmers under the Medium Term Agricultural Development Programme (MTADP) adopted in the 1980s aimed at achieving sustainable food production to meet the food security needs by the year 2020 and beyond.

In Guri's (1996 p31) view,

to arrest declining food production and ecological degradation, and the consequent rural poverty and food insecurity, Ghana must come out with a new policy mix that focuses as much attention on long term sustainability as on short term output.

Sustainable agricultural production in the country requires an approach that focuses much attention on people as they do on technologies. Again, according to Guri (1996,p31).

MTADP should involve all stakeholders in

planning and implementing its various interventions.

Programmes should be "farmer sensitive" and based on farmers' knowledge and practices. Farmers' concern should be included in research programmes, credit schemes, extension packages and integrated agricultural development programmes.

A steady increase in agricultural population is resulting in greater number of people undertaking subsistence farming. Naylor (1999) asserts that historically in Africa men and women worked side by side in agriculture but gradually there is a changing pattern, which he attributes largely to male migration, commercial agriculture and cash cropping. He also observes that in northern Ghana, men have shifted to cash crop production in areas of cotton and cashew while others have migrated to work on farms in southern Ghana. He argues that this has brought about an increasing likelihood of women taking on more of subsistence production in addition to their traditional roles. A way in which subsistence agriculture can be improved in Ghana and in most developing countries is through the introduction of new agricultural technologies and innovations in farm practices as a precondition for sustained improvements in levels of output and productivity (Konrad Adenauer Foundation 1995). Women's participation in

sustainable agriculture can be improved through the provision of knowledge and skills and the introduction of new technologies that are labour saving. Labour saving methods could enable women to participate more fully in the labour market and take advantage of opportunities offered in income earning capacity (Non Formal Education Exchange 1981). It is, however, cautioned that such new technologies could create problems of their own. For example, technology requiring a capital outlay gives men rather than women the chance to adopt them because the men have the monetary resources to purchase it (NFEE, 1981).

Sustainable agriculture is one important area that Suntaa-Nuntaa's project is embarking on since the project has identified problems of food security in the Upper West Region of Ghana. The long-term goal of the project is to eradicate cases of malnutrition through increased food production, using women of the rural areas who are interested in agriculture, to do so and at the same time, acquiring management techniques of accounting.

2.3 Women groups

Non-Formal Education Exchange (1981) sees women groups as effective means for women to gain access to resources and become active participants in social and economic development. Women groups irrespective of whether they are

formal, informal, local, regional or national can provide the organisational basis for women's economic ventures. For instance if an individual woman's resources are too limited to start a project, she could team up with others to obtain credit and technical support. All over the world women have successfully established co-operatives and carried on a wide range of income-generating activities and have carried them through better as a group (NFE Exchange 1981).

It is argued in some circles that the formation of exclusive women's groups and government agencies for women may hinder rather than help identify women as a separate part of society marginal to the process of development (NFE Exchange 1981). When women participate in groups it is a good way of entering into the public area either in political parties or labour groups. This gives them a place in the mainstream of national economic activity. Piepmier (1980) for instance points out that women's groups can play an important role in reaching out to help women to actually become a part of the social and economic life of their communities. Women's groups will require among other things the fostering of greater political commitment to such groups, finding effective means to assist them and examining the donor agencies important policies and practices (Stand 1980) views active political participation of

women at all levels as crucial for reaping the benefits of a process of development since this increases the empowerment of women better.

An area in which women's groups made some successes was in an Inter-Country Project for the Promotion of Training of Rural Women in Income Raising Group Activities undertaken by the Economic and Social Commission for Asia and the Pacific (ESCAP) and the Food and Agriculture Organisation of the United Nations (FAO) in some countries. These Organisations helped governments to locate successful income generating group project and enabled the rural women to share knowledge and skills with one another (ESCAP 1977). In Ghana, the National Council on Women and Development has taken this up (Cole 1977).

Suntaa-Nuntaa's project recognises women's organisations and groups as effective channels through which women can share more fully in development, decision making and the benefits that may result. Indeed, Suntaa-Nuntaa's project works through women groups that it has formed throughout the Upper West Region of Ghana and it was mainly for their welfare and that of their communities, it was established in the region.

2.4 Environmental concerns:

Environmental issues have engaged governments the world over. In the past 15 years environmental issues have attracted attention of the central government of Ghana. In 1988 the Government of Ghana initiated efforts to put environmental issues high on its agenda. The Government of Ghana noted that the basis of sustainable development lay in the fact that the environment and development were not exclusive of each another but complementary and inter-dependent (Laing 1994). It is also worth noting that attention has also been drawn to the fact that land resources and the processes of their development and use have varying effects on the environment. As a result, the issue of land management has been recognised as the central point in addressing environmental and resource problems in Ghana. Furthermore in the face of a rapid population growth, the management of land and forestry becomes crucial in national development. Land resource-use has led to instances of land-use conflict and consequent degradation in many areas of Ghana. (Laing 1994).

Records have it that, of the two million hectares of closed forest in Ghana only 0.4 million lies outside Forest Reserves and are therefore not legally protected. The Government of Ghana has made considerable efforts at protecting the forest against bad land-use practices particularly agriculture that destroys the forest.

Logging and bush fires have also been identified as activities that have their toll on the forest. Again, the extraction of wood fuel for domestic and industrial use has had its undesirable consequences too. In response to this rate of environmental degradation the government has constituted the National Environmental Action Plan (NEAP) involving participants from government agencies, University/Research institutions, NGOs, the private sectors and the general public represented by the District Assemblies (Laing 1994).

In order to encourage women to go into agriculture it is advisable to do so with environmental concerns so as not to further destroy the environment. For example in Montealegre in Honduras women have become involved in a reforestation project entitled "Integrated Watershed Management". This is being conducted by the Honduras Corporation of Forestry Development, with technical assistance from Food and Agriculture Organisation of the United Nations (FAO) and financed by the United Nations Development Programme (UNDP 1980). Even though it was not initially built for women, reports have indicated clearly that, their participation was crucial to its success. With financial assistance a group of women from Montealegre were able to initiate income generation projects. First they chose to grow fruit trees, vegetables and grains for family consumption and marketing. Some also wanted to maintain a

forest to ease their obtaining of firewood. As a result they became involved in the Watershed Management Project with consultation from an agroforestry technician. With advice provided these women were able to construct terraces on the steep slopes because this was the only land they could gain access to. The terracing helped conserve the soil, ensured its continued use for crop cultivation and agroforestry. With time, their male counterparts joined on seeing the success the women were making. It was observed that the success of the project was attributed, in part, to the participatory nature. It also encouraged self-reliance, greater independence in food production, more control over land and local resources and the use of appropriate technology. The terracing and re-forestation helped to check erosion and the destruction of forests and in a way was beneficial to owners of banana plantations in the valley by preventing floods from damaging them. (Ideas and Action 1980 cited in NFE. Exchange 1981).

The environment is an important area of consideration of the Suntaa-Nuntaa Project in the Upper West Region of Ghana. Suntaa-Nuntaa recognises the relationship between humans and their environment, therefore it has a commitment of appropriate technology usage and wise use of natural resources and local participation.

2.5 Non-formal education:

Non-formal education can provide a greater commitment to women's education and training on the part of national governments and this can enhance increased productivity (NEF Exchange 1982). In the past women's education received little attention from planners and policy makers but it is now recognised that women's education is beneficial to families and societies. Education increases women's income - earning capacity and enables them to participate on equal footing with men in the labour market. Again formal education is regarded as a powerful way for women to gain status in society and increase their productivity.

Duncan (1997) also points out that the use of functional education, which is education in relation to an activity, can be of great importance to women in agriculture. This is so since it serves as a catalyst for greater appreciation of new farming methods and techniques. She sees this, as being relevant when the method of instruction is narrowly tailored to meet the specific needs of women farmers.

Citing Simkins (1977) and Evans (1981) Amedzro (2000) see non-formal education as a major tool in the development process. It is an out of school education. Such education is directed to specific groups and the marginalised in society including women. The purpose of such non-formal educational activities is to help develop skills and behaviour so that the beneficiaries can make meaning in their lives. Coombs (1985) links non-formal education with specific developmental objectives and local needs in areas such as agriculture, water supply, health, family planning, rural industry including occupational training for women and out-of-school youth.

The Non-Formal Education Exchange (1983) makes mention of the importance of subsistence farming for many rural populations and points to non-formal education as particularly helpful in emphasizing the production of basic food crops in household management. Amedzro (2000) in describing non-formal education as a major tool for development sees non-formal education as a major tool for national development because of its power in equipping rural folks as well as urban dwellers with limited or no educational background with the ability to improve their economic and social conditions and those of their communities.

To the author it is possible to use Non-formal education techniques such as drama, films and video tape to present situations more convincingly to get people involved in the development process. Indeed it has the power to mobilise rural folk, build their confidence and encourage participation. In short, non-formal education has the power of changing people's attitudes thereby improving their skills to participate in the developmental process. This, to Ferire (1970) creates a need to engage the illiterate adults in a process of "conscientisation" in order to change their pessimistic and fatalistic perspectives on reality and giving them the opportunity to acquire a "critical" vision of their environment and also gain an awareness of the capacity and means to change this environment. Suntaa-Nuntaa employs non-formal education techniques such as drama and pictures and other skill acquisition training programmes to create desirable attitudes in women groups they work with. It is only when desirable attitudes are created that project's objective are met.

2.6 Non-Governmental Organisations (NGOs)

Quaye and Katsriku (1996) present NGOs as vital instruments of development in less developed countries. The volume of work at the seat of central governments has made them to release some of their holdings on political, economic and social areas, and these have been taken up by NGOs that have

sprung up to take on such responsibilities. These authors have pointed out that donor communities are interested in development and the eradication of poverty, misery and disease and have for that matter given substantial support to NGOs to deal with like situations. NGOs have presented themselves as entities with innovations capable of addressing the many problems that civil societies are plagued with. NGOs can be seen as private organisations that have been set up by individuals, groups, bodies or organisations to deal with certain aims, policy and programmes outside government circles (Quaye 1996). The activities of NGOs spread out to every aspect of civil society and by their nature they are characterised by their being voluntary, independent, non-profit making and are serving organisations within the civil societies in which they dispense their services (Quaye 1996).

Assessing the impact of NGOs on improving lives of people in rural areas, Dawson (1975) focussed on some groups actively involved in bringing about skill acquisition in developing countries and noted the great impact they are making on the lives of the people concerned. She based for instance her assessment on the operations of Oxfam United Kingdom and Ireland and its Dutch Sisters Agency-Novib, and argues that the main key to long-term poverty alleviation in developing countries is capacity building in individuals. In the

broadest sense she sees it as increasing self-reliance of the poor especially the poor women in the rural areas. Novib (1994) and Oxfam (1994) report that the way of contributing to support initiatives of the poor people of the developing world is through sustainable changes and improvement in their lives. Their concern, for example for poor women has emphasised areas of income and autonomy. Health and educational services improve incomes and housing only if beneficiaries are given the opportunity to use inputs in the most sustained way. Suntaa-Nuntaa, an indigenous NGOs in the Upper West Region of Ghana has initiated activities meant to improve the lives of the people of the Upper West Region, this it does by providing the technical "know how" that women in the rural areas can use in their agricultural activities and other income generating activities to better themselves and the communities in which they live.

Chapter Three

3.0 Research Methodology

3.1 Research Design:

A survey design was preferred in this study since it gave the opportunity for studying large populations by selecting samples from the universe to establish some interrelationships. The study concentrated on the agroforestry and other income earning activities of participating women groups of the Suntaa-Nuntaa programme in the Wa District of the Upper West Region of Ghana. The purpose of the study was to find out how programmes provided by Suntaa-Nuntaa, a local NGO, at the Centre, has helped to improve the lives of beneficiary groups. The Suntaa-Nuntaa's package for rural women among other things, sought to raise household food security through sustainable agriculture and other activities while at the same time protecting the environment.

To find out the results of the Suntaa-Nuntaa's Programme the study focused mainly on beneficiary groups in the Wa District. Interview schedules were constructed for the institution delivering the programme, individual women participants of the programme and a focus group discussion for the organised women groups formed by Suntaa-Nuntaa within the Wa District alone.

3.2 **Sampling Frame:**

The frame required for the study was a list of all women groups formed by Suntaa-Nuntaa in respect of its programme within the Wa District of the Upper West Region of Ghana. The updated list for the year 2001 was obtained from the office of Suntaa-Nuntaa's project in Wa. The list contained the names of 53 Suntaa-Nuntaa Women's groups with an average membership of 30 for each group.

3.3 **Target Group:**

The target group of the study area comprised 53 participating women groups formed by Suntaa-Nuntaa in the Wa District of the Upper West Region of Ghana. The total number of women groups in the district came up to 53.

3.4 **Sampling technique:**

Purposive sampling was first used to select the Wa District among the five districts of the Upper West Region in which Suntaa-Nuntaa has women groups participating in its programmes. Secondly, simple random sampling was used to select one-third of the women groups formed by Suntaa-Nuntaa for the study. The investigator was convinced that 1/3 of the 53 women groups would be representative enough for the study. The investigator preferred the simple

random sampling technique because it gave a known and equal chance to all the women groups in question for entering the sample. This certainly eliminated any form of discrimination in the selection process.

The names of the 53 women groups of Suntaa-Nuntaa benefiting from its programme, and been the total for the Wa District were written out on small pieces of paper and then put in a hat. The pieces of paper bearing the names were then thoroughly mixed up and a staff of Suntaa-Nuntaa did the picking. Each time a name of a women's group was picked up, those left were again thoroughly mixed until the 18 names were all picked. Each time one was picked, it was not replaced in the hat.

In the third step, the investigator had to reduce the numbers in each group to manageable sizes. The membership for each of the group selected as sample varied considerably, they ranged between 23 to 60. A simple random sampling method again was employed to select 30 percent of members of each of the 18 women groups of Suntaa-Nuntaa for the study.

The 30 percent selected from each group formed the basis for the focus group discussion. As a cross-check however, the investigator felt it appropriate to also conduct individual investigation of members of each of the 18 groups to

verify information that was gathered from the focus group discussions. In view of this, 50 percent of members of each group were again selected, using the simple random sampling method and this gave a figure of 107 individuals, all from the 18 groups. The sampling frame is shown on Table 3.1 below.

Table 3.1: Sample Frame

Name of Suntaa-Nuntaa Women Groups	Actual group Membership	Group Sample 30%	Individual Sample 50%
Biihee Sungze-le	28	8	4
Goripie Sungze, Zongla Kpiangu	40	12	6
Logu Taatiaha	36	11	6
Polle Suntaa	35	11	6
Ghansa Suntaa-Nuntaa	26	8	4
Salimansa Suntaa-Nuntaa	40	12	6
Charia Gongumuni	35	11	6
Charia Zumacheri	42	12	6
Zingu Tanga	25	8	4
Zingu Gohi	22	14	7
Nyimbale Women Group	50	15	8
Tandaboro Group	60	18	9
Eggu Suntaa-Nuntaa	58	17	9
Olli Karmin-enye	50	15	8
Suoma Ebang	37	11	6
Kpila Azaasuma	24	7	4
Baayiri Halelu	25	8	4
Zing-nye Suntaa	23	7	4
TOTAL	654	205	107

3.5 Research Instruments:

Structured interview schedules were constructed with closed and opened-ended questions for data collection. The closed ended questions were meant to ensure some uniformity in responses while open-ended questions allowed further probes on issues of interest to give a clearer understanding. The interview schedule was also preferred because most of the women participants of the Suntaa-Nuntaa groups were illiterates. In the survey conducted, three types of interview schedules were prepared. One for the project staff of Suntaa-Nuntaa(Appendix C), a second, was a focus group discussion(Appendix A), the third interview schedule was meant for the individual members from each of the 18 groups that were selected(Appendix B).

3.6 Field work:

With help from one of the field officers from the office of Suntaa-Nuntaa in Wa, the researcher was able to first reach all the 18 women groups within the study area. Dates and times for interviews were fixed with all the women groups at their convenience. The dates and times were fixed to coincide with days of their weekly meetings. Visits were also made to the office of Suntaa-Nuntaa in Wa to gather information from manuals and files, and also see at first hand some of their projects in and around the Wa district.

The actual interview started on the 19th of November 2001, first with the Programme Director of Suntaa-Nuntaa Robert Loggah. The interview with the director lasted two hours. Next were the field officers - they were interviewed on different days and usually after work or during lunch break.

The interview of the field officers centered on their experiences on the field and how the programme participants had responded to the programme. The interview of the field officers lasted approximately 40 minutes each. The meetings with the project staff were held in such a way as not to interrupt their daily work schedules.

The individual interviews for individual respondents were conducted before the group interviews were conducted, usually a day after. The interviews were conducted at the homes of the individuals concerned. Each interview took approximately 45 minutes.

The focus group discussions took place at the times that were already arranged with the help of one of the field officers of Suntaa-Nuntaa. The days of meeting varied among the various groups within the week and were fixed at the

convenience of each group's members. Before each interview began, the researcher made a detailed introduction of himself and the purpose of the interview was made clear to remove anxieties. Those who attended also introduced themselves.

The medium of communication was Dagaare, which they all understood, and spoke including the investigator himself. Questions were often well explained to the understanding of all before responses were invited but where there were issues to be clarified in the questions at the request of the interviewees this was done. Participation was effective since most, if not all, took an active part in responding to questions. The meetings were usually held close to the Chief's Palace where there was a lot of shade and benches to sit on. The benches were often arranged in a circular pattern with the researcher sitting amongst them.

3.7 Limitations of study

Despite the publicity given about the interviews, there were instances where some individuals were absent, especially with the group discussions. Reasons usually given included excuses such as, they had gone to attend funerals, they were sick or had gone to the market especially when big village market days coincided with the interview day.

Some women for one reason or the other, in spite of the earlier introduction were still convinced that the interviewer was an official from the office of Suntaa-Nuntaa and for that matter presented a catalogue of their personal problems unrelated to the information sought.

Some villages were not easily accessible and this took time and money to cover. There were others who worked on farms far from the villages, for example, thrashing and winnowing of millet and some of these activities were often collectively undertaken by women from the village; so when there was a coincidence of farm work and interview, the interview had to be rescheduled for another day.

3.8 Data Analysis

In line with the objectives of the research, the information obtained from the field was analysed and presented using tables and percentages.

Chapter Four

Presentation And Analysis Of Data

4.0 Introduction

The chapter contains the presentation and analysis of data obtained from women beneficiaries and project staff of the Suntaa Nuntaa's programme in the Wa District. A descriptive summary of Suntaa Nuntaa's efforts at promoting sustainable agriculture through environmental education was made, based on information provided. This chapter in the main, considered the elements of the Suntaa Nuntaa's approach: how the approach has worked and how this has influenced the beneficiaries and their communities at large.

4.1 Demographic characteristics:

When adults of all ages are brought together in a programme it enriches their learning experience in view of the wide range of experiences that is usually shared among them (Titmus 1989). An investigation was, therefore, carried out to establish the age distribution of respondents and how a shared experience was of benefit to them.

Table. 1**Age distribution of respondents.**

Age range	Frequency	Percentage
20 – 29	8	7.48
30 – 39	34	31.78
40 –49	50	46.72
50 –59	10	9.35
60 and above	5	4.67
Total	107	100.00

Deducing from Table 1, the participants of the Suntaa Nuntaa programme covered in the individuals interview had a general age range of between 20 and 61 and above. The highest frequencies of respondents were found in the ranges of 30 - 39 and 40 49 representing 31.78 and 46.72 percents respectively and giving a combined total of 78.50 percent of respondents. The youngest respondent interviewed was 23 years while the oldest according to the information provided was 61 years. The lowest frequency was found in the age range of 60 and above representing 4.67 percent. The differences in the ages of respondents, suggested a varied experience.

4.2 Educational background of respondents

Kassam (1979) has stated that the basic preposition in the concept of functional literacy or education revolves around the fact that literacy has a potential role to play in generating development. When education is provided then its impact can be greatly enhanced if it is related directly to the economic activity of a given community. The rate of success of some projects to a greater extent depends on the level of education of its beneficiaries and this was the reason for investigating the educational background of respondents. Results are presented in Table 2 below.

Table 2

Educational background of respondents

Level of education	Frequency	Percentage
Up to SSS and above	10	9.35
Up to JSS and/or middle school	12	11.21
Up to Primary School	15	14.02
No Formal education	70	65.42
Total	107	100.00

It can be deduced from Table 2, that most of the respondents were non-literates. This can be deduced by the high percentage of 65.42 with no formal education representing 70 out of a total sample of 107 interviewees. Those

educated to only the primary level or J.S.S and Middle School represented 14.02 percent and 11.21 percent respectively.

4.3 Responses from the focus group discussions

4.3.1 Reasons for joining Suntaa – Nuntaa groups

The research sought to find out the rationale of respondents for joining the Suntaa - Nuntaa women groups.

Some of the reasons most respondents gave for joining the Suntaa - Nuntaa's women groups included the following:

Work is made easier, since the bulk of work is divided among group members. With agroforestry activities a lot of work is involved and no individual finds this easy. Apart from the fact that work is easier it is also carried out faster because of the excitement in working in group (Tandaboro group).

We are able to obtain loans from the Agricultural Development Bank (ADB). As individuals, we find it difficult if not impossible to obtain loans because we are often asked to produce collateral security which

most of us do not have (Olli Karmin enye group and Kpila Azaasuma group).

One needs to be a member of a Suntaa - Nuntaa group before she qualifies for financial assistance provided by a scheme run by Suntaa Nuntaa. We don't have any sources of financial assistance in our husbands' homes and such facilities encourage us to join the Suntaa Nuntaa group (Polle Suntaa group and Biihee Sungze-le group).

During the rainy season as an organised group we are able to assist one another on our individual and husbands' farms when it comes to sowing or even harvesting. Harvesting per se isn't a job for one person (Baayiri group and Charia Gongumuni group).

Apart from receiving some financial assistance and inputs for our agroforestry activities we are able to harvest fuelwood from our wood lots for use in cooking and also for other purposes. This saves us a lot of time looking for fuelwood in the wild bush (Chansa Suntaa Nuntaa group).

It came to light that participants received other forms of assistance from fellow group members, especially in times of grief or need. These were usually in the form of small monetary contributions or in kind, for example, foodstuffs. Such support given to one another was seen by participants as building some unity in them and thus gave them some moral strength in their group endeavours. Responses from the individual interviewees were similar to those given in the focus groups. In the words of one of the individual respondents, a 43 year old woman from Eggu in the Wa district; *"when a member even defaulted in her loan repayment, the group decided on the strength of the case in hand and intervened. The group paid the loan and that person paid to the group later, in kind, which was sold and paid into the group's account"*

From the data that was analysed, views expressed, suggested that as many as 48% of women interviewed individually joined the Suntaa Nuntaa women's groups in order to benefit from the financial assistance the programme provided.

4.4 Methods of teaching and skill training

Non-formal education according to Combs and Ahmed (1974) includes all activities, from basic literacy to occupational skills training for income generation projects or the provision of training for entrepreneurial development.

It was necessary to find out the methods of teaching and skill training used by Suntaa-Nuntaa. Apart from drawing the women's attention to the harmful activities of humans to the environment Suntaa-Nuntaa was also interested in training participants in skills that would help them in their agroforestry and other income generating activities using environmentally friendly ways. When responses from the focus group discussions were analysed it was revealed that the Suntaa-Nuntaa employed mainly participatory teaching techniques. These were identified as group discussions, workshops, drama and theatre and demonstration on the field. It was also evident from the focus group discussions that prior to the intervention of Suntaa-Nuntaa agroforestry programme participants knew little or were not mindful of environmental conservation. In spite of their knowledge about the harmful effects of bush-fires, tree felling and charcoal burning on the environment they could not give up these activities because their survival evolved around them and they had no other choice. All the groups claimed it was beyond their imagination as individuals to do anything about saving the environment. According to a 29 year old woman from the Baayiri group:

If we had the power to save the environment from human activities that degrade it, the lack of the necessary logistics to do so would have hindered considerably this initiative

Some other views expressed by the other groups were as follows:

Suntaa-Nuntaa involved us all in the teaching and learning process and this was very interesting for us because we thought initially we had nothing to contribute. We all took turns to contribute to the discussions especially where we had knowledge about things they taught us, for instance on systems of farming and human activities that degraded the environment (Kpila Azaasuma group).

The teaching methods of Suntaa-Nuntaa helped us to better understand the importance of trees to man and the need to stop felling trees indiscriminately. We were made to see the need to cultivate wood lots (Tandaboro group).

They taught us how to take measurements in the field where tree seedlings were planted. We were also taught how to put food crops like beans, cowpea, groundnuts, okro and cassava in-between the rows of trees.

We were made to understand that cropping in- between the rows of tree seedlings avoided a waste of land and the food crops would force us to weed around to keep the alleys clean (Biihee Sungzele group).

We like the way we were taught because those who did the teaching were friendly. We were told stories from pictures they displayed before us, showing activities that destroy the environment. Some pictures showed how wastelands were re-afforested. Other pictures showed us how to harvest wood from the woodlots throughout the year without going into the bush to look for wood (Logu Taatiaha group and Salimansa Suntaa-Nuntaa group).

Through discussions we had with the field staff of Suntaa-Nuntaa we were made to understand why we should love our environment and why we should plant trees and food crops without destroying the environment (Zingu Tanga group and Zingu Gohi group).

Demonstrations on the field gave us a good understanding of how to actually plant and care for the trees and other crops, which we had to plant on our own farm (Biihee group).

During group discussions we were able to ask questions that helped us solve problems connected to our agroforestry activities. Questions that we asked also solved problems relating to our organisation especially when members were divided on some issues (Olli Karmin-enye group).

Songs, drama and theatre were not only educative but also entertaining. The various groups composed their own songs, the way they found them effective in conveying the messages they intended. The groups also learnt songs from other groups which they found interesting. Basically songs conveyed messages condemning human activities that degraded the environment such as indiscriminate burning of the bush and tree felling. Songs also suggested ways of conserving or improving the forest such as planting trees and growing of woodlots from where fuelwood could be harvested for domestic purposes. Drama and theatre also carried the same information in another form, in the case of drama, performance mainly aimed at educating members of the communities.

Some responses recorded in respect of drama were:

When we stage plays we are able to demonstrate to the public the need to construct fire belts around the tree seedlings that we plant and the need to mulch in order to conserve the humidity for the plants. We also use the

stage to solve problems that arise among community members or between the group and the community for example in cases of the land tenure system (Charia Zumachari group).

Through the use of songs and drama we have been able to change, to some extent, the attitudes of a lot of the people in our community towards the destruction of the environment. These days some people are seen making some efforts at planting at least a few fruit trees around their homes. We also rebuke those who carelessly destroy the environment in one way or the other (Charia Gongumuni group).

The songs and plays we have composed are sometimes played on the FM radio stations in Wa and these give us some pride. People have learnt some of the songs and this gives us some satisfaction that the messages we preach about the environment have indeed reached the people. We don't expect that things will change over night but this could be a starting point since some people have already become critical about the environment because we see them make efforts at planting shade or fruit trees like the mango (Goripee Sungze-Zongla Kpiangu group).

On the whole groups expressed views that suggested that members of their communities had gained some knowledge regarding the environment. This could probably be attributed to the methods of education and skill training that Suntaa-Nuntaa had used to promote its agroforestry and land conservation programme. In the words of the secretary of the Suoma Ebang group;

We are lucky to be associated with the Suntaa-Nuntaa's programme because we have learnt a lot in a number of areas, for example, the importance of the environment to our survival and land conservation techniques like tree planting, construction of fire belts and so on.

Individual research preferences were sought in connection with the various teaching methods that Suntaa-Nuntaa employed specifically the group discussion method, drama, songs and field demonstrations. The outcome of this is demonstrated in Table 3 below:

Table 3

Preferences of teaching methods for individuals interviewed.

Method of teaching	Preferences	Percentage
Discussions and workshops	37	34.58
Drama and songs	42	39.25
Field demonstrations	28	26.17
Total	107	100.00

It can be inferred from Table 3 above that the most preferred methods of teaching were drama and songs and this scenario was represented by 39.25%. This was probably attributed to the power of drama to both excite and present messages related to the environment. Discussions and workshops took a second place with 34.58% while field demonstrations showed a preference level of 26.17%.

4.5 Provision of environmental education.

As perceived by the Quarterly Review of Education (1978) environmental education is a key to easing dangerous pressures on the environment. Environmental education is seen primarily as an instrument in creating awareness about the state of the environment, capable of reaching planners and administrators as well as the general public. Such education is first intended to draw the minds of people to the human activities that are responsible for destroying the environment and the effects of such destruction. It was necessary to find out how the Suntaa-Nuntaa was able to make women aware of the human activities that degraded the environment.

Each of the groups covered in the focus group discussion expressed at least an instance of a human activity responsible for degrading the environment for

example bush fires, tree felling and bad farming practices. Knowledge in activities degrading the environment were indicated by respondents as:

In our opinion farmers are to blame for starting bush fires that eventually destroy the environment. In our community the main occupation is farming and to be able to clear land and to cultivate it one has to burn the bush in order to open it up for ploughing. In the process of burning the bush the fire could also burn other areas not intended for the farm (Logu Taatiaha group and Sungze-le group).

We believe hunters destroy the environment more than any other individuals. In the dry seasons the youth of the villages come together sometimes-numbering 30 or more to undertake their popular hunting expeditions. In their method of hunting their biggest weapon is fire, which is able to drive out animals from the bushes for them to hunt down. By the middle of the dry season it is difficult to see dry grass standing except a carpet of black ashes (Suoma Ebang group).

Tree felling is necessary for women because this is their source of fuel for cooking and for that reason every woman in our community looks for

fuelwood from whatever source for this purpose. In this way the environment gets destroyed (Polle Suntaa group and Salimansa group).

In house or garden construction wood is very necessary and many people in the community look around for good wood, far or near, for this purpose and with time the trees keep disappearing (Baayiri Halelu group).

Tree felling is necessary when women are engaged in charcoal burning because it is a good source of income. Some of us are aware that this leads to the destruction of the forest but we need money to support us in other things like the buying of clothing or medicine (Suoma Ebang group, and Kpila Azaasuma group).

Our village is situated on a hilly land and when we make our farms on the slopes of these hills and the rains are heavy most of the good soil is washed down into the valleys. Sometimes big gullies are left on these slopes and with time the land can no longer support crops and its abandoned (Charia Zumacheri group).

When people build houses or construct roads they also destroy the vegetation but many people do not realize. Thus they think it is only

farming and hunting activities that destroy the environment (Biihee group).

Response from the various groups on the effects of human activities on the environment were:

When the cutting down of trees takes place over a prolonged period of time some trees become very scarce or even disappear and we don't see them again unless one travels far to distant and undisturbed areas. Usually the first to disappear are those trees that are good for use as fuel in cooking or those that are equally good for house and garden construction (Nyimbale women group).

When we were young girls there were some trees and fruits such as the shea, black berries, red berries, ebony that could be gathered from around the houses in the communities but this has changed. Now one can only gather these fruits in appreciable quantities from areas far from the villages not affected by tree felling or bush burning (Biihee Sungzele group and Chansa women group).

We have seen that the cutting of trees have opened up the land so much that strong winds are able to blow-off the roofs of houses and blow down big trees standing in isolation, during rainstorms. Sometimes such occurrences are unimaginable, the effect of the winds is such that each year most families make some repairs on their houses if they have to survive the strong winds the following year. Those who are wise plant trees around their houses to help check the strong winds otherwise they will have no houses (Goripie Sungze-Zongla Kpiangu group).

These days the ground quickly dries up soon after it rains because there is no shade to keep the ground wet for a long time since the sun's rays hit the ground directly (Zingu Gohi group).

Trees and grasses protect the rivers and the water sources from drying up and when the vegetation is destroyed these sources of water dry up. When this happens it puts a lot of strain on us because we have to travel long distances in order to fetch water for domestic use (Olli Karmin enye group).

When the vegetation is destroyed those of us engaged in weaving baskets and straw mats find it extremely difficult to obtain the straw for the weaving. This make those in the business either travel far for the straw or in some cases buy them from the market from people who deal in them (Polle group and Salimansa Suntaa Nuntaa group).

We all know how destructive bush fires can be especially when our farms including foodstuff harvested and stored on the farms are destroyed. As a result people have to starve. Rabbits and squirrels that were also common in the bushes around our communities when we were children are now difficult to find because of the indiscriminate destruction of their habitats (Goripie Sungze-Zongla Kpiangu group).

It was clear from the group discussions that in addition to identifying the human activities that destroy the environment the women interviewed were also able to relate how these activities affected their communities both directly and indirectly.

4.6 Responses from the individual interviews

In the individual interviews that were also conducted as a cross-check on the focus group discussions, the responses were similar to those presented by the

focus groups on human activities that degraded the environment and the impact of human activities on the environment. An attempt was made to rank the concerns of individuals on the activities that degraded the environment as shown on the table 4 below.

Table 4

Human activities that degrade the environment.

Activities of concern	Frequency	Percentage
Bush fires	24	22.43
Tree felling	67	62.62
Bad farming practices	16	14.95
Total	107	100.00

Table 4 reveals that 67 respondents out of the 107 rated tree felling as the biggest threat to the environment. Bush fires that showed a percentage of 22.43 followed this and bad farming practices also took 14.95%. Against expectations tree felling was of prime concern in the destruction of the environment even though from responses received bush fires were mainly discussed as the biggest threat to the environment. In the words of a 54 year old woman from Eggu in the research area of the study:

Personally, I will consider bush-fire as the biggest threat to the environment because it does not burn only the trees, shrubs and grasses but also the crops on the farms. For two years now, my husband had his

rice farm burnt and rice has been his main source of income and for this reason he has vowed never to cultivate rice again. He has now taken to the cultivation of soyabeans and groundnuts

Another 37-year-old woman from Logu in the Wa district further emphasized this by saying that:

We know that the rate at which the trees are being cut is high and this contributes to the destruction of the environment but I will want to believe that bush-fires are more destructive because nothing is spared, not even our homes.

Each year fire creeps into our woodlots despite the fire belts that we construct and performance is low for this reason and most of us are gradually shifting to other income generating sources like sheabutter processing

Bad farming practices as an activity responsible for degrading the environment was only mentioned in isolated instances. Most of the individual respondents believed farming was conducted in an appropriate way and was not a significant factor in land degradation, except for cases where in the dry season farmers

burnt the bushes to extend their farms or created new farms and in the process trees and the grasses get burnt.

The destruction of the forest has serious implications for any community. Bushfire for instance could lead to soil erosion which in turn results in loss of soil fertility and poor crop yield which consequently leads to low income and a poor lifestyle, in a vicious cycle. Most rural communities in the Wa district depend on trees of the forest for their fuel wood, fruits, and other products such as fibre and medicinal plants. Forests generally are a home to wild animals and the destruction of the forest has a telling effect on animals and the livelihood of people who depend on it.

4.7 Change in habits and attitudes

Some respondents in the focus group testified to changes in habits and behaviour as a result of education and skill training by Suntaa-Nuntaa, these are some examples:

Those of us who acquired some knowledge about land conservation have established large woodlot close to our villages. We harvest and share the wood among ourselves for domestic use especially in cooking (Logu Taatiaha group).



We have been encouraged and motivated to establish woodlots. More than half of our members have their small woodlots, which supplement their share of wood from the collective woodlots. Some of the individual woodlots are cashew and mango mixed with trees providing wood for example the cassia (Tandaboro group and Olli Karmin-eny group).

Knowledge gained about fire belt construction has indeed helped us to protect not only our woodlots but our farms and other valuable trees that can be destroyed by fire. Previously we only looked on while fire sometime destroyed rice and guinea corn farms at the end of the rainy season (Zingu Goli group).

Our group has not only established a woodlot but has also undertaken to plant trees in-between the houses in our village to provide us with shade and also to check the strong winds and thus preventing them from damaging our houses. We are able to mobilise community members once in a while to assist us in the tree planting around our houses (Baayiri Halelu group).

To reduce the rate at which community members destroy trees in our village for use as garden fence we have encouraged them to grow a hedge of the kind that is planted around houses. Such hedges are long lasting as garden fence and are also able to prevent bush fires from destroying the plants in the garden (Charia Zumacheria group).

It was also evident in the individual interviews conducted that there was also a change in attitude towards the environment. This was clearly highlighted by a respondent:

The group and individual woodlots have come as a blessing to us because it protects the soil from been washed away and we also obtain fuel wood from these woodlots even though sometimes this is not sufficient. Once in a while most of us go to the bush to look for wood to add to our share of wood from the woodlots (A 38 year old participant from Baayiri).

In spite of the awareness creation about the effects of bush burning and tree felling, certain individuals still burnt the bushes or felled trees for one reason or the other. Notwithstanding such negative attitudes towards the environment most of the individuals interviewed were satisfied that there has been a reduction

in bush burning and tree felling and a change in habits and attitude on environmental degradation.

The effectiveness of the programme in limiting environmental degradation was assessed on the individual respondents and this result is shown on table 8 below.

Table 5.

Effectiveness of Suntaa-Nuntaa's programme in limiting land degradation.

Assessment	Frequency	Percentages
Very effective	28	26.18
Effective	72	67.28
Fairly effective	7	6.54
Not effective	0	0.00
Total	107	100.00

Table 5 shows that, 72 respondents representing 67.28 percent indicated the programme's strategy was effective in limiting land degradation and 26.17 percent supported the idea that the programme was very effective in changing the negative attitudes of participants. The "very effective" group was low, possibly due to the prevalence of bush burning and tree felling in some communities. As low as seven percent of respondents indicated the programme methods were fairly effective in limiting environmental degradation

and none accepted that the programme of Suntaa-Nuntaa was not effective. It can be asserted generally that participants of the Suntaa-Nuntaa's programme were in a way convinced that there were certain achievements made in strategies to limit environmental degradation. They saw such achievements in the changed habits and attitudes in their colleagues and some community members.

4.8 Other activities provided by Suntaa-Nuntaa

It was necessary to investigate other activities introduced by Suntaa-Nuntaa. The rationale for such an investigation was to establish whether or not such income-generating activities had the power to motivate and sustain the agroforestry activities introduced to the village women organised by Suntaa-Nuntaa. Guri (1996) noted that in arresting declining food production and ecological degradation and the subsequent rural poverty and food insecurity it brings, programmes in this direction should include a policy mix, focusing on long term sustainability as on short term production.

Responses from the focus group discussions, indicated the following under the headings below:

4.8.1 Honey/sheabutter/dawadawa processing-

Individuals in our group undertake some business activity that generates some income apart from the agroforestry business. Some keep livestock such as goats, rabbits, and poultry while others went into honey, sheabutter or dawadawa production. The kind of business one chooses was a private affair, no one imposes anything on us and we are able to make some money to help us in various ways (Zingu Tanga group and Zingu Goli group).

We have been encouraged by the programme providers to undertake some income generating activity of one kind or the other. In view of this some of us have taken to sheabutter and dawadawa processing, while others are also engaged in the rearing of livestock. The income earning activities have helped us in several ways for instance we are able to buy school uniform for our children and also pay school fees. We also buy food and other things that we need, like clothing or medicine (Polle Suntaa group, Eggu Suntaa group and Charia Zumacheri group).

4.8.2 'Susu' scheme-

Every member of a Suntaa-Nuntaa women's group belongs to a "susu" scheme including a loan scheme instituted by the programme. We make weekly contributions to the "susu" scheme either in cash or in kind (foodstuff) from where members receive their bulk contributions periodically according to some agreed schedule drawn up by them. We have also opened an account with the Agricultural Development Bank (ADB) in Wa with some of the "susu" money. This helps us to pick loans from the bank when all the members of the group agree to it. The monies from the "susu" contributions have helped us in our agroforestry and other income-generating businesses (Biihee Sungzel-le group and Zing-nye Suntaa group).

4.8.3 Petty trading-

The keeping of livestock and the processing of dawadawa or sheabutter including the buying and selling of manufactured goods like batteries soap, milk, matches have helped us financially. Some members of the group use their "susu" contribution to buy food stuff to store and resell in

the lean season at a profit (Goripie Zongla Kpiangu group and Tandaboro group).

The researcher had the occasion of seeing some of these activities such as the livestock rearing, dawadawa and sheabutter processing. The livestock the women kept were goats, poultry and rabbits and these were a cross of the exhortic and local breeds. The cross breed were usually an improvement over the local breed in terms of quality and they were also more disease resistant than the pure local breed. For instance those who kept goats had the cross of the West African dwarf goat and the Sahelian giant goat. Some women also took to honey production but the field staff of Suntaa-Nuntaa in view of the risk involved closely supervised this. In the case of honey production interested women were trained by the programme staff in ways of locating the artificially made beehives to attract the bees. The women were also trained in the harvesting of honey.

Most of the activities undertaken by the women in the groups formed by Suntaa-Nuntaa, like the agroforestry and other income earning ventures were to a large extent supported by the loan and "susu" schemes that each group operated. Under the loan scheme, each group was given an amount in bulk by Suntaa-Nuntaa and this was shared among members of the group to support activities

each undertook. Each individual, depending on the size of the group, received a loan of between fifty thousand cedis (¢50,000.00) and one hundred and fifty thousand cedis (¢150,000.00) from Suntaa-Nuntaa. The loan repayment period according to respondents, was flexible and negotiable depending usually on each business turnover. The "susu" contributions on the other hand were entirely a group affair, without interference from the programme providers, even though they encouraged this. "Susu" contributions were either made in cash or in kind. Where contributions were in kind, in the form foodstuff, eggs and birds, it was sold and the monies retained as the person's contribution to the "susu" fund. The flexibility in the "susu" contributions promoted and sustained the scheme. All groups covered established an account with the Agricultural Development Bank from which they picked loans for themselves when necessary. By running other income generating activities alongside agroforestry, Suntaa-Nuntaa was convinced that incomes earned could be used to sustain the women's efforts in agroforestry. Income-generating activities introduced included the rearing of goats, rabbits, poultry, honey production and the production of sheabutter and dawadawa. Suntaa-Nuntaa also structured out a loan scheme that operated side-by-side the "Susan" credit system.

4.9 Problems encountered and solutions sought.

It was necessary to probe whether women participating in the Suntaa-Nuntaa programme encountered problems and to find out how they went about solving such problems encountered.

Some of the responses from the eighteen groups were unique to all especially those relating to water scarcity and bush-fires. The problem of water scarcity related to the length of the rainy season and the distribution of rainfall throughout the year.

4.9.1 Draught

Each time the rainfall distribution was poor, the tree seedlings struggled to survive and worse still a good number died off during the dry season when there was no rain. To solve the problem of water scarcity according to the women they had to resort to water conserving techniques provided by Suntaa-Nuntaa. In one of such techniques women placed a lot of grass around the tree seedlings to prevent excessive water loss.

In yet another, small clay pots, that held up to three or four litres of water, were placed beside the plant with very small holes made under them but partially

buried in the ground. These pots were then filled with water and this trickled down slowly to the plant, in this way water was made available to the plant for a number of days, in some cases as many as five days. The experiment with pots often saved the women from daily watering and thus created time for other useful engagements.

4.9.2 Bushfires

The threat of bush fires was also presented as a problem despite the education of the effects on bush-fires on the environment given by Suntaa-Nuntaa to women groups and the communities at large. It was clear from responses from all the groups that bush-fires reduced the quality of their agroforestry and other agricultural activities. In order to overcome the problem posed by bush-fires, according to the women, fire-belts were constructed first around the periphery of the woodlots and also around the individual tree plants. This was done to give it a double check. This was so because each time fire was started from outside the area of the woodlot it was difficult for it to penetrate into the woodlot. Again when fire was started from within the woodlot the individual plants were also sheltered from the effects of the fire because of the fire belts around them.

Water scarcity and the problem of bush-fires stood out as the main problems facing all the groups, however there were some groups that presented other problems peculiar to their situation as seen in the following:

We suffer to establish the woodlots but some people steal them. Sometimes members from our group connive with non-members to steal them because occasionally we are able to arrest them. When this happens our interest is dampened because we put in a lot of energy to establish and maintain the woodlot. We have resolved to dismiss any member who would be caught stealing wood from the woodlot. This threat has considerably reduced the rate at which wood was stolen from the agroforestry farm (Suoma Ebang group, Nyimbale women group, Polle women group).

Most of the women in our group buy foodstuff during the harvesting period to store and resell in the lean season (dry season) but a good storage system is a big problem. The poor storage of these foodstuffs often reduces the market value of the crops and profits we make at the end of the day. When this happens it becomes difficult for us to pay back loans we pick from the bank or from Suntaa-Nuntaa (Kpila Azaasuma group).

We have a problem of marketing all our goods for instance those of us who produce sheabutter in large quantities have been forced to reduce the quantity we produce because we find it difficult to sell all at a given time. When the sheabutter for instance stays for long it ferments and becomes difficult to sell. This makes loan repayment difficult. Some of us keep trying our hands on different business opportunities until we fall on one, which is promising. Though we have links with some consumer co-operative, the transactions have not been very efficient." (Goripie Sungze, Zongla Kpiangu group).

As much as possible Suntaa-Nuntaa has allowed a wide degree of freedom in the management of the various groups by their members, except where problems were referred to its office. When there were cases of conflict among groups or members of a group or even between a group and some sections of the community's members, then it was the office of Suntaa-Nuntaa, which handled them.

4.10 Analysis of Suntaa-Nuntaa programme.

The goal of Suntaa-Nuntaa have been to achieve household food security in the medium and long term by reducing environmental degradation. The Director and his team of project staff were interviewed to find out exactly what they had achieved on the ground in their efforts to meet their objectives.

4.10.1 Area of operation

Responses from the Director and project staff revealed the project's strategy.

The major areas of operation identified are summarized as follows:

- Tree nursing and tree planting.
- Education of communities in the project's catchment area about the environment and the need to protect it.
- Organisation of women into groups in the rural areas, who in turn undertake agroforestry and other income-generation activities.
- Drama performance by women's groups in the communities to highlight environmental and other issues.
- Introduction or strengthening of cottage industries.
- Organisation of cooperatives to help women market their produce better.
- Education of adults on health and human rights issues.

4.11 Reasons for focus on women groups.

Piepmier (1980) has pointed out that women's groups could play an important role in development when they are supported to actually become a part of the social and economic life of their communities. Information was sought on Suntaa-Nuntaa's rationale for working with women's groups. Reasons that were offered by the management staff of Suntaa-Nuntaa included the following:

- Messages were better transmitted where women were concerned than men and women were also more receptive to new messages than their male counterparts.
- Women were easier to organize for one reason or the other.
- Women were more sympathetic to situations and more ready to intervene and also helpful to one another.

4.12 Teaching methods of the Suntaa-Nuntaa

Responses from the project staff indicated a number of methods they used in their agricultural and environmental education. These included drama, discussions, workshops, excursion and until recently radio broadcast following the establishment of two FM radio stations in Wa: Radio Progress and Radio Upper West. It was disclosed that the most extensively used were workshops,

fieldwork and drama. These methods were preferred in view of the fact that the project staff felt more satisfied that a lot was being achieved through them in respect of their goals.

Responses obtained at the office of Suntaa-Nuntaa also showed that their training activities took place in the various communities where women groups were formed as well as at the programme's head office in Wa in some cases. Fieldwork, for instance, was carried out after intensive discussions at workshops. The office staff indicated that they taught participants how to first nurse the seeds for transplanting. Secondly, they taught them how to prepare the land where tree seedlings would be transplanted. Thirdly, participants were taught how to measure the right distances between the tree plants and distances to leave in-between the rows of tree seedlings transplanted.

They also pointed out that participants were shown techniques of conserving water in plants by mulching and pruning them to reduce water loss. The construction of fire belts was also mentioned as one of the techniques taught participants. Responses from the project staff also showed that participants started with an acre or two of woodlots and made expansions every one or two years by half an acre. Trees that were cultivated were the *cassia siamea*,

cashew and leucaena leucocephala. The information gathered from project staff corroborated what was obtained earlier from project beneficiaries.

Mention was also made of frequent visits to woodlots by project staff. By such visits they were sure the right cultural practices in agroforestry were being followed. In addition, the project staff maintained that the frequent visits enabled them to help solve problems that participants faced in one area of activity or the other. Responses from the staff also indicated that encouragement was given to the participants to grow food crops in-between the rows of trees to maximise land-use and increase fertility through leaf fall and farm residue decay. Apart from the agroforestry activities the staff also claimed they supported other activities such as poultry, piggery, rabbitry, honey-production and goat rearing. Other activities included sheabutter processing, dawadawa processing and pito brewing. To improve the financial position of the beneficiaries income-generating activities, Suntaa-Nuntaa staff again supported them with a loan scheme under the auspices of the Presbyterian Hunger Project initiative.

The project staffs were happy to point out that since Suntaa-Nuntaa operation the programme had chalked modest successes in sustainable agriculture with

environmental concerns. They also pointed to incomes earned through the sale of wood for use as fuel, for house construction and gardening as some of their achievements. The project staff was convinced that the achievements were as a result of the changed attitudes and the appreciation of the importance of the environment and the need to do something to safeguard it.

4.13 Programme's position on its benefits to participants

Responses from the office of Suntaa-Nuntaa included the following in respect of benefits accruing to participants of the project:

- 🏠 Woodlots had reduced time spent in the wild in search of fuelwood and had also reduced indiscriminate felling of trees.
- 🏠 Activities such as poultry or bee keeping and others had greatly improved the income status of women.
- 🏠 The loan scheme together with the "susu" contribution made possible by Suntaa-Nuntaa provided finances and investment opportunities for participants.
- 🏠 Women's groups were able to establish friendly relation with other sister organisations such as the Christian Mothers' Association. Interactions created a good climate for groups to benefit from the experiences of others, and this gave room for innovation and expansion.

■ Status of women had been raised and had placed the women in rural areas in a more strategic position of decision-making and leadership.

4.14 Programme's challenges

Obviously, the programme was bound to face problems. In the interview with the programme staff a number of problems were raised.

Among these were the following:

■ With a skeletal administrative staff, there was a difficulty of running the many women groups in the Wa district.

■ The programme management sometimes ran out of finances because of growing inflation, as such running the administration became difficult.

Chapter Five

5.0 Discussion, summary, conclusions and recommendations

This chapter reviews and discusses how Suntaa-Nuntaa has been able to make communities rethink their relationship with the environment. The researcher examined how Suntaa-Nuntaa has been able to offer beneficiaries improved techniques in agroforestry. Conclusions and some recommendations have also been made based on the findings.

5.1 The processes of environmental degradation

The environment has become a major issue in recent times in both international as well as at the local level. As reviewed, the World Development Report of 1992 was based on "Development and the Environment". The reason for this has been that the way the environmental assets are managed has important consequences on the economy of any group of people. The mismanagement of the environment could, for instance, degrade agricultural soil and could consequently hinder the opportunities of utilizing such degraded soils for greater outputs.

From the findings it was established that human activities, for whatever reasons, had been responsible for the rate of deforestation. This phenomenon has been blamed on ignorance, poverty and wrong incentive systems. It was clear from the responses that those who engaged in deforestation had no incentive to conserve the forest. Wood in the Savannah area of the Wa district is free for use as fuel wood or other purposes and this has thus given a free hand in the way the forest is being depleted. The slash and burn system of agriculture has also exposed soils in the Wa district to the full intensity of the wind and rain resulting in soil erosion. Soil erosion has therefore rendered large tracks of land in the district barren and the ultimate effect is that productivity over the years has declined. Soil erosion has also caused dams and other water sources to silt up. The inaccessibility of alternative technologies in the situation of fuelwood has probably helped to accelerate the deforestation process.

5.2 Elements of the Suntaa-Nuntaa approach

The ultimate purpose of Suntaa-Nuntaa was to provide local populations particularly disadvantaged rural women with income generating activities that took into account environmental practices. Suntaa-Nuntaa hoped to empower women and thus make them capable of freeing themselves from poverty, ignorance and suffering in order to significantly improve their living conditions.

In the attempt to achieve this, Suntaa-Nuntaa has taught women agricultural practices that incorporated tree planting, crops and animal rearing techniques. More importantly, Suntaa-Nuntaa placed lots of emphasis on activities likely to change attitudes and behaviours that negatively impacted on the environment. Negative attitudes and behaviours that played on the environment, it was assumed, were responsible for degrading the environment.

The main elements of the Suntaa-Nuntaa programme laid emphases on the organisation, sensitization and education of women through groups that it established in the rural areas in the Wa district. Suntaa-Nuntaa adopted a system that was acceptable to the social structure of the people that it worked with, to be able to carry its objectives through. This became necessary due to the realisation that the exploitation of resources had been followed by increased environment degradation in the form of deforestation and soil erosion. The promotion of tree cultivation through agroforestry activities, in order to manage and sustain the wood fuel requirement for domestic use, was followed up with land conservation practices to safeguard the natural plant formation.

Several techniques were employed to create awareness on the value of the environment and the need for those who depended on it to conserve its

resources. One of such techniques was drama for development. The introduction of drama and the increased awareness and level of participation among the women groups that Suntaa-Nuntaa helped to establish. While conveying useful messages in the promotion of sustainable development strategies among participating women, drama also changed attitudes among the rural communities at large. The popular drama that was practiced was based on participatory learning action based on the idea that people would first get involved in issues which directly affected them and were of importance in their daily lives.

As reviewed in the literature, people's action was generated as their level of consciousness increased as a result of involving them in a reflection. Such an action had helped transform their situation of poverty to a better quality of life both in the physical and socio-cultural environment and this has been proven by the responses from the individual and focus group discussions. The communities were first inspired by problems they encountered in their daily lives and these were thus dramatised and solutions provided. Experts from the suntaa-Nuntaa outfit did the organisation and training of drama groups and counseling. The groups received technical support on stagecraft, the art of public speaking, story telling, singing, drumming and dancing. The importance of

drama was also measured by its ability to settle conflicts and this was done by transferring them onto an artificial stage animated by actors who were parties to the conflict. Apart from providing a leverage to motivate the women groups in the management of the environment and development, drama also provided an atmosphere for creativity that promoted self-esteem.

Another feature of the Suntaa-Nuntaa approach was the use of workshops and field demonstrations as a means through which women acquired practical skills to undertake their agroforestry and other agricultural activities. Workshops usually preceded demonstration on the field in which participants saw and also undertook in a practical way, activities they carried out on their own agroforestry farms.

5.3 How Suntaa-Nuntaa approach has worked in practice

Women who participated in the Suntaa-Nuntaa programme were taught how to nurse, transplant and care for tree seedlings until maturity. The *Cassia Siamea* and *Leucaena Leucocephala* plants were systematically distributed. Other fruit crops such as the cashew and mango, vegetables such as melon, okro and pumpkin were also included. Women acquired skills to pack tree plants in clay pots instead of plastic bags since the former were more environmental friendly.

Local craftsmen made the pots on request and these were always directly planted into the ground without removing the pots. Again clay pots were also used as containers to fill water and placed near the tree seedling. The essence of this was to provide the young trees with a continuous supply of water through small openings made at the bottom of the pots which allowed the water trickle down slowly to the roots of the plants. Such a method was significant in conserving water and reduced the trouble of daily watering. Women first started with an acre or two of land for their tree crops and this was expanded by half an acre each year until it reached the size of land the group intended to cultivate.

Bush fires was seen as a major factor responsible for the destruction of the forest and Suntaa-Nuntaa wasted no time in intensifying controls in this direction. Apart from using drama and theatre to create awareness about the destructive nature of bush fires Suntaa-Nuntaa taught women how to construct fire belts. The women were first taught to make a fire belt around the periphery of the woodlots and then around the individual plants. In this way, the bush fire could not penetrate the woodlots and even when bush fire was generated from within the woodlots by hunters, the individual trees were still free from been destroyed. Women groups also intensified campaigns on bush fires in their various communities as constant reminder to save the environment.

It also became clear that the activities of the participants of the programme were diversified and this was aimed at creating new sources of income for members. This important step was intended to help sustain their efforts in the agroforestry business. There was an integration of agroforestry activities with livestock breeding in areas such as poultry, rabbitry, goat rearing, honey production and others such as 'pito' brewing, shea butter processing, local soap making and dawadawa processing.

5.4 Benefits of the Suntaa-Nuntaa project.

The degree of autonomy that women enjoyed could be cited as one of the achievements of Suntaa-Nuntaa. Findings have pointed out that, drama created a virtual space of expression that suffered no male censorship. On the stage most problems were solved ranging from issues concerning natural resources to domestic problems. Indeed, there was no cost in staging such problems. This freedom afforded them the opportunity to express their ideas and talents without running the risk of being restricted by social conditions. What was also clear was the participation of women in decision-making at the family as well as at the community level. This was evidenced by a few of them being elected to unit committees of the grassroots democracy practised by the local government system in the country.



An important benefit of the Suntaa-Nuntaa programme to participants was the woodlots owned and managed by the individuals or groups. Long distances were no longer covered in the search for wood fuel. The time saving element of keeping woodlots had given beneficiaries lots of time for more productive ventures they undertook.

Apart from Suntaa-Nuntaa efforts in creating awareness about the importance of the environment and engineering efforts at saving the environment through agroforestry, incomes generated from the woodlots and other ventures had improved the status of the women. Women are now able to provide food for the upkeep of their families and in addition they are able to buy clothing, pay medical expenses and school fees for their wards. Fruits from mango or cashew trees have also been available for consumption and for sale.

5.5.0 Conclusion and recommendations

5.5.1 Conclusion

The relationship between the environment and development cannot be over emphasized. This study has considered one area in the Upper West Region of

Ghana where a local NGO has concentrated its efforts in trying to reduce environmental degradation.

The success of the activities of Suntaa-Nuntaa, hinged on the use of participatory learning activities. Drama was used to sensitize the communities and the women who participated in the Suntaa-Nuntaa programme on environmental issues. Skill training was done through discussions, workshops and field demonstration in agroforestry and in other agricultural activities. The agroforestry and other agricultural activities were sustained through innovations initiated and carried out by the women who participated in the programme.

Recommendations :

The enormity of work on the hands of the Suntaa-Nuntaa staff has made them less effective. To be able to cope with this work, the establishment of zonal offices throughout the district would be an advantage. Geographically the Wa district is large, this has made it difficult for the technical staff from the Suntaa-Nuntaa outfit to conveniently cover their duties. The diversification of the activities of Suntaa-Nuntaa has further placed a strain on them suggesting that

zonal offices created at strategic point throughout the district would be a welcomed idea, rather than the centralized administration from district capital.

2. Tree felling stood out as the dominant factor threatening the project's gains. Concerted efforts and more proactive strategies should be devised to aggressively deal with issues of tree felling. Attention on women alone, should not be the mode, but this should also be extended to include men.

3. The establishment of linkages and exchange programmes with other NGOs and associations in the sub region could be an advantage. Such a linkage would allow participants to learn new things to correct their shortcomings in their areas of operations especially in education and literacy

BIBLIOGRAPHY

Amedzro, A.D.K (2000), Globalisation, Non-Formal Education and Development, Institute of Adult Education Press, Legon, Accra.

Boutros-Ghali, (1995), "Paper Presented at the Fourth World Conference on Women", September, 1995 Beijing, China.

Cole, J. (1981) "Providing Access to New Skill and Modern Techniques", N.W.C.D. Ghana.

Coombs, P.H. (1995). The World Crisis in Education: "The view from the eighties", Oxford University Press, New York.

Dickson, K.B. and Benneh, W. (1988), "A New Geography of Ghana". Scot Print Ltd., Musselburgh.

Duncan, B. (1997), Women in Agriculture in Ghana, Gold Type Ltd, Accra, Ghana.

Dzodzi, T. (2000), Gender Training in Ghana, Woeli Publishing Service, Accra, Ghana.

Economic and Social Commission for Asia and the Pacific – ESCAP, (1979), Rural Women's Group Income-raising Activities. ESCAP Secretariat, United Nations Building Thailand.

Freire, P. (1970), Pedagogy of the Oppressed Herder and Herder, New York
Ghana Statistical Service, 2000, "Provisional Population and Housing Census"

Guri, B. (1997), Moving Towards Sustainable Agriculture FOELINE No. 9. "An Environmental Magazine of Friends of the Earth", July – September 1997, Ghana.

Hire, et al, (1986/87), "An Analysis and Synthesis of Research on Responsible Environmental Behaviour", The Journal of Environmental Education.

Iddi, G.S. (1996), "Towards a Sustainable Agricultural Development with Particular Reference to Northern Region", Paper presented at a Conference in the University for Development Studies (UDS), Tamale, Ghana.

Ideas and Action, Magazine (1980), Cited in Non-Formal Education Exchange, N.F.E. Information Centre, Michigan State University.

Kassam, Y.D. (1979 P. 153), "Literacy and Development", Hinze, H. and Hundsdorfer, V.H. (eds). *The Tanzania Experience Education for Liberation and Development*. Evans Brothers Limited, London.

Konrad Adenauer Foundations (KAF), (1995), *Private Business*, Associations and Social Market Economy, KAF, Accra, Ghana.

Laing E. (1994), *Ghana Environmental Action Plan. Vol.2* "Technical Background Papers by the Six Working Group, Environmental Protection Council, Accra, Ghana. Longman Group (FE) Ltd., Hong Kong.

Nabilia, W. (1990), "Combined Needs Assessment of Women the SRDP Project Area". Unpublished Draft Constancy Report.

National Council for Women and Development – N.C.W.D., (1995), "The Status of Women in Ghana", Ghana.

National Council for Women and Development – N.C.W.D. (1995), abridged Beijing *Platform for Action*, UNIFEM.

Naylor, R. (1999), "Women Farmers and Economic Changes in Northern Ghana", *Gender and Development: Women land and Agriculture*, Vol. 7, No. 3. Oxfam GB, Oxford.

Non-Formal Education Exchange – NFEE, (1981), "Women and Production". Issue No. 20, Michigan State University.

Non-Formal Education Exchange, (1981), *Women and Development*, N.F.E. Information Centre, No. 22, Michigan State University.

Non-Formal Education Exchange, (1982), *Non-Formal Education, Selected Issues*, N.F.E. Information Centre: Issue No. 25, Michigan State University.

Non-Formal education Exchange, (1983), *Education and Agriculture*, N.F.E. Information Centre, Issue No. 28 Michigan State University.

Novid, (1994), *Multi-Year Plan 1995-1998*. The Hague. Oxfam, U.K. (1994), *The Oxfam Gender Training Manual*. Oxford.

Peterson (1981, p.8), Current Issues in Environmental Education and Environmental Studies, Vol. III, Columbus, ERIC/SMEA Information Centre, OHIO.

Piepmeyer, K.B. (1980), *Resources for Development*, Office of Women in Development (PPC/WD), Washington, U.S.A.

Pritchard, J.M. (1988), Africa, Longman Group (FE) LT., Hong Kong.
Quaye, M. and Katsriku B. (1996), Government and NGO Relations in Ghana Gold-Type Ltd., Accra.

Staudt, K.A. (1980), *Women Organisations in Rural Development*, Office of Women in Development (ppe/wid), Washington, U.S.A.

Titmus, C.J., (1989), "Life Education for Adults" An International Handbook. Pergamon Press, Oxford.

V.H. (eds), *The Tanzania Experience Education for Liberation and Development*. Evans Brothers Limited, London.

World Bank, (1992), "Development and Environment", World Development Report, 1992, Washington.

World Bank, (1993, p.1), "African Technical Department" World Bank Report, Switzerland.

APPENDIX A

FOCUS INTERVIEW GUIDE

1. What is the name of your women's group?
2. How did you come to be members of this women's group?
3. Why were you organized into a women's group?
4. What activities does your women's group engage in?
5. What human activities lead to the destruction of the environment?
6. How does each of these activities degrade the environment?
7. What lessons have you learnt from Suntaa-Nuntaa to overcome the degradation of the environment?
8. What specific things have you done to limit the effect of land degradation?
9. Do you receive any other support from Suntaa-Nuntaa for your agro-forestry?
10. How do you obtain land for your farming activities?
11. What problems do you face as a group in the programme that you are participating in?
12. How do you go about solving problems you encounter as a group?
13. What benefits have you gained as a member of the women's group participating in the Suntaa-Nuntaa programme?
14. What other activities do you engage in as a women's group that generate income?

APPENDIX B

**INTERVIEW FOR INDIVIDUAL WOMEN PARTICIPANTS OF THE
SUNTAA- NUNTAA PROGRAMME***Personal Data*

1. Age:.....
2. Marital Status (Tick)
 - a. Not married
 - b. Married
 - c. Divorced
3. Educational Background (Tick)
 - No Formal Education
 - Up to Primary Level
 - Up to JSS Level
 - Up to SSS Level
 - Others
4. How do you contribute to the up-keep of your family?

PROGRAMME PARTICIPATION

5. Why did you join the Suntaa-Nuntaa Women's Group?
6. What Specific things have you learnt from the Suntaa-Nuntaa's Programme?
7. How do you practice agro-forestry?
8. What benefits do you derive from Agro-forestry? (Tick)
 - a. My own wood-lot
 - b. Get better yield
 - c. Others
9. What problems do you encounter as a Women's Group?

APPENDIX C**INTERVIEW FOR PROJECT STAFF OF SUNTAA-NUNTAA**

1. What are the main objectives of Suntaa-Nuntaa programme?
2. What are the various activities carried out by Suntaa-Nuntaa's programme?
3. Why is the programme focused on women?
4. What method of education does Suntaa-Nuntaa use to make women understand environmental issues around them?
5. How are agro-forestry activities carried out in the Wa District by the women.
6. How would you rate the effectiveness of your programme's method of education on environmental issues?
7. What acreage does each woman's group cultivate?
8. What are the food crops grown by the women participants?
9. How does the farming practice protect the environment from deteriorating?
10. What evidence does Suntaa-Nuntaa have to show that women have benefited from the programme?
11. What general problems does the project face?
12. What efforts have the project made to solve some of these?