

# INTERNATIONAL TROPICAL TIMBER ORGANIZATION

## ITTO

### PROJECT DOCUMENT

TITLE	VILLAGE-LEVEL REFORESTATION PLUS NUTRITION PROMOTION BY SELF-MOTIVATED COMMUNITY WOMEN'S GROUPS
SERIAL NUMBER	PD 393/06 Rev.1 (F)
COMMITTEE	REFORESTATION AND FOREST MANAGEMENT
SUBMITTED BY	GOVERNMENT OF GHANA
ORIGINAL LANGUAGE	ENGLISH

#### SUMMARY

How will you **FEEL** when you come by a **tropical wonder plant (or NTFP)** that grows to maturity in just **5-months** (along with precious tropical timber trees), and **confidently provides 80 per cent of your entire household vitamin and nutrient needs? And that is NOT ALL.** What about the enjoyment that, **growing that NTFP also provides you with a joyous village opportunity to grow fast-growing popular commercial timber species** that make you live **economically comfortable** in the medium and long-term? Social Security! **That is the creative message that this Project** brings to four impoverished self-motivated rural women's groups in four villages in the **Eastern and Ashanti Regions of Ghana.** *The Moringa oleifera* is **THE WONDER TROPICAL PLANT-NTFP** that gets matured in **JUST FIVE MONTHS** with about **thirty-three (33)** highly concentrated **vitamins, essential nutrients, and well-balanced amino acids!** All scientifically proven too! And the well-known rural wealth-creating fast-growing popular commercial timber species are *Teak, Wawa and Ofram.* The teak will be grown as a well-managed mono-culture plantation, while the *Wawa* and *Ofram* will be in mixed professional stands along with the *Moringa oleifera* plant. This unassuming ITTO Pilot Project aims at effectively **COMBINING** those two **WONDROUS opportunities in a DEMONSTRATIVE FASHION,** using participatory and team-building community implementation approaches. The project's **self-management strategy** takes its confidence from practical implementation agency experience that rests on tested partnership of respected rural stakeholders who are nurtured to operate within a **Participatory Learning and Action Framework.**

EXECUTING AGENCY PITRIS CONSULT

COOPERATING GOVERNMENTS ---

DURATION 24 MONTHS

APPROXIMATE STARTING DATE TO BE DETERMINED

BUDGET AND PROPOSED SOURCES OF FINANCE	Source	Contribution in US\$	Local Currency Equivalent
	ITTO	165,335	
	Agency/GOG	52,531	
	<b>TOTAL</b>	<b>217,866</b>	

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## The Meaning of Abbreviations Used

<b>AfDB</b>	African Development Bank
<b>CIDA</b>	Canadian International Development Agency
<b>DED</b>	<i>Deutscher Entwicklungsdienst</i> (German Development Service)
<b>DFID</b>	Department for International Development (UK)
<b>EU</b>	European Union
<b>FC</b>	Forestry Commission (Ghana)
<b>FORUM</b>	Forest Protection and Resource Use Management Project
<b>FORIG</b>	Forest Research Institute of Ghana
<b>FSD</b>	Forest Services Division (of the Forestry Commission, Ghana)
<b>GEF</b>	Global Environmental Facility
<b>GTZ</b>	<i>Deutsche Geseiischaft fur Technische Zusmmmenarbeit Gmbh</i> (German Agency for Technical Co-operation)
<b>ITTO</b>	International Tropical Timber Organization
<b>KfW</b>	<i>Kreditanstalt fur Wiederaufbau</i> (German Bank for Reconstruction & Development)
<b>NEDA</b>	Netherlands Development Agency
<b>NGO</b>	Non governmental Organization
<b>NTFP</b>	Non-Timber Forest Product
<b>NRMP</b>	Natural Resources Management Project
<b>PLA</b>	Participatory Learning & Action
<b>PRA</b>	Participatory Rural Appraisal
<b>WB</b>	World Bank

## Part I: Context

### 1. The Origin of the Project

The central theme of this Project runs as follows: **“Self-Motivated Rural Reforestation Can Go Successfully with Self-Grown and Self-Made Nutrition Promotion”**. The Project was first suggested by a group of three village young women at New Jejeti in the Eastern Region of Ghana during a post-natal clinic-discourse on **“Good Health and Sustainable Poverty Alleviation”** organized by the Ghana Ministry of Health in the Jejeti area of the Eastern Region of Ghana. A facilitator from **“Pitris Consult”** (the **Implementing Agency**) had gone to the newly-delivered village mothers group to have a heart-to-heart chat on the multiple nutritional values of **“Oleifera Moringa”** and how to effectively promote it at the village level.

The newly delivered baby mothers wondered why a simple community reforestation project could not be organized to marry the **short-term nutrition needs** of young village mothers **with medium and long-term social security concerns** of rural women **through the promotion of precious and fast growing commercial timber species** like Ofram, Wawa, or Teak. **“I can picture myself far, far, better off 10 to 15 years from now if I vigorously take part in such a program”**, exclaimed one seriously under-nourished young mother. **“What can beat creative home-made nutrition plus social and economic security for ourselves and our children?”** The concern was later shared by other nearby village, and that was the starting point of the formation of the nucleus nursing mothers’ groups through the facilitating efforts of a serving community health nurse from the Ashanti Akim South District Assembly. After a series of representative women’s group meetings, the following rural communities decided to organize this initial pilot program:

- (a) New Jejeti Village, (plus one satellite cottage) in the Eastern Region of Ghana.
- (b) Nyiresi Village (noted for its wooden craftsmanship) in the Eastern Region of Ghana.
- (c) Asankare Rural Community (in the Ashanti-Akim South of the Ashanti Region).
- (d) Adansi Rural Community (in the Ashanti-Akim South of the Ashanti Region).

**That is how this pilot project was born!**

The women further suggested that, in the first year of the implementation of this project, a **local-based NGO** (named for example, **“The Oleifera Society”**) should be formed to continue the local cultivation and promotion of fast-growing *Oleifera Moringa* nutritious plant, plus other fast-growing commercial timber species to **practically, cheaply, and permanently** alleviate rural poverty among women participants. **That is how the specific objectives of this project were arrived at.**

### 2. Forest Sector Policies In Ghana In Perspective:

**“Local NTFPs:** *Promote the development of viable and efficient forest-based industries, particularly in secondary and tertiary processing, so as to fully utilize timber and other non-timber forest products (NTFPs) including health and wildlife resources that satisfy both domestic, local, national, and international demand at competitive prices.”* (**Quoted from: Ministry of Lands and Forestry, Accra, Ghana, 2001.**)

Forest sector policies in Ghana since 1994 have enjoyed support from the highest levels of government in the country. Sub-sections of overall Ghana forestry policy include:

- Forestry and wildlife environmental law revisions, awareness raising, and education.
- Forestry, wildlife, and environmental institutional capacity building.
- Natural resources planning, data building, and documentation.
- Co-management and struggles to ensure the sustainability of natural resources.
- Increasing acreages under commercial timber plantations.
- Fair sharing of benefits.
- Greater respect for local and indigenous knowledge regarding forestry and environmental questions.

Major state-backed sectoral policies and legislative reforms further include:

- (a) The restructuring and strengthening of all forest sector state institutions under the umbrella of the **Ghana Forestry Commission**.
- (b) The introduction of the **1994 Forest and Wildlife Policy**.
- (c) The drafting in 2004 of a **Comprehensive National Wildfires Policy**, geared towards an effective coordination and management of wild fires in the country.

The **1994 Forest and Wildlife Policy** is very central to Ghana's forest development endeavors. The aim of this (1994) Policy Document is the conservation and sustainable development of Ghana's forest and wildlife resources so as to ensure adequate environmental quality and perpetual flow of optimum benefits to all segments of society. Among other objectives, the 1994 Policy seeks to:

- Manage and enhance Ghana's permanent estate of forest and wildlife resources so as to ensure the preservation of vital soil and water resources, conservation of biological diversity, as well as a sustainable production of domestic and commercial produce.
- **Local NTFPs:** Promote the development of viable and efficient forest-based industries, particularly in secondary and tertiary processing, so as to fully utilize timber and other **non-timber forest products (NTFPs) including health and wildlife resources that satisfy both domestic, local, national, and international demand at competitive prices.**
- Promote public awareness and active involvement of rural people in forestry and wildlife conservation so as to maintain life-sustaining systems, preserve scenic areas, enhance the potential for recreation, tourism, and wealth creating opportunities.

The major policy issues currently confronting the forest and wildlife sector therefore can be summarized as follows:

- (a) Natural resources protection to ensure their sustainability.
- (b) Rehabilitating, enriching, or developing the resources (through, for example, plantation development and enrichment planting in forestry).

- (c) Optimizing revenue and other benefits that flow from the resources so as to alleviate, especially within resource-owning communities.

### 3. Programs and Operational Activities

In response to the above challenges, the country has undertaken a mixture of complementary measures and programs aimed at realizing the objectives and goals of sectoral policy. Recent reforms that have been backed by legislative enactments include:

- Ensuring an equitable distribution of natural resource benefits to communities, resource owners, and farmers (among others) as a way of facilitating qualitative and effective participation of all relevant stakeholders in the sustainable management and development of resources.
- Transparent and efficient allocation of timber resources through competitive bidding and controls against over-exploitation of timber.
- Appropriate pricing of timber and other forest-based products in order to increase revenue, and thus address the problem of under-pricing of forest resources.
- Review of the Annual Allowable Cut (AAC) as a transitional measure in order to salvage valuable timber being destroyed in off-reserve timber utilization contract areas.
- Mobilization of chainsaw operators into alternative productive ventures, and the control of illegal chainsaw logging and lumbering operations.
- Rationalization of the timber industry and the adoption of fiscal as well as market-based incentives that improve the efficiency of the industry while at the same time encouraging down-stream processing of wood products.
- The development of an extensive forest plantation program so as to bridge the wood deficit in the timber industry and while improving upon general environmental quality.
- Improved incentives with respect to the co-management of forest resources so as to ensure sustainability.

**The Ghana National Forestry Development Master Plan** was inaugurated in 1996 so as to help implement some of the above reforms. The Master Plan was followed by a 10-year **Natural Resources Management Program (NRMP): 199 – 2008**. The NRMP did not cover the Volta Region where this project is based. The said NRMP supports resource management initiatives in five different components, namely:

- High Forest Resources Management.
- Savanna Resource Management.
- Wildlife and Wetlands Resources Management.
- Biodiversity Conservation.
- Environmental Management Co-ordination.

Instead of the NRMP, the Volta Region (where this project is located) enjoys support from a GTZ-KfW-Ded-Government of Ghana project called “**Forest Resource Use Management Project**” (FORUM), with its initial improvement and reforestation emphasis on selected Volta Region forest reserves, woodlot establishment, as well as buffer-zone co-management initiatives.

There are some **ITTO-funded** projects currently in the Ashanti Region of Ghana, especially in the area of precision woodworks. The ITTO had also previously funded several important workshops on forest

improvement and collaborative forest management with multiple divisions of the Ghana Forestry Commission.

### **Other Relevant On-Going Projects In Ghana**

Other on-going projects in Ghana (as a whole) being funded by other donors include:

- (a) **“The Northern Savannah Biodiversity Project”** with financial assistance from World Bank (WB) and GEF.
- (b) **“The Community Forestry Management Project”** with assistance from the African Development Bank (AfDB).
- (c) **“The Land Administration Project”** with joint funding from the World Bank, FAO, GTZ, DFID, KfW, and CIDA, among others.
- (d) **“The High Forest Biodiversity Conservation Project”**, funded by GEF and the World Bank.
- (e) **“The Participatory Forest Management in the Transitional Zone Project”** with assistance from JICA of Japan.
- (f) **“The Wildfire Management Project”** and **“The Wildlife Division Support Project”** with funding from the Royal Netherlands Government.

## Part II: The Project

### 1. Project Objectives

#### 1.1 Development Objective

Valuable fast-growing local timber base provides revenue and income for local sales and exports on a sustainable basis. Furthermore, a highly nutritive non-timber forest product, *Moringa Oleifera*, provides handy, qualitative, and affordable household nutrition on a sustainable basis.

#### 1.2 Specific Objective

Significant increase in the availability of **highly regenerative cultivable inputs of** precious fast-growing forest timber species (like Teak, *Wawa and Ofram*), along with nutritive forest plant resources (specifically, *Moringa oleifera*).

### 2. Justification

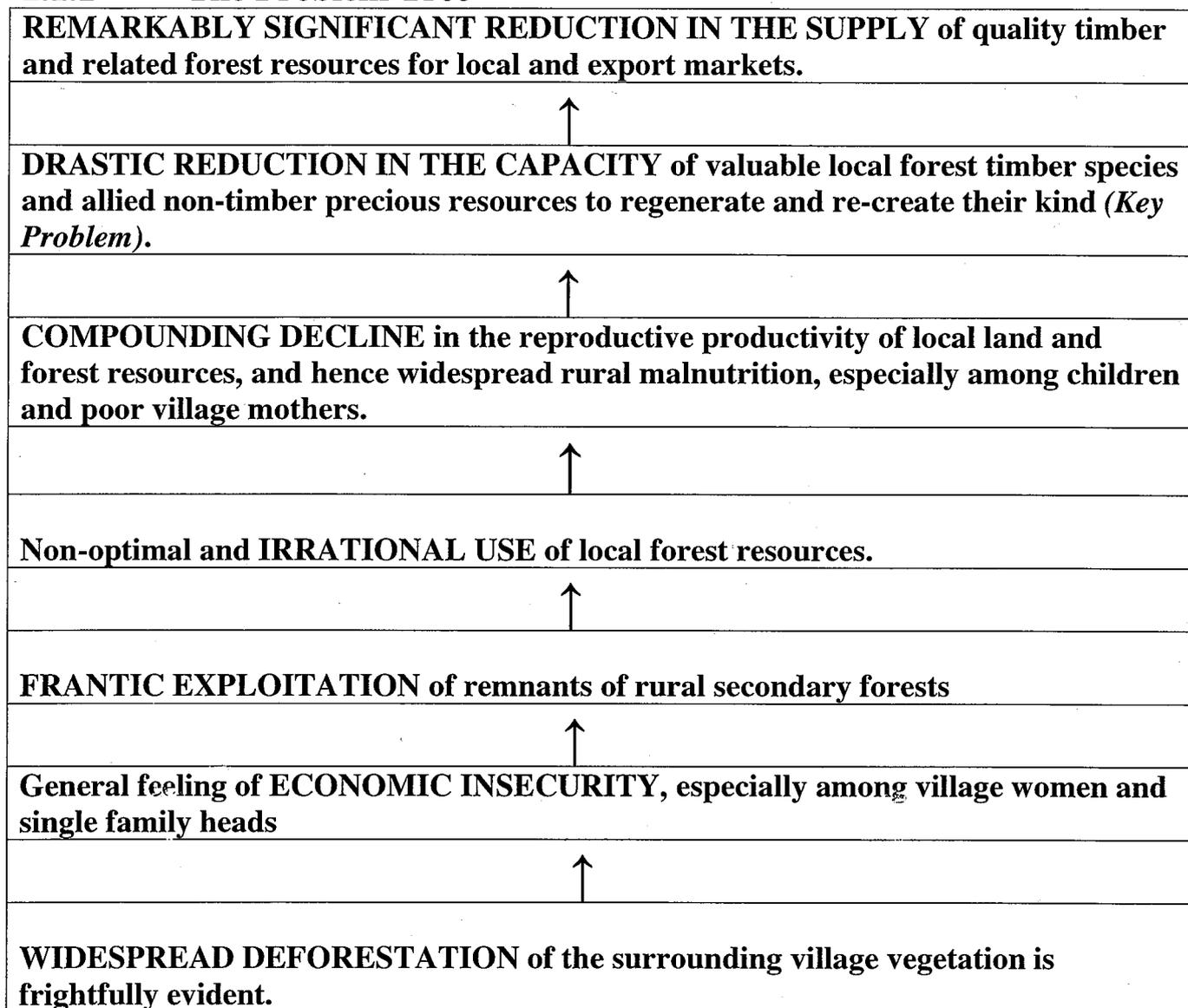
#### 2.1 Problem To Be Addressed

The following chart helps the reader to understand the local rural context that contribute to create the land degradation problems.

Socio-Cultural Dimension	Brief Details
(a) Main Participating Communities:	(a) New Jejeti & Nyiresi (Eastern Region of Ghana); (b) Asankare & Adansi Akim (Ashanti Region of Ghana). <b>Total = 4 villages.</b>
(b) Ethnicity:	Akan-speaking generally.
(c) Demography:	(a) Fairly homogenous in terms of ethnicity. (b) Approximately <b>11,800 overall population</b> (i.e. all four communities combined) according to the <b>AD 2000 Ghana Population Census</b> . (c) Population growing at the rate of 2.4% annually. (d) Women constitute <b>52.4%</b> of the total population, with a very high child dependency rate. (e) Average household size = <b>6 people</b> . (f) High rural-urban migration rate partly as a result of depleted local natural resources, and high local unemployment and underemployment rate.
(d) Major Occupations and Average Income:	(a) Peasant farmers = 63%; (b) Petty traders = 17%; (c) Public servants = 2%. (d) Petty artisans & others = 18%. Average disposable incomes range from \$360 - \$430 per year.
(e) Land Titles, and Present Status of Local Secondary Forests	A mixture of <b>allodial</b> title and <b>customary free-holdings</b> (55%), Family land (35%) and individual land holdings (10%). The secondary forest has been devastated and heavily degraded owing to poor agricultural practices, especially in the past. Local village chiefs and their elders have agreed to provide the land necessary for the project. The project women group members are 98% indigenous.

The following **PROBLEM TREE** helps the reader to understand clearly the reasons **WHY** it is important to undertake the project. The main problem to be addressed relates to **the drastic reduction in the capacity** of valuable fast-growing local forest timber species and allied non-timber precious resources to regenerate and re-create their kind in the target local forest.

### 2.1.1 The Problem Tree

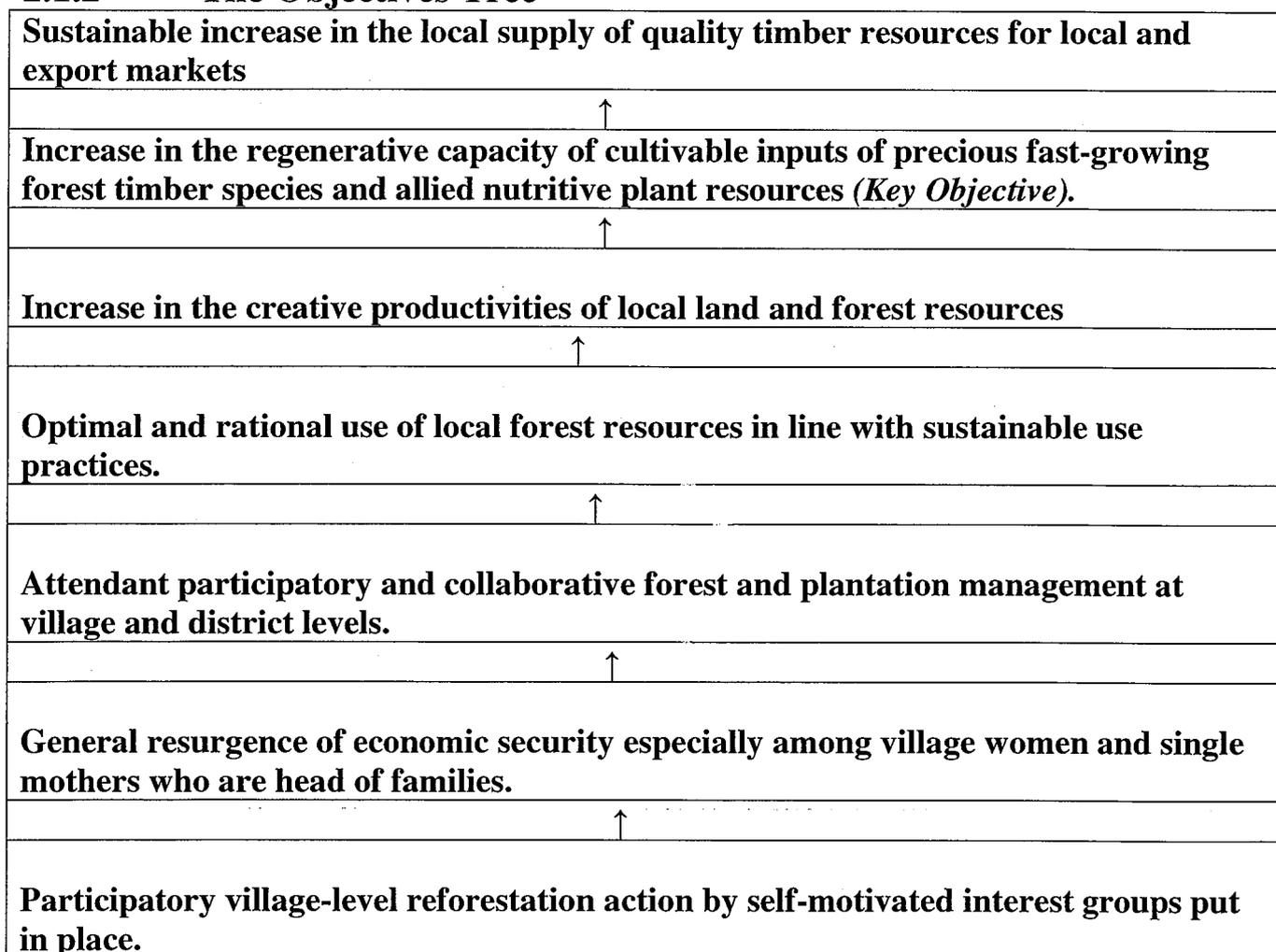


Other aspects of the problem relate to a vicious circle of village-level malnutrition (thriving partly on local ignorance that places undue emphasis on expensive Western-made essential food supplements, coupled with extreme poverty that makes local people to resort to ruthless exploitation of remnants of local forest. This local women' group based pilot project partly aims at:

- (a) Effectively, quickly, and cheaply solving the problem of mother-child malnutrition by introducing and popularizing a local fast-growing plant, the *Moringa Oleifera*, that has recently been scientifically proved to contain at least **33 vitamins and essential nutrients**. The details on this can be seen in the **Technical and Scientific Section** below.
- (b) Effectively solving, as well as confidently showing the way to solve an extensive proportion of participating village mothers' medium and long-term economic insecurity, poverty, and hopelessness by promoting the group and individual cultivation of easily managed and fast-growing (demand-driven) precious timber species like *Ofram*, *Wawa* and *Teak*.

The **OBJECTIVES TREE** described below provides a vivid picture of the **FUTURE** when specified project problems will have been solved. What is useful about the objectives tree is that, it enables *a verification* of relevant issues in *a hierarchical* form as well as a *"means-end relationship"* in the form of a flow chart.

### 2.1.2 The Objectives Tree



The above **Objectives Tree** helps us to narrow down on crucial and relevant issues that enable us (project formulators and other stakeholders) to, in a participatory manner, adopt a feasible **PROJECT STRATEGY** that maximizes outputs, minimizes implementation risks and hazards, as well as minimize operational costs.

## 2.2 Intended Situation After Project Completion

Dimension Improved Upon	Brief Explanation
(A1) Ecology & Forestry	<p>(1) Participatory ownership and management of a of <b>60 acres</b> of <i>Moringa Oleifera</i> plantation <i>mixed with Wawa and Ofram</i> to solve nutritional needs of young nursing mothers.</p> <p>(2) <b>60 acres</b> of fast-growing economic timber trees (e.g. <i>Teak</i>) to alleviate female poverty .</p> <p>(3) <b>An EXTRA</b> minimum of <b>50 acres</b> of out-growers' mixed plantation <b>OUTPUT</b> of Wawa, <i>Ofram</i> and <i>Moringa</i>, as well as extra teak mono-culture stands.</p>
(A2) Biological & Biodiversity	<b>Floral:</b> The promotion of a famous multiple nutrient tropical NTFP.
(A3) Economic	<p>(a) Flush, village-based plantations of <b>young</b>, precious, fast-growing, demand-driven, and (in future), exportable tropical wood, namely <i>Ofram, Wawa and Teak</i> to alleviate the poverty of local disadvantaged young mothers in the <b>FOUR</b> target communities.</p> <p>(b) Cheap vitamin supplements locally made.</p>
(A4) Agricultural Dimension	<p>(a) <b>Many local farmers, schools, and Churches</b> have take advantage of the promotion of <i>Moringa</i> with its vital vitamins.</p> <p>(b) Several flourishing private outreach <i>Moringa Oleifera</i> plantations in the target area since it takes only five months to start providing prolific leaves and green pods that are very rich in vitamins.</p>
(A5) Socio-Cultural	(a) Proud that a <b>33-nutrient plant-vegetable</b> can be so effectively grown near the village that rivals western-made vitamin supplements.
(A6) Health & Medical	Better health for local lactating mothers and their children as a result of the abundance of nutritious <b>Moringa</b> powder food supplements.
(A7) Local institutional capacity building for participating local institutions, e.g. Four local project women groups, and the implementing agency: <i>Pitris Consult.</i>	<p>(a) Enhanced management and reforestation capacity of implementing institutions appreciably improved.</p> <p>(b) Greater self confidence for the four local target women groups</p>

## 2.3 Project Strategy

To ensure an effective and participatory implementation of the project, the project formulators and other relevant stakeholders have discussed and adopted a **strategy** that has many dimensions, aimed at achieving **optimal results**. These strategy dimensions include:

- **Organizational Strategy.**
- **Timber Cultivation Strategy** in terms of land preparation, seedlings procurement and seedlings production, seedlings planting, as well as plantation maintenance, both during and after the project period.
- **Strategy To Promote Private Individual Out-Growers.**
- **Moringa Part-Processing and Management Strategy.**
- **Moringa Products Promotion, Marketing, and Sales Strategy.**
- **Project Benefits Sharing, Conflict Prevention & Conflict Mediation Strategy.**
- **Project Dissemination Strategy.**
- **Overall Community Participation In Implementation Strategy.**

Collective efforts will be made to achieve a relevant and practical mosaic of active participation that is as comprehensive and as effective as possible. The objective is to ensure bottom-up appreciation and active involvement in decision-making by stakeholders, thus leading to greater local actor commitment, more responsible behavior, and the sustainability of the interactive operations and outputs. **The details of these diverse aspects of project strategy are described below.**

### 2.3.1 Organizational Strategy

In each of the four communities, the chosen women's groups **already exist** as thriving social, religious, entertainment, or small business operating groups with their own by-laws, management structures, and sets of meeting times. The project will only strengthen and enrich these useful and committed old ties to the socio-economic advantage of the members. In each of the four villages, the 30 target women group members (per group, making a total of 120), will operate two commonly-owned types of plantations. The word "**commonly-owned**" refers to the **specific women's groups** (and **NOT** their communities at large, **although** whole-community indirect benefits will certainly accrue from the project, and several relevant whole-community meetings will be held at vantage times to democratically discuss issues affecting the entire village).

**The first type** of commonly owned group plantation will be a **MONO-CULTURE DEMONSTRATION TEAK** plantation. **The second type** of commonly-owned plantation will be a **MIXED PLANTATION** of *Moringa oleifera* along with *Wawa* and

*Ofram* fast-growing popular timber species. Along with hired labor, (as the occasion demands) the group members will work and own these plantations with technical direction from the project.

### **2.3.2 Timber Trees Cultivation Strategy**

**The initial land clearing and preparation function** will be through project-hired labor. All such hired labor will be drawn from the local community at large. Seedlings will come from three sources: namely, (a) FORIG in Kumasi; (b) the project's own village seed nurseries; and (c) FSD-approved private local or nearby nursery operators. All seedlings for registered project out-growers will come from the project's own nurseries. **Seedlings transplanting and maintenance** will be carried out by a combination of hired local labor and target women's own labor as far as possible with technical advice from the project. The philosophy is learning by doing, especially in the post-project period. Where the target women cannot do a particular project maintenance function, saved revenue from small-scale processed *Moringa* products (for example, *Moringa* breakfast meal, *Moringa* edible palm-oil, *Moringa* cocoa-tea, or *Moringa* dried leaf powder) will be used to pay experienced outside public-FSD or private officials to execute the function. A special group savings account will be nurtured right from the onset of the project for such future plantation maintenance purposes.

### **2.3.3 Strategy for the Promotion of Private Individual Local Out-Growers'**

An individual private out-grower can be a member of the village target women's group, or a village non-group member (woman or young man) interested in the project, and has secured land and tenure, to plant and harvest the target species along with *Moringa* as the case might be. Such a registered out-grower will enjoy free seedlings and requisite project training to do the reforestation and to own all the benefits accordingly.

### **2.3.4 Moringa Parts Processing and Management Strategy**

This strategy will operate at **TWO** levels. **The first level** will involve the target women's group members as a learning entity and a sustainable self-help profit-seeking group. Management and financial control will in this case be group-oriented. **The second level** will concern individual women owning and being trained to process *Moringa* parts for self-use or for sale as a private small business affair. In this latter case, use of project equipment will attract pre-booking regulations and the payment of small fees determined by the entire group (unless the user is a target group member, in which case no nominal user fees are paid).

### **2.3.5 Moringa Products Promotion, Marketing, and Sales Strategy**

As a result of the fact that *Moringa oleifera* is a very rich plant-vegetable that can directly or indirectly help the entire village community, the project will actively teach, train, and promote a list of nutrient-rich *Moringa* products at both group and private group member levels. Some products to be promoted through attractive packaging, labeling, and Open Day Promotions include *Moringa* breakfast meal, *Moringa*-Cocoa.Tea, *Moringa* soft drink, *Moringa* dried leaf powder, *Moringa* condiments, and *Moringa* fresh edible palm-oil. All these will be done with professional guidance from project officials, as well as with appropriate professional certification from the Ghana Food & Drugs Board. The products will be partly for self-use and partly for sale to the public at a profit for the women's groups.

### **2.3.6 The Projects' Benefit Sharing And Conflict Handling Strategy**

To ensure grassroots commitment in implementation, all first-level project stakeholders (that is, women's group members, landowners, land-giving chieftaincy stools, and the local executing agency) are assured a pre-agreed percentage share in the plantations' harvests. The agreed percentage shares are listed in full in the plantation benefits sharing **Section 2.8.2** of this proposal.

The Project Steering Committee remains the project's advisory board as well as the organ that mediates among project stakeholders in all cases of project disputes and conflicts.

### **2.3.7 The Project Dissemination Strategy**

Effective pilot project implementation also implies effective listening, communication, public relations, promotion, public education, and exchange of ideas and findings. The project will therefore apply a rich dissemination strategy described in the chart below.

### 2.3.7.1 Project Dissemination Strategy Chart

The following strategy and action plan shall guide project implementation with regard to communication and information dissemination.

Type of Information	Target Audience	Method and Media of Communication
(1) General information about the project area environment.	<ul style="list-style-type: none"> <li>• The general public</li> <li>• Chiefs and elders</li> <li>• Local opinion leaders</li> <li>• Farmers</li> <li>• land owners</li> <li>• Women</li> <li>• Collaborative Forest Management Committees</li> <li>• District Assembly Officers</li> <li>• Local elected Assembly Men &amp; Women.</li> </ul>	<ul style="list-style-type: none"> <li>• Whole-community general open meetings..</li> <li>• Traditional <i>gong-gong</i> beaters who provide dawn messages verbally and loudly from vantage points.</li> <li>• Local FM Radio.</li> <li>• Local Church,, Mosque, and School announcement media.</li> <li>• Public video presentations.</li> </ul>
(2) Pre-Project information to the general community.	As above, plus District-level Forestry, Agriculture, and Health Ministry Officials.	As Above, plus popular local newspaper written insets and official project invitation letters to public officials.
(3) Specific Project-Related Production, Management, Technical, and Collaborative Forest Management Information.	<ul style="list-style-type: none"> <li>• Women's group members</li> <li>• Other 1<sup>st</sup> and 2<sup>nd</sup> level project stakeholders as might be found relevant.</li> </ul>	<ul style="list-style-type: none"> <li>• Use of project public relations and community animation personnel on house-to-house missions.</li> <li>• Planned meetings.</li> <li>• On-the-job information dissemination &amp; Bill Boards.</li> <li>• Planned workshops/FM Radio</li> <li>• Planned Participatory Project Open Days for the Whole Community and the Public.</li> <li>• Project Official Newsletter.</li> </ul>
(4) Project Animation, Promotion, Early Warning, Good News, and Replicable Information.	As Above, plus Other non-project local women, local farmers, migrant workers, local Churches, mosques, and Schools.	- Ditto -
(5) Wild (Bush) Fire Information.	<ul style="list-style-type: none"> <li>• The whole Community.</li> <li>• Village Male Farmers.</li> <li>• Women's Group Leaders.</li> </ul>	<ul style="list-style-type: none"> <li>• Gong-gong beaters.</li> <li>• Local FM Radio.</li> <li>• Brisk public announcements.</li> </ul>

### **2.3.8 Overall Community Participation Strategy**

To ensure the active participation, interest, and commitment of all segments of the community, a strategy will be adopted whereby useful contributions will come from a judicious use and blend of diverse participation sub-strategies and tactics, namely:

- Active participation, especially among target group members, landowners, and project co-managers.
- Friendly consultations and advisory services involving relevant stakeholders.
- Training, human resource development, and capacity building roles.
- Direct materials supports (for example, free seedlings to registered private out-growers).
- Relevant information sharing roles especially between project implementing beneficiary target groups, technical forestry and advisory officials, as well as relevant community non-project segments of the local community.

Since the active involvement of the local community in project implementation is very crucial for good results, the project formulators have found it necessary to spell out details of community participation in the form of a chart below. The principles shown in this chart will guide the project's implementation work.

### 2.3.8.1 Details (in the Form of a Chart) on Community Participation Strategy

Issues and Aspects of Community Participation	1 <sup>st</sup> Level Participators	2 <sup>nd</sup> Level Participators	Practical Implementation Action Expected
(a) Community's Active Participation in the Initial Community Animation and Awareness Raising on Depletion of Local Forest Resources	(a) The entire community including the small group of immigrant farmers.	(a) Local chiefs. (b) Women's group executives. (c) The Executing agency. (d) Local Forestry and Agriculture Officers.	A Series of Open Discussion Meetings: <ul style="list-style-type: none"> <li>• Open, free, fair.</li> <li>• Identification and discussion of conflicts and common interests.</li> </ul>
(b) Collective problem identification, discussion, and agreement on intervention issues	(a) The entire community including the small group of immigrant farmers.	(a) Local leaders/Chiefs. (b) Women's Leaders. (c) land owners. (d) Local farmers, migrants, & other land users (e) Legal officers and surveyors. (f) Local public officers.	General agreement and permission for the project to begin: <ul style="list-style-type: none"> <li>• Ground rules.</li> <li>• Limits.</li> <li>• Compromises.</li> <li>• Conflict mediation channels</li> <li>• The Dos and the Don'ts</li> </ul>
(c) Community Participation in the Determination of project objectives, targets, constraints, options, monitoring and evaluation issues.	(a) The women's group as a whole. (b) The Executing Agency. (c) Local land owners. (d) Local forestry and agricultural Ministry officials.	(a) Regional and district forestry officials. (b) Nutrition officers. (c) ITTO country contact	<ul style="list-style-type: none"> <li>• Discussions.</li> <li>• Agreements.</li> <li>• Commitments.</li> <li>• Compromises.</li> <li>• Project plans.</li> <li>• Minutes</li> </ul>
(d) Community Participation in Site Selection, Surveying, Preparation of Indentures, Demarcations & Site Mappings	(a) The women's group as a whole. Surveyors. (b) The Executing Agency. Lawyers. (c) Local land owners. (d) Local forestry and agricultural Ministry officials.	(a) Local leaders. (b) Regional and district forestry officials. (c) Nutrition officers. (d) ITTO country contact	<ul style="list-style-type: none"> <li>• Field visits.</li> <li>• Discussions.</li> <li>• Agreements.</li> <li>• Reporting.</li> <li>• Recording decisions.</li> <li>• Outputs</li> </ul>

***Continuation of Practical Community Participation in Implementation***

<b>Issues and Aspects of Community Participation</b>	<b>1<sup>st</sup> Level Participants</b>	<b>2<sup>nd</sup> Level Participants</b>	<b>Practical Implementation Action Expected</b>
(e) <b>Community Participation in Discussions and Agreements on Land Tenure and Distribution of Project Benefits and Costs</b>	(a) The entire community. (b) The women's group as a whole. Surveyors. (b) The Executing Agency. Lawyers. (c) Local land owners. (d) Local forestry and agricultural Ministry officials.	(a) Village Collaborative Forest Management Group Members. (b) Non-participating farmers. (c) Relevant clan chiefs.	A Series of Open Discussion Meetings: <ul style="list-style-type: none"> <li>• Open, free, fair.</li> <li>• Identification and discussion of conflicts and common interests.</li> <li>• Documented agreements</li> </ul>
(f) <b>Community participation in land preparation, hole digging, cutting of pegs.</b>	(a) The women's group as a whole. (b) The Executing Agency. (c) Local land owners. (d) Hired local workers. (e) Local forestry and agricultural Ministry officials.	(a) Local leaders/Chiefs. (b) Other interested parties	<ul style="list-style-type: none"> <li>• Land clearing using paid local labor.</li> <li>• Hole digging using women's groups and hired local labor.</li> <li>• Making specifications for pegs, pegs cutting, and pegs buying</li> </ul>
(g) <b>Community participation in seed nursery making, buying of seedlings from FORIG and other approved suppliers</b>	(a) The women's group as a whole. (b) The Executing Agency. (c) Forestry advisor and <i>Moringa</i> expert. (d) Local forestry and agricultural Ministry officials.	(a) Regional and district forestry officials. (b) FORIG Officers (c) Local FSD private seedlings sellers.	<ul style="list-style-type: none"> <li>• Discussions.</li> <li>• Agreements.</li> <li>• Commitments.</li> <li>• Compromises.</li> <li>• Seeds procurement, and seedlings purchases</li> </ul>
(h) <b>Participation in planting, beating up, weeding of planted plots, and field advice to out-growers on their farms</b>	(a) The women's group as a whole. (b) The Executing Agency. Out-growers. (c) Local hired labor (d) Local forestry and agricultural Ministry officials.	Other interested community participants	<ul style="list-style-type: none"> <li>• Field visits.</li> <li>• Planting.</li> <li>• Beating up</li> <li>• Early Weeding</li> <li>• Inspections</li> <li>• Reporting</li> </ul>

***Continuation of Practical Community Participation in Implementation***

<b>Issues and Aspects of Community Participation</b>	<b>1<sup>st</sup> Level Participators</b>	<b>2<sup>nd</sup> Level Participators</b>	<b>Practical Implementation Action Expected</b>
<b>(i) Participation in plantation tending and maintenance</b>	(a) The women's group as a whole. (b) The Executing Agency. Out-growers. (c) Local hired labor (d) Local forestry and agricultural Ministry officials. (e) Local community's fire-prone groups	(a) Local land owners. (b) Local hired labor. (c) Local Collaborative Forest Management Committee. (d) District assembly.	<ul style="list-style-type: none"> <li>• Weeding.</li> <li>• Pruning.</li> <li>• Thinning.</li> <li>• Interrelated fire prevention activities.</li> <li>• Anti-wild fire campaigns.</li> <li>• making and maintaining anti-fire strips.</li> </ul>
<b>(j) Community's Active Participation in Wild Fire Prevention and Control</b>	(a) The whole community, especially fire-prone groups like hunters and palm-wine tapers and herders. (b) The women's group as a whole. (c) The Executing Agency. Out-growers. (d) Local hired labor (e) Local forestry and agricultural Ministry officials.	(a) Local leaders/Chiefs. (b) Women's Leaders. (c) land owners. (d) Local farmers, migrants, & other land users (e) District Assembly's Environmental Committee. (f) Local public officers like the National Fire Service and Ghana Police.	<ul style="list-style-type: none"> <li>• Interrelated fire prevention activities.</li> <li>• Anti-wild fire campaigns.</li> <li>• Maintaining anti-fire strips.</li> <li>• Anti-Fire Workshops.</li> <li>• Legal prosecutions.</li> <li>• Payment of fines</li> </ul>
<b>(k) Community participation in the maintenance of private out-grower farms</b>	(a) Executing Agency. (b) Registered project community out-growers.	(a) District forestry officials. (b) The project's Nutrition officers.	<ul style="list-style-type: none"> <li>• Out-growers reports.</li> <li>• Agreements.</li> <li>• Commitments.</li> <li>• Compromises.</li> <li>• Making of out-growers plan</li> </ul>
<b>(L) <i>Moringa</i> nutritional properties promotion; plus the socio-economic security aspects of local timber cultivation.</b>	(a) The women's group as a whole. Out-growers. (b) Executing Agency. (c) Local land owners. (d) Local forestry and agricultural Ministry officials.	(a) Local leaders. (b) The local news media. (c) Nutrition officers. (d) Social security officers. (e) Forest Services Division	<ul style="list-style-type: none"> <li>• Participation in Project Open Day Activities through initial participatory planning.</li> <li>• Newsletter contributions.</li> </ul>

***Continuation of Practical Community Participation in Implementation***

<b>Issues and Aspects of Community Participation</b>	<b>1<sup>st</sup> Level Participants</b>	<b>2<sup>nd</sup> Level Participants</b>	<b>Practical Implementation Action Expected</b>
<b>(m) Community Participation in Project Monitoring &amp; Evaluation</b>	(a) The women's group as a whole. (b) The Executing Agency. Out-growers. (c) Local hired labor (d) Local forestry and agricultural Ministry officials. (e) Local community's fire-prone groups (f) Land owners. (g) Collaborative Forest Management Committee	(a) Local chiefs and opinion leaders. (b) Local migrant farmers. (c) Local farmers not participating in the program directly. (d) District assembly elected members in the community.	<ul style="list-style-type: none"> <li>• Contributions to formal project evaluation discussions.</li> <li>• Presentation of minority reports.</li> <li>• Making of concrete suggestions.</li> </ul>
<b>(n) Community's Active Participation in Project Impact Assessments.</b>	As Above	As Above	<ul style="list-style-type: none"> <li>• Contributions to formal project impact assessments.</li> <li>• Discussions and suggestions..</li> <li>• Presentation of minority reports on impact assessments.</li> </ul>
<b>(c) Community participation in the benefits of the Project</b>	As Above	(a) The chieftaincy stools that donated project land. (b) District assembly Officials.	<b>Women's group members, family heads</b> who give land, as well as <b>chieftaincy stools</b> to benefit directly from project outputs. <b>Out-growers</b> also benefit directly.. Community forests improve and are enjoyed by <b>all residents.</b>
<b>(p) Project termination</b>	As Above	(a) Local leaders. (b) The local news media. (c) Other interested parties	Evaluation, Documentation for future reference, Assets Distribution and Re-Distribution.

### **2.3.9 Concluding Comments On Community Participation In The Project's Implementation**

Planning and implementing this kind of social participatory forestry project is **an interactive process among first, second, and third-level stakeholders**. The final product, if fair and useful, is usually a constructed compromise, politically and socially acceptable, financially, technically and managerially feasible, with interconnected sets of activities, institutions, benefits, and costs. The poor and socially marginalized segments of the village community often have different interest structures from those of richer, well-placed, and more powerful groups in society. The community poor are often (but not always) motivated by food, jobs availability, warmth from project managers, respect, fairness, and dignity! The degree of community voluntary participation therefore **DEPENDS** on the type of market and non-market incentive **PACKAGES** of the project. Where the people are convinced that they will get **MORE OUT** of the reforestation project, than they put in, in terms of time, effort, risk, and resources, they tend to give active participation real meaning.

## 2.4 Target Beneficiaries

It is useful to read this part of the proposal along with **Sections 2.3.8** above.

Specific Beneficiary Target Groups	Products Or Results That The Beneficiaries Will Use	How Will Project Information & Experience Be Disseminated To Stakeholders?
<p><b>Local self-organized village young mothers' (or women's groups) in FOUR rural communities, namely:</b></p> <p><b>(1a) New Jejeti &amp; (1b) Nyiresi (in Ghana's Eastern Region); plus (1c) Asankare &amp; (1d) Akyem Adansi Village in the South Asante Akim District of the Ashanti Region of Ghana. Each village women's group has a total of 30 members (making 120 women in all), plus their children, dependants, and husbands. Most group women have therefore five other people in their household.</b></p>	<p><b>(a) Project-Processed <i>Moringa oleifera</i> products:</b> for example, <i>Moringa</i> breakfast flour meal, <i>Moringa</i>-Tea, <i>Moringa</i> soft drink, <i>Moringa</i> dried leaf powder, <i>Moringa</i> condiments, and <i>Moringa</i> edible palm-oil. The target women will process these for use by their families as well as for sale.</p> <p><b>(b) Teak, <i>Wawa</i>, and <i>Ofram</i> poles &amp; timber</b> for household construction, furniture, and for sale</p> <p><b>(c) Fuel wood</b> when the mono-culture timber plantations trees are being pruned or the plantations are being thinned.</p>	<p>Through, for example:</p> <ul style="list-style-type: none"> <li>• House-to-house project community animators.</li> <li>• Group meeting sessions.</li> <li>• Group training sessions.</li> <li>• Whole community meetings where relevant forestry, timber, and forest resource products are discussed.</li> <li>• Local school assemblies.</li> <li>• Local church assemblies.</li> <li>• Local mosque meetings.</li> <li>• Through planned Project Open Days.</li> <li>• Project's own newsletter.</li> <li>• Local FM radio.</li> <li>• Local new papers.</li> <li>• Local traditional gong-gong information disseminators</li> <li>• Through local Ministry of Agriculture and Forestry Officials</li> </ul>
<p><b>(2) Local project village and nearby rural citizenry in general</b></p>	<p style="text-align: center;">- As Above -</p>	<p style="text-align: center;">- As Above -</p>
<p><b>(3) Environmental Researchers, Nutrition Researchers and Scientists</b></p>	<p><b>(a)</b> The project's documented scientific, technical, and economic results.</p> <p><b>(b)</b> <i>Moringa</i> products as listed above in this chart.</p>	<p style="text-align: center;">- As Above -</p>

## 2.5 Technical And Scientific Aspects

### 2.5.1 Moringa Oleifera

In just under **FIVE MONTHS** of planting from **seeds, seedlings, or stem cuttings**, *Moringa oleifera* grows up to five meters and produces prolific volumes of **fresh leaves** and (after nine months, **green edible pods**) that are very rich in the vitamins named below. The plant can grow well in **ALL** the ten regions of Ghana, **particularly** in the target project areas where the vegetation is lush secondary tropical forest. *Moringa* tolerates a wide range of soil conditions, but prefers a neutral slightly acidic (pH. 6.3 – 7.0) well-drained sandy or loamy soil. Minimum annual rainfall requirements are estimated at 250 mm with maximum at over 3,000mm. In water-logged soil, the roots have a tendency to rot. In areas with heavy rainfall, trees can be planted on small hills to encourage water run-off. The presence of a long taproot makes it resistant to periods of drought. *Moringa* seeds have no dormancy period, so they can be planted as soon as they are mature. The seeds retain their ability to germinate for up to one year. Seed germination occurs within 5 to 12 days. Left alone, a *Moringa* tree can eventually reach 12 meters in height with a trunk 30cm wide. However, the tree can be annually cut back to one meter from the ground. Within three years, a tree will yield 400 – 600 pods annually. For intensive *Moringa* production, plant the tree every 3 meters in rows 3 meters apart.

### 2.5.2 Vitamins And Essential Nutrients Found in *Moringa Oleifera* Fresh Leaves, Fresh Green Pods, or Dried Leaf Powder

Scientifically Proven Concentrated Vitamins	Other Scientifically Proven Minerals	Essential Amino Acids
(1) Vitamin A ( <i>Beta-carotene</i> )	(8) Protein	(23) Arginine
(2) Vitamin B ( <i>Choline</i> )	(9) Iron	(24) Cystine
(3) Vitamin B1 ( <i>Thiamin</i> )	(10) Calcium	(25) Histidine
(4) Vitamin B2 ( <i>Riboflavin</i> )	(11) Phosphorus	(26) Leucine
(5) Vitamin B3 ( <i>Niacin</i> )	(12) Magnesium	(27) Isoleucine
(6) Vitamin C ( <i>Ascorbic acid</i> )	(13) Potassium	(28) Lysine
(7) Vitamin E ( <i>Tocopherol acetate</i> )	(14) Zinc	(29) Methionine
	(15) Sodium	(30) Phenylalanine
	(16) Sulfur	(31) Threonine
	(17) Light Vegetable Fat	(32) Tryptophan
	(18) Light Carbohydrates	(33) Valine
	(19) Fiber	
	(20) Copper	
	(21) Selenium	
	(22) Oxalic acid	
<b>Total Number of Vitamins &amp; Nutrients in Moringa Plant = 33</b>		

**Pitris Consult**, the local implementing agency will deepen its current *Moringa* use information sharing links with other *Moringa* research organizations like the Plants Research Institute of Ghana, Zija International of Utah, USA; Bactohem Laboratories in Ness-Ziona in Israel; Campden & Chorleywood Food Research Association in Leicester in the United Kingdom; as well as with Dr. Rob. Fletcher of the School of Land & Food, University of Queensland Gatton College in Australia.

### 2.5.3 Teak in Ghana

Ghana's natural forests will soon no longer be able to supply current (2006) levels of tropical hardwood demand. Steps are therefore being taken to find alternative sources of hardwood supply. The Government of Ghana recognizes the severity of the problem, and is creating the required enabling environment to encourage private sector investment in TEAK plantations, especially.

**TEAK** (*Tectona grandis* Linn.f) is a very popular tropical hardwood among both people who process it as well as among users of the end product. In eak growing, **BEST PRACTICE** is the application of superior technical, managerial, and financial know-how to satisfy the goals of the grower, without causing damage to the environment or to society. The Forest Research Institute of Ghana (FORIG) located at Fumesua-Kumasi, has developed superior *plus* teak trees and seedlings. The seedlings are available to the public at reasonable prices.

**Planting And Spacing:** Plant 1,110 teak trees per ha (3m x 3m). Plant sufficiently early in the year to allow full growing potential in the first year. Do not plant after the month of June as a general rule.

**Survival Count:** Carry out a survival count one month after planting. Replant where mortality surpasses 10 per cent and is randomly distributed. Replanting (or beating up) should be done as early as possible in the growing season..

**Weeding** should be carried out every two or three months depending on vegetation growth and growth of unwanted weeds. Weeding (where grass is scraped away from the young teak plant) can make dramatic favorable results. Grass causes problems for the young teak plant in terms of survival and fast growth.

**Diseases:** Teak is relatively disease-free. However, stem rot can occur, through poor soil selection or from bush fire.

**Early pruning of teak** is advisable to improve wood quality and increase the merchantable height on the best teak trees. **Thinning** is one other activity that should be carried out on time and adequately! Carry out thinning by all means before the 7<sup>th</sup> or 8<sup>th</sup> year. Carry out first thinning when the stand is about 12 m. Remove 50 per cent of the trees and leave about 500 trees only per hectare.

**The Rotation:** Recommendations for final harvesting will vary from 20 to 30 years depending on the fertility of the soil.

**Teak has a reputation for excellent wood quality.** Teak wood properties include:

- Strength and lightness.
- Dimensional stability.
- Non-corroding properties.
- Ease of working and seasoning.
- Termite, fungus, and weather resistant.
- Relatively straightforward machining properties.

#### 2.5.4 *Triplochitons scieroxylon* (Wawa)

“...already, 50 per cent of existing (Ghana private commercial) production consists of *Triplochitons scieroxylon* (Wawa), a pale-colored medium density wood, while the rest consists of more valuable but denser species. The high demand for these attributes of wawa reflects significantly the preferences in the market place.” Said by G. A. Symes, 1997: Plantation Establishment in Off-Reserve Areas in Ghana. Speech delivered during an ITTO-sponsored workshop in Ghana.

Wawa (along with *Ofram*) will be planted alongside the project’s plant-vegetable (*Moringa oleifera*) in a **professionally mixed manner**.

*Triplochitons scieroxylon* (known in local Ghanaian language as *Wawa*) grows naturally in the original high forest and secondary vegetation in the project area. Before the present massive deforestation in the project zone, Wawa grew side by side with other forest species like *Milicia exelsa*, *Alstonia boonei*, *Ficus spp.*, *Ceiba pentandra*, *Terminalia ivorensis*, *Albizia zigia*, *MorindaL.*, *Antiaris Africana*, *Celtis spp.*, *Sterculia tragacantha*, *Tarrietia u.*, *Khaya ivorensis*, *Cola cordifolia*, *Trema guineense*, *Lonchocarpus sericeus*, *Anogeissus leiocarpus*, and others.

The public sector technical officers and range supervisors of the Forest Services Division of the Ghana Forestry Commission are very well versed with the technical and silvicultural needs of *Wawa* as well as local farmers. Top-quality *Wawa* seedlings can be easily purchased from the Forest Research Institute of Ghana in Kumasi. Mean annual rainfall in the project area is above 2600 mm, with soil texture alternating from light loamy soil, through medium loamy, to light clayey.

**Planting and Spacing (for *Wawa* and *Ofram*):** *Wawa* seedlings shall be planted at distances of 3m x 6m. The seedlings will be planted early in the year to allow for maximum supply of rain water. A survival count shall be undertaken after six weeks. Weeding shall be carried out monthly to protect the young trees.

**Diseases of *Wawa*:** *Wawa* is relatively disease resistant assuming good quality soil, regular weeding, and protection from wild fires. Early pruning is advisable for the two species (*Wawa* and *Ofram*), when necessary. Recommendation for final harvesting will vary from 15 to 25 years. **Wawa produces medium-density wood** with high market value in Ghana and overseas. They are used as construction material, poles and posts, veneer and plywood inputs, carvings and turnery, versatile packaging material, as well as furniture inputs.

### 2.5.5 *Terminalia superba* (Ofram)

*Ofram*, *Wawa*, and *teak* rank as the top three timber species that Ghana exports most to Europe, America and Asia. *Ofram* therefore is a very popular tree type to have on a Ghanaian plantation at present. *Ofram* will be planted alongside *wawa* and the project's plant-vegetable (*Moringa oleifera*) in a **professionally mixed manner**. *Terminalia superba* (known in local Ghanaian language as *Ofram* (like *Wawa*) grows naturally in the original high forest and secondary vegetation in the project area. Before the present massive deforestation in the project zone, *Ofram* grew side by side with other forest species like *Milicia exelsa*, *Alstonia boonei*, *Ficus spp.*, *Ceiba pentandra*, *Terminalia ivorensis*, and *Albizia zigia*, *Morinda*, among others. Field officers of the Ghana Forestry Commission are very well versed with the technical and silvicultural needs of *Ofram*. At present, top-quality *Ofram* seedlings can be easily purchased from the Forest Research Institute of Ghana in Kumasi. Planted seedlings survival rate for FORIG's *Ofram* inputs have been reported to average 85 per cent provided they are planted in May or June. Mean annual rainfall in the project area is ideal for *Ofram* cultivation. Mean annual rainfall is above 2600 mm, with soil texture alternating from light loamy soil to medium clayey.

**Planting and Spacing:** Owing to the presence of the *Moringa oleifera* plant vegetable which shall be interspersed with *Ofram* (and *Wawa*), seedlings shall be planted at distances of 3m x 6m. The seedlings will be planted early in the year to allow for maximum supply of rain water. A survival count should be undertaken after 6 to 7 weeks. Beating up should be undertaken within seven weeks of initial planting.

**Diseases of *Ofram*:** *Ofram*, like *Wawa*, is relatively disease resistant assuming good quality soil, regular weeding, and protection from wild fires. However, some minimal level (less than 8 per cent of examined quantities) of branch dieback, bark necrosis, and sapwood staining have been discovered in *Terminalia ivorensis* (*Emire*) and *Terminalia superba* (*Ofram*) near the Ghana-Ivory Coast border, about 350 kilometers from the project area. recently. Well-informed experts however think that these disease occurrences could be due to wild fires, drought, and soil nutrient deficiencies in the study area.

**General Tolerance:** *Ofram* plantations are known to be drought hardy, moderately frost resistant, and tolerant to brief seasonal water-logging. The tree is however light demanding. Early pruning is advisable for *Ofram*. Recommendation for final harvesting will vary from 15 to 25 years. *Ofram* produces medium-density wood with high market value in Ghana and overseas. They are used as:

- Construction material;
- poles and posts;
- veneer and plywood inputs;
- carvings and turnery; and
- versatile packaging material.

## 2.6 Economic Aspects

All the figures provided in this section are based on ACTUAL weekly revenue figures of a real-life family company in the Volta Region of Ghana, particularly the \$12 per week per woman quoted below! The project's (women's group) Moringa products will include the breakfast flour meal, Moringa edible palm oil, vitamin-rich Moringa dried leaf powder, Moringa Cocoa-Tea, and the Moringa skin-clear cream, among others. The economic benefits and advantages of the project can be quantitatively and qualitatively described and assessed in different ways, forms, and levels as follows.

### 2.6.1 Economic Benefits From The Project's Timber Products

**Long-Term Economic Benefits:** Teak, Wawa, and *Ofram* rank as the leading sawn timber types in Ghana's export trade at present (according to a Forestry Commission Newsletter, "*The Ghana Gazette*"). The same applies to sliced and rotary veneer, flooring wood, furniture parts, plywood, machined timber, mouldings, and profiled boards. Between January and March 2004, for example, Ghana received \$37,274,394 revenue from such external trade. Within 15 and 20 years, the project's timber outputs will surely contribute to Ghana's external trade along the lines above.

**Faster Short Term Benefits** from the project's teak, *Wawa*, and *Ofram* (for the women's groups and the local community (especially after plantation prunings and thinnings) include:

- Construction poles or young timber materials.
- Building poles.
- Village roofing wood
- Fuel wood.
- Propping poles.
- Wood for essential furniture parts, among others.

### 2.6.2 The Project's Economic Contributions Viewed From The Livelihood Approach

Based on the project principles of **LIVELIHOOD APPROACH**, people (or specifically targeted village women and their nucleus families) are at the center of the reforestation effort. The project's economic benefits described above therefore contribute to the development of the rural villages' target resources in terms of:

- **Local human capital;**
- **Local natural capital.**
- **Local social capital; and**

- **Local financial capital.**

**Local human capital** represents the skills, knowledge, and good health of rural people to labor, improve, and prosper. **Local social capital** refers to project-related networks and relationships of trust that are nurtured and developed which form the enhanced basis for present and future individual, group, and societal advancement. **Local natural capital** refers (in our context) to natural resource stocks like non-timber forest products (NTFPs) and precious timber resources, from which other useful benefits and services emerge. **Local financial capital** refers to project-related savings, regular money income flows, and useful petty credit possibility networks that open up for the four village women groups and their communities at large. *These help to inject a useful level of confidence and stability into their lives.*

### **2.6.3 How Will Plantation Maintenance Costs Be Met After The Project?**

After the initial hired local labor for tough bush clearing after which seedlings are transplanted, the second, third, fourth, fifth, and sixth plantation weeding will be done with **HOES AND PAID FOR BY THE PROJECT**. The idea is to **EASE** future weeding burdens. After the sixth weeding, all subsequent weeding will be performed very easily and promptly by the target women's group members themselves with supervision from **Pitris Consult**, the local executing agency. Remember, there are 120 such women, divided in four groups of 30 each! Where a member, or a group of women cannot directly provide labor, contribution will be made in cash (from for example, *Moringa* products sales) to pay for hired local labor. **A special group savings account will be started at the local community bank right from the beginning of the project to cater for such situations.**

## **2.7 Environmental Aspects**

Although it can be academically argued that such a small project contributes to environmental improvement **in principle**, it is a bit of an exaggeration to attribute significant environmental gains to small reforestation projects like this one. **At the environmental front however**, the project's promotional slogan perhaps ought to be taken seriously: namely, **"several little drops of well-planned and well-implemented community reforestation programs can surely make a mighty ocean in the aggregate!"**

## **2.8 Social Aspects**

**The Social Context:** All the four project communities are Akan-speaking communities. The Akan language group is the largest ethnic group in Ghana (almost 43 per cent of the entire population). The population of the four communities is approximately 11.8 million people, and fairly homogenous. This means that, less than 5 per cent of the people are non-Akans, mainly settled farmers from other parts of Ghana. Land title therefore remains firmly in the hands of the indigenous Akan people. Most of the people are Christians or

traditional belief holders. Traditional power is in the hands of local chiefs and sub-chiefs. Social organization comes in the form of extended families, sub-clans, clans, villages and towns. Society is basically male-dominated, with women being heavily overshadowed in most societal relation by men. Most segments of society are now convinced that, women should be emancipated in both social and economic aspects. It is mainly for this reason that a local decision was taken to institute this reforestation project in favor of local women. All the four women's groups are already old, thriving socio-cultural units with multiple objectives aimed at improving upon the socio-economic interests of their members.

**In Ghana, interest in land originates from three main sources:**

- (a) Ghanaian traditional and customary law;
- (b) Parts of English Common Law assimilated into Ghana Common Law; and
- (c) The 1992 Ghana National Constitution and related promulgated laws.

Title to land in Ghana could be one of **four types**: namely (1) allodial title (which is the highest land title existing in the country); (2) freehold interest (which could be either customary freehold or common law freehold); (3) leasehold (which could be short or long-term, **as all the allotted project lands for this project are long-term leaseholds**); and (4) lesser customary share-cropping land tenancy agreements.

### **2.8.1 Local Land For This Specific Project**

Land to be used by all the four women's groups **will be conflict-free 49-year period free leaseholds (not Stool lands), granted by bona fide clan heads who are the rightful allodial land title holders.** The land has already been secured, thanks to the project strategy to allot **20 per cent of all project benefits** (like **timber** and *Moringa*) to all **land-giving families** during the program as an incentive. There are appropriate project budgets for the preparation of indentures. Appropriate copies of the indentures will be made to all relevant project stakeholders (namely the women's groups, the legal landowners, and ITTO) by the end of the first quarter, thanks to an on-going World Bank/Government of Ghana Program to fast-track land registration and documentation in the country.

Since all the women **out-growers** are resident indigenous citizens in their communities, they have been allotted (49 – 99 year) land leases (of average 2 – 50 acres) by their respective authoritative clan heads or family heads.

**Land, Land Use And Land Tenure In The Project Area:** Compared to the national average regarding population versus available arable land, the selected four villages can boast of far above average land availability statistics. In the four selected villages, fertile secondary forest still exists uncultivated and stretch literally over very vast areas uncultivated although visibly depleted in terms of precious commercial timber species. Immigrant farmers are very few in the area: about 5 per cent of the population.

Where secondary land has been cultivated, they are often by indigenous dependants of family members who are lawful successors of customary freehold title holders. They are legally free to use the land for as long as they please.

**Land Use Patterns:** Most land in the project area is used for the cultivation of subsistent crops like cassava, maize, vegetables, oil palm, and to a lesser extent, cocoa, a tree cash crop that reached its cultivation heydays in the 1960s and has since been on a persistent decline.

### 2.8.2 Sharing Of Project Benefits

The project will have two levels of project plantations in each of the four villages. There will be a mono-culture plantation of *teak*, and there will be a mixed plantation of *Moringa oleifera* interspersed with *Wawa and Ofram*. These project outputs will be shared according to the following rate indicated in the chart below.

**Project Demonstration Plots' Ownership Shares (in %)**  
*(These percentages apply to all the 4 target villages)*

Village Stakeholder	Percentage Owned
<b>(a) The 30 nucleus village women's group members</b>	<b>72%</b>
<b>(b) The land owning family</b>	<b>20%</b>
<b>(d) The Project Executing Agency</b>	<b>8%</b>
<b>Total</b>	<b>100%</b>

**Comment:** These percentages have already been exhaustively discussed among all the parties and freely agreed upon. The agreement will form part of the indentures to be prepared by professional fee-taking lawyers and signed within the first four months of the project period (with copies to ITTO). This sharing pattern is in line with current Ghanaian national law on land benefits and crop sharing agreements.

**The Idea of Co-Management Is Well-Grounded:** The local communities are the owners, willing implementing partners, major co-decision makers, as well as the main beneficiaries of the project. The idea to undertake this project fundamentally originated from three local women during discussions at a post-natal health clinic. Socially therefore, the project will make a **SIGNIFICANT** contribution in terms of:

- Confidence building in self-management strategies.
- Team building competence development.
- Multiple gains in terms of mother-child reproductive health and nutrition.
- Guaranteed social and economic stability in target rural communities where only about **5 per cent** of the population are members of the State Social Security system (**SSNIT**). Even fifty surviving *Ofram, Wawa, or Teak* trees provide better socio-economic security prospects than the State can ever provide to the women members of the project groups, and their families!

#### Other Important Social Context Statistics

Socio-Cultural Dimension	Brief Details
<b>(f) Land conflicts and litigation:</b>	These are very minimal in the area partly as a result of the homogeneous nature of the population. The council of local elders normally mediate among parties in cases of conflict. This point is good news for the project.
<b>(i) Religion and Culture:</b>	Seventy per cent of the people are Christians; 20 per cent are believers in traditional religion; and 10m per cent are Moslems. The <i>Odwira</i> (or Stool purification) <b>festival</b> is very popular in all the project areas. The project plans to take advantage of the festival period to promote environmental conservation and forest improvement, including the multiple nutrients of the <i>Moringa</i> plant.
<b>(j) Relationship of the people with local tropical forests and their remnants</b>	At least 75 per cent of the people have in recent surveys admitted to enjoying direct or indirect NTFP benefits emanating from the local forest. The project plans to capitalize constructively on this local awareness. <b>“Our forests are truly our life”</b> , said by a local women’s group leader.

## 2.9 Risks

During the execution of the project, the management will try as far as possible to eliminate project risks, or minimize their effect to the advantage of stakeholders.

Risk	Implementation Assumption	Planned Project Action To Eliminate Or Minimize Risk
<p><b>2.9.1 Destructive Wild Bush Fires</b></p>	<p>That wild bush fires in the project area can be prevented, minimized, or completely eliminated.</p>	<p>(a) Preventive community education, especially for fire risk groups, e.g. hunters, NTFFP collectors, palm-wine tapers.            (b) Border planting, using fire-resistant evergreen scrubs and trees.            (c) Construction of fire-belts around target plantations to prevent fire outbreaks, and facilitate dry-season fire patrols.            (d) Motivating implementing communities to aim at 100 per cent anti-fire regimes.</p>
<p><b>2.9.2 Withdrawal of community's partnership support and interest before the end of the project.</b></p>	<p>That the collaborative implementing support of the communities (especially moral support from the local traditional chiefs) will endure throughout project implementation</p>	<p>Always ensuring a genuine active participation of all local partners in all aspects of the project cycle (i.e. project identification, project formulation, project decision, and project implementation). Project <b>benefits</b> will be fairly shared among the women participants.</p>
<p><b>2.9.3 Petty litigation over portions of the external project boundaries.</b></p>	<p>That all land-owning traditional leaders will stick to their initial pledges to give land for the demonstration plantations.</p>	<p>Ensuring an effective <b>legal documentation</b> of the project <b>land</b> as well as <b>legal rights</b> and responsibilities from <b>YEAR ONE</b> of the Project. These will be tackled as a matter of priority.</p>

### 3. Outputs

#### 3.1 Specific Objective

Significant increase in the availability of **highly regenerative cultivable inputs** of precious fast-growing forest timber species along with nutritive forest plant resources.

##### Output 1.1

Established and thriving **DEMONSTRATION PLANTATION** made up of a total of **60 acres** of *Wawa and Ofram professionally mixed with the Moringa oleifera plant*, in the **FOUR** target rural communities (together), **OWNED**, and **MANAGED** by the respective village young mothers' groups within the context of a thriving local network that ensures sustainability of functions.

##### Output 1.2

Established and thriving **DEMONSTRATION PLANTATION** made up of **60 acres** of well-managed teak **in** the **FOUR** target rural communities (together), **OWNED**, and **MANAGED** by the respective village young mothers' groups within the context of a thriving local network that ensures sustainability of functions.

##### Output 1.3

Established and thriving **OUT-GROWERS' PLANTATION** made up of **50 acres** of well-managed teak in separate stands, plus **50 acres** of mixed *Wawa, Ofram* and *Moringa oleifera* trees **in** the four target rural communities (together), owned and managed by project-registered and project-sponsored private out-growers within the context of a local network of effective, participatory grassroots promotional campaign that ensures sustainability of functions.

## 4. Activities

4.1 Output 1.1	Inputs and Remarks
Established and thriving <b>DEMONSTRATION PLANTATION</b> made up of <i>Moringa Oleifera mixed with Wawa and Ofram</i> , in each of the <b>FOUR</b> target rural communities, <b>OWNED</b> , and <b>MANAGED</b> by the respective village young mothers' groups themselves.	Women members' labour, seedlings and other financial inputs
<b>Activity 1.1.1: Participatory LAND SECURING</b> , site selection, site surveying, demarcation, indenture preparation, and pillaring.	Labour and pillaring wooden pegs
<b>Activity 1.1.2</b> Preparation of appropriate maps and ownership site plans.	Labour from the women group leaders, implementing agency staff, and local traditional chiefs who give out the land.
<b>Activity 1.1.3</b> Extra Moringa seed collection, extraction, drying, purchasing, testing and storage.	Labour, and financial inputs.
<b>Activity 1.1.4</b> <b>Establishment</b> of 4 small <i>Moringa, teak, Wawa, and Ofram</i> seed <b>NURSERIES</b> (one in each village) to produce needed seedlings to complement supplies from FORIG . These include land preparation, sowing, fertilization, watering, shading, purchasing of polythene bags, and seedling bagging.	Trained women's group labour, plus seeds and financial resources
<b>Activity 1.1.5</b> Adequate preparation of the main field plots for plantation planting activities i.e. pegging, hole digging, etc.	Wooden pegs and digging implements.
<b>Activity 1.1.6</b> MAIN Plantation Sector <b>TRANSPLANTING</b> of seedlings and beating up.	Labour and adequate water.
<b>Activity 1.1.7</b> Making of borderline anti-fire strips	Women's groups. Sub-contracted local male labour.
<b>Activity 1.1.8</b> Plantation <b>MAINTENANCE</b> and the protection, tending, and management of enrichment planting segments.	Guided labour.

4. **Activities** (*continued*)

4.1 Output 1.2	Inputs and Remarks
<p>Established and thriving <b>DEMONSTRATION PLANTATION</b> made up of <i>Teak under monoculture, following best sivicultural practices in each of the the FOUR</i> target rural communities, <b>OWNED</b>, and <b>MANAGED</b> by the respective village young mothers' groups.</p>	<p>Women's group labor</p>
<p><b>Activity 1.2.1</b>  <b>BUYING TEAK SEEDLINGS</b> from FORIG in Kumasi, and getting them to the site.            Complementing <b>FORIG</b> seedlings supplies with seedlings from the project's own <b>VILLAGE NURSERIES</b></p>	<p>Women's group labor</p>
<p><b>Activity 1.2.2</b>  <b>Actual TRANSPLANTING</b>, followed by field inspection and beating up where necessary.</p>	<p>Seedlings, plus labour.</p>
<p><b>Activity 1.2.3</b>            Construction of borderline anti-fire strips where appropriate.</p>	<p>These help plantation patrol groups to function effectively.</p>
<p><b>Activity 1.2.4</b>  <b>MAINTENANCE</b>, tending, and young plant protection.</p>	<p>Women's group labor, plus seedlings.</p>

4. **Activities** (*continued*)

4.1 <b>Output 1.3</b>	<b>Inputs and Remarks</b>
The creation, through training, practical action, and capacity building, a virile team of proficient private plantation out-growers (of teak, under mono-culture, as well as Moringa oleifera mixed with Wawa, and Ofram, all operating within an efficient local and affordable <b>NETWORKS under sustainable conditions.</b>	The target groups here are basically local women groups as well as non-member groups in the target area, namely: New Jejeti, Nyiresi, Asankare, and Adansi-Akim villages interested in the program.
<b>Activity 1.3.1</b> General information provision and discussion forums with the women's groups and out-growers in the respective 4 villages.	Trained implementing agency staff. Effective communication of meeting times, venues, and dates.
<b>Activity 1.3.2</b> Organization of several " <b>Learning-By-Doing</b> " training workshops where participants actually learn to process, make, manufacture, pack, label and sell diverse Moringa products.	Fresh and dried Moringa leaves and green pods from project plantations, as well as from registered out-growers. The project has equipment and machines to process the raw materials using expert resource persons.
<b>Activity 1.3.3</b> Periodic organization of formal 1-day <b>NETWORKING training WORKSHOPS, Open Days, Moringa Promotion Days</b> for the target groups.	Trained implementing agency staff. Invited resource persons from FORIG & FSD
<b>Activity 1.3.4</b> Arranging planned field visits to FORIG (Kumasi), for each of the FOUR women's groups and interested out-growers to enable them be conversant with the services (especially the quality of seedlings) that they can get from the professionals (who are often so close, and YET so far off!)	These help the village women's plantation groups and out-growers to build professional <b>NETWORKS</b> and function effectively and sustainably.
<b>Activity 1.3.5</b> Promoting other target area private seedlings producers (that is, private nurseries) that are professionally sound enough to supply approved seedlings for targeted fast-growing timber species like Ofram, Wawa, or Teak.	Such private nurseries must have been trained by FORIG or FSD in the District.
<b>Activity 1.3.6</b> Organization of a <b>Project Monitoring Exercise</b> along with the participating groups and ITTO officials.	Transport & Accommodation

## 5. Logical Framework Worksheets

Project Elements	Indicators	Means of Verification	Assumptions
<p><b><u>Development Objective:</u></b> To increase the contribution of Ashanti and Eastern Ghana-regional forestry sector products, especially fast-growing precious timber and nutritive non-timber forest products in the overall Ghana local supply as well as exports</p>	<p>Ashanti and Eastern region's forestry sector products' contribution in Ghana's inter-regional domestic and export trade expands by at least 2% yearly from 2008.</p>	<p>Periodic official publications from the Economic &amp; Markets Bureau if the State Ministry of Food and Agriculture (MOFA), and the Ghana Statistical Services.</p>	<p>That Ghana's forest sector policies and enabling factors' promotion programs are maintained with emphasis on collaborative forest management and sustainable forest growth and development.</p>
<p><b><u>Specific Objective</u></b>  To increase Ghana's regenerative capacity for cultivable inputs of precious fast-growing forest timber species (for example, teak, <i>Wawa</i>, and <i>Ofram</i>) and nutritive non-timber forest resource base, with specific reference to <i>Moringa oleifera</i>.</p>	<p>Published sector and Ministerial level information from the Ghana Forestry Commission, the Ministry of Agriculture, and the Ministry of Health.</p>	<p>Periodic state-of-the-arts reports at Government Ministerial levels.</p>	<p>That the Ghana Forestry Commission, the Ministry of Food and Agriculture, and the Ministry of Health pursue and strengthen the policies of sustained rural development program.</p>

## 5. Logical Framework Worksheets (*Continued*)

Project Elements	Indicators	Means of Verification	Assumptions
<p><b>Output 1:</b> Established and thriving <b>DEMONSTRATION PLANTATION</b> made up of a total of <b>60 acres</b> of <i>Moringa Oleifera</i> with <i>Wawa</i> and <i>Ofram</i> mixed plantation in separate stands, in the <b>FOUR</b> target rural communities (together), <b>OWNED</b>, and <b>MANAGED</b> by the respective women groups.</p>	<p>(a) Targeted area of pure stands <i>Moringa Oleifera</i> plantation professionally established with good quality seeds, seedlings, or cuttings stock.</p>	<p>(a) Guided field visits.  (b) Project progress reports.</p>	<p>a) That planned and approved project funds are released on time. (b) That required project inputs are made available. (c) That the interest of all implementing partners are sustained. (d) That wildfires are kept under control.</p>
<p><b>Output 2:</b> Established and thriving <b>DEMONSTRATION PLANTATION</b> made up of <b>60 acres</b> of proven fast-growing precious timber species like <i>Teak</i>, <i>Ofram</i>, <i>Wawa</i>, in separate mono-culture stands, in the <b>FOUR</b> target rural communities (together), <b>OWNED</b>, and <b>MANAGED</b> by the respective village young mothers' groups.</p>	<p>Targeted mixed stands of professionally planted &amp; high-value fast-growing proven timber species established.</p>	<p>(a) Guided field visits.  (b) Project progress reports.</p>	<p>- As above -</p>
<p><b>Output 3:</b> The creation, (through training, practical action, and capacity building) of efficient local and affordable <b>NETWORKS</b> for effective local exchange of information on cultivable inputs and best management and silvicultural practices regarding fast growing timber species and <i>Moringa oleifera</i>.</p>	<p>Ghana Land Ministry and Forestry Ministry Published Information</p>	<p>(a) Forest Services Division's Progress Reports. (b) Officially published reports from the Forestry Research Institute of Ghana (FORIG). (c) Project progress reports.</p>	<p>That complementary and enabling factors promotion policies are vigorously followed at State Ministerial levels on sustainable and collaborative forest management and development.</p>

**6 Work Plan** *(Based on participatory and responsibility sharing approach)*

OUTPUTS/ ACTIVITIES	RESPONSIBLE PARTY	Year 1 SCHEDULE (In months)												Year 2 SCHEDULE (In months)											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
<b>(1) The Year BEFORE Project Begins: REFORESTATION AWARENESS RAISING, problem analysis, and collective decision to do the project. Agreement over land issues. Benefits sharing discussions.</b>	(a) The Coordinator (b) The Women's Group Members																								
<b>(2) LAND SECURING, Surveying, Demarcation, Indenture Making</b>	(a) The Project Coordinator (b) The Forestry Advisor																								
<b>(3) PREPARATION OF SITE PLANS, maps, and initial capacity building TRAINING workshops for stakeholders</b>	The Coordinator (Assisted by the Moringa Specialist)																								

6. Work Plan (Continued)

OUTPUTS/ ACTIVITIES	RESPONSIBLE PARTY	Year 1 SCHEDULE (In months)												Year 2 SCHEDULE (In months)											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
(4) SEEDS purchases, collection, grading and storage	The Project Forestry Advisor  (Assisted by the Moringa Specialist)	█	█	█										█	█	█									
(5) Establishment of four village NURSERIES to produce seedlings	The Two Nursery Officers		█	█	█	█	█	█	█	█	█	█	█	█	█	█									
(6) LAND CLEARING and preparation, pegging, hole digging. Seedlings TRANSPLANTING and beating up.	(a) Project Coordinator (b) Forestry Advisor	█	█	█	█	█	█							█	█	█	█	█	█						
(7) PLANTATION MAINTENANCE, anti-fire borderline making, and Further Training of Groups and Out-growers	(a) Project Coordinator  (b) Assisted by the Women's Group Chairman							█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	

6. Work Plan (Continued)

OUTPUTS/ ACTIVITIES	RESPONSIBLE PARTY	Year 1 SCHEDULE (In months)												Year 2 SCHEDULE (In months)											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
(8) Steering Committee Meetings	(a) The Project Coordinator.			■					■				■			■									■
(5) Project Publicity, Moringa Products Promotion, Project Dissemination	(a) The two Project Community Animators (b) The Moringa Specialist	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
(6) Net-workings with local forestry institutions and Moringa use researchers	(a) Project Coordinator																								
(7) Monitoring, evaluation, report writing	(a) Project Coordinator (b) Assisted by the Women's Group Chairman	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

## 7. BUDGET

### 7.1 Overall Project Budget By Activity (In US Dollars)

	Budget Components						Quarter Year	Grand Total
	10 Project Personnel	20 Sub- Contract	30 Duty Travel	40 Capital Items	50 Consumable Items	60 Miscel- laneous		
<b>OUTPUT 1.1: Land Preparation: <i>Moringa</i> Mixed With <i>Wawa</i> &amp; <i>Ofram</i> Plantation, and Maintenance (60 acres):</b>								
Activity 1.1.1: Land entry, site selection, surveying and demarcation & legal indentures in 4 villages	3,500	1,384	1,420	800	-		Q1, Q2, Y1	<b>7,104</b>
Activity 1.1.2: Prepare 4 separate site maps/ site plans	300	384	200	-	-		Q1, Q2, Y1	<b>884</b>
Activity 1.1.3: Moringa seed Collection, purchase/ storage	2,000	500	1,000		-		Q1, Q2, Y1	<b>3,700</b>
Activity 1.1.4: Establish 4 <i>Moringa</i> , <i>Wawa</i> , & <i>Ofram</i> seed nurseries for 180,000 seedlings	3,600	-	1,000	2,440	-		Q1, Q2, Y1	<b>7,040</b>
Activity 1.1.5: <i>Moringa</i> , <i>Wawa</i> , <i>Ofram</i> land clearing/ pegging	2,400	1,000	550	1,500	100		Q1, Q2, Y1	<b>5,550</b>
Activity 1.1.6: Transplant <i>Wawa</i> / <i>Moringa</i> etc. seedlings	3,400	500	1,500	1,200	-		Q1, Q2, Y1	<b>6,600</b>
Activity 1.1.7: <i>Moringa</i> / <i>Wawa</i> & <i>Ofram</i> Maintenance + Advice & TRAINING to Out-growers	4,500	2,000	2,000	1,000	-	800	Q3, Q4, Y1 Q1, Q2, Y2	<b>10,300</b>
Activity 1.1.8: <i>Moringa</i> leaves Harvest/process/package	2,200	2,000	500	14,228	2,400	-	Q3, Q4, Y1 Q1, Q2, Y2	<b>21,328</b>
<b>Sub-Total</b>	<b>21,900</b>	<b>7,768</b>	<b>8,170</b>	<b>21,368</b>	<b>2,500</b>	<b>800</b>		<b>62,506</b>

### 7.1 Overall Project Budget By Activity (In US Dollars) *Continued*

Budget Components								
	10 Project Personnel	20 Sub- Contract	30 Duty Travel	40 Capital Items	50 Consumable Items	60 Miscel- laneous	Quarter Year	Grand Total
<b>OUTPUT 2: Four thriving (60 acre) village demonstration plantation of fast-growing timber (e.g. teak) under effective maintenance:</b>								
Activity 2.1: Land entry, site selection, surveying, demarcation, making legal indentures, in 4 villages	3,500	2,576	1,000	800			Q1, Q2, Y1	<b>7,876</b>
Activity 2.2: Prepare 4 separate site maps/ site plans	300	576	200				Q1, Q2, Y1	<b>1,076</b>
Activity 2.3: Land clearance, pegging, and hole digging	1,600	1,000	550	1,400	500		Q1, Q2, Y1	<b>5,050</b>
Activity 2.4: Timber seedlings purchase from FORIG (Kumasi).	900	1,000	500	-	-		Q1, Q2, Y1	<b>2,400</b>
Activity 2.5: Transplant timber seedlings.	3,400	1,000	1,500	1,200			Q2, Q3, Y1	<b>7,100</b>
Activity 2.6: Construct protective borderline fire strip/ protective border line planting	1,500	1,500	500	600	-	1,000	Q3, Q4, Y1	<b>5,100</b>
Activity 2.7: Project section teak timber plantation maintenance and supervision of same for out-growers	4,500	3,600	2,500	2,000		1,200	From Q2, Y1s till subsequent years till harvest & post-harvest.	<b>13,800</b>
<b>Sub-Total</b>	<b>15,700</b>	<b>11,252</b>	<b>6,750</b>	<b>6,000</b>	<b>500</b>	<b>2,200</b>		<b>42,402</b>

<b>7.1 Overall Project Budget By Activity (In US Dollars) <i>Continued</i></b>									
	<b>Budget Components</b>								
	<b>10 Project Personnel</b>	<b>20 Sub- Contract</b>	<b>30 Duty Travel</b>	<b>40 Capital Items</b>	<b>50 Consumable Items</b>	<b>60 Miscel- laneous</b>	<b>Quarter Year</b>	<b>Grand Total</b>	
<b>Output 3: A thriving out-growers' plantation at least 100 acres of well-managed teak mono-crop plus mixed <i>Wawa, Ofram/ Moringa oleifera</i> trees in the four target communities within the context of a local network of sustained participatory grassroots promotional campaign</b>									
Activity 3.1: Carrying through an Effective Communication, Promotion & Information Dissemination Strategy:	3,000	3,600	1,000	1,000		1,000	Q1-Q4, Y1. Q1-Q4, Y2	<b>9,600</b>	
Activity 3.2: Conducting 6 project-related trainings for the four target women's groups	3,600		1,000	1,500		800	Q1-4, Y1. Q1-2, Y2	<b>6,900</b>	
Activity 3.3: Study visits (2) to FORIG studying best practices on reforestation.	2,000		1,000				Q3, Y1. Q1-2, Y1	<b>3,000</b>	
Activity 3.4: Networking local successful private nurseries & <i>Moringa oleifera</i> Research Groups & Centers	1,800		1,000			1,200	Q1-4, Y1 & Y2	<b>4,000</b>	
Activity 3.5: PRA & Board Meetings	2,000		500		1,000	1,200	Q1-2, Y1. Q1-4, Y2	<b>4,700</b>	
Activity 3.6: Monitoring & Review Workshops/Activities	2,800		500	2,000			Q3, Y1 Q1, Y2	<b>5,300</b>	
<b>Sub-Total</b>	<b>15,200</b>	<b>3,600</b>	<b>5,000</b>	<b>4,500</b>	<b>1,000</b>	<b>4,200</b>		<b>33,500</b>	

### 7.1 Overall Project Budget By Activity (In US Dollars) *Continued*

	Budget Components						Quarter Year	Grand Total
	10 Project Personnel	20 Sub- Contract	30 Duty Travel	40 Capital Items	50 Consumable Items	60 Miscel- laneous		
<b><u>Non-Activity Based Expenses:</u></b>								
1. Value of local project land				7,200			All quarters	7,200
2. Fuel for <i>Moringa</i> processing machines & motorbikes					5,000		From Q2, Y1	5,000
3. Electricity.					2,400		till Q4, Y2	2,400
4. Office stationery & Supplies.					4,800		-Ditto- Q1,Y1-Q4/Y2	4,800
5. Machines & motorbikes spare parts					2,400		Y1 - Y2	2,400
6. Auditing.					1,200		Y1 & Y2	1,200
<b>Sub-Total 4</b>				<b>7,200</b>	<b>15,800</b>		<b>Y1 &amp; Y2</b>	<b>23,000</b>
<b>Sub-Total (ITTO)</b>	<b>32,400</b>	<b>22,620</b>	<b>19,200</b>	<b>31,868</b>	<b>20,600</b>	<b>6,400</b>	<b>Y1 &amp; Y2</b>	<b>133,088</b>
<b>ITTO Monitoring &amp; Review Costs</b>							<b>Y1 &amp; Y2</b>	<b>20,000</b>
<b>ITTO Programme Support Costs</b>							<b>Y1 &amp; Y2</b>	<b>12,247</b>
<b>Executing Agency/Host Government Contribution</b>							<b>Y1 &amp; Y2</b>	<b>52,531</b>
<b>GRAND TOTAL</b>							<b>Y1 &amp; Y2</b>	<b>217,866</b>

**7.2 CONSOLIDATED YEARLY PROJECT BUDGET (In US Dollars):**  
**(Details By Source of Finance)**

		Quantity Per Year		Unit Cost	Year 1	Year 2	ITTO	Executing Agency	GRAND TOTAL
		Y1	Y2						
<b>10.</b>	<b>PROJECT PERSONNEL:</b>								
11	Project Coordinator (1): (Full-Time)	12m	12m	400	4,800	4,800	-	9,600	<b>9,600</b>
12	Forestry Advisor (1): (Part-Time)	6m	6m	300	1,800	1,800	-	3,600	<b>3,600</b>
13	<i>Moringa</i> Use Specialist (1): (Full-Time)	12m	12m	300	3,600	3,600	-	7,200	<b>7,200</b>
14	Community Forestry Animators (2): F/t.	24m	24m	200	4,800	4,800	9,600	-	<b>9,600</b>
15	Seed Nursery Officers (2): Full-Time	24m	24m	200	4,800	4,800	9,600	-	<b>9,600</b>
16	Administrative Accountant (1):	12m	12m	200	2,400	2,400	4,800	-	<b>4,800</b>
17	Secretary	12m	12m	200	2,400	2,400	4,800	-	<b>4,800</b>
18	Trainings & Capacity Building	3	3	600	1,800	1,800	3,600	-	<b>3,600</b>
<b>19</b>	<b>Component Total</b>				<b>16,200</b>	<b>16,200</b>	<b>32,400</b>	<b>20,400</b>	<b>52,800</b>
<b>20:</b>	<b>SUB-CONTRACT:</b>	Acreage							
21	Land Securing, Entry, Surveying, Making Indentures, Site Plans, Maps, Clearing, Hole Digging, & Pegging	120			8,120		8,120		<b>8,120</b>
22	<i>Teak, Wawa, Ofram, Moringa oleifera</i> Transplanting	120			900	900	1,800		<b>1,800</b>
23	Plantations Maintenance & Anti-Fire Borderline Construction & Care	120			3,200	3,400	6,600		<b>6,600</b>
24	<i>Moringa</i> Leaf Processing				1,500	1,000	2,500		<b>2,500</b>
25	Promotion of <i>Moringa</i> Products				2,400	1,200	3,600		<b>3,600</b>
<b>29</b>	<b>Component Total</b>				<b>16,120</b>	<b>6,500</b>	<b>22,620</b>		<b>22,620</b>

**7.2 CONSOLIDATED YEARLY PROJECT BUDGET (In US Dollars):/Continued**  
**(Details By Source of Finance)**

		Yearly Quantity		Unit Cost	Year 1	Year 2	ITTO	Executing Agency	GRAND TOTAL
		Y1	Y2						
<b>30.</b>	<b>DUTY TRAVEL</b>								
31	<b>DSA</b>								
31.1	Project Coordinator: (8 days per month)	12m	12m	50	4,800	4,800	9,600	-	<b>9,600</b>
31.2	Forestry Advisor: (8 days per month)	6m	6m	50	2,400	2,400	4,800	-	<b>4,800</b>
31.3	Moringa Specialist: (8 days per month)	6m	6m	50	2,400	2,400	2,400	-	<b>4,800</b>
31.4	Community Forestry Animators (2)	24m	24m	-	360	360	-	720	<b>720</b>
<b>39</b>	<b>Component Total</b>				<b>9,960</b>	<b>9,960</b>	<b>19,200</b>	<b>720</b>	<b>19,920</b>
<b>40:</b>	<b>CAPITAL ITEMS</b>								
41	Estimated value of core project <b>Land</b>				7,200		-	7,200	<b>7,200</b>
42.1	<b>Motorbikes:</b> (Coordinator + M. Specialist)	2		4,000	8,000		8,000		<b>8,000</b>
42.2	<b>Bicycles</b> (Animators + Group Leaders)	6		200	1,200		1,200		<b>1,200</b>
43	<b>Capital Equipment (4 Women's Groups)</b>								
43.1	Portable Moringa-Meal <b>Grinding Machine</b>	4		1,200	4,800		4,800		<b>4,800</b>
43.2	Portable Palm Oil/ <b>Moringa Seed Oil Press</b>	4		1,200	4,800		4,800		<b>4,800</b>
43.3	Portable <b>Sealing Machines</b> (for Plastics)	4		50	200		200		<b>200</b>
43.4	Silver source pans for input mixing	8		12	96		96		<b>96</b>
43.5	Deep-freezers	4		1,000	4,000		4,000		<b>4,000</b>
43.6	Kitchen blenders	4		48	192		192		<b>192</b>
43.7	Kitchen weighing scales	4		35	140		140		<b>140</b>
43.8	Wellington boots (80 pairs for 4 groups)	80 pairs		12	960		960		<b>960</b>
43.9	Knapsacks for pest control	4		80	320		320		<b>320</b>
43.10	Wheel barrows	4		125	500		500		<b>500</b>
43.11	Cutlasses	150		4	600		600		<b>600</b>
43.12	Hole-digging vertical matchets	100		5	500		500		<b>500</b>
43.13	Weeding hoes	150		3	450		450		<b>450</b>
44	Assorted nursery equipment accessories	4 sets		400	1,600		1,600		<b>1,600</b>
45	Marker Writing Board (for Workshops)	1		230	230		230		<b>230</b>
46	Flip Chart Stand	1		80	80		80		<b>80</b>
47	Project Computer + Printer + Stabilizer			3,200	3,200		3,200		<b>3,200</b>
<b>49</b>	<b>Component Total</b>				<b>39,068</b>	<b>-</b>	<b>31,868</b>	<b>7,200</b>	<b>39,068</b>

**7.2 CONSOLIDATED YEARLY PROJECT BUDGET (In US Dollars):/Continued**  
**(Details By Source of Finance)**

		Quantity Per Year		Unit Cost	Year 1	Year 2	ITTO	Executing Agency	GRAND TOTAL
		Y1	Y2						
<b>50.</b>	<b>CONSUMABLE ITEMS:</b>								
51	Seeds (Moringa, Wawa, Ofram, Teak)				2,600	1,000	3,600		<b>3,600</b>
52	Fuel ( <i>Moringa</i> Machines & Motorbikes)				2,500	2,500	5,000		<b>5,000</b>
53	Electricity				1,200	1,200	2,400		<b>2,400</b>
54	Office stationery & supplies				2,400	2,400	4,800		<b>4,800</b>
55	Spare parts for equipment & motorbikes				1,200	1,200	2,400		<b>2,400</b>
56	<i>Moringa</i> processing packaging materials (for the 4 women's groups to facilitate local sales of <i>Moringa</i> products)				1,200	1,200	2,400		<b>2,400</b>
<b>59</b>	<b>Component Total</b>				<b>11,100</b>	<b>9,500</b>	<b>20,600</b>		<b>20,600</b>
<b>60:</b>	<b>MISCELLANEOUS:</b>								
61	Steering Committee Meetings	3	3	400	1,200	1,200	2,400		<b>2,400</b>
62	Internet Space <i>Moringa</i> Promoters' Links				600	600	1,200		<b>1,200</b>
63	Financial Audit ( <i>that is, External Auditors</i> )				600	600	1,200		<b>1,200</b>
64	Sundries ( <i>e.g. rapidly increasing freight &amp; transport costs</i> )				800	800	1,600		<b>1,600</b>
<b>69</b>	<b>Component Total</b>				<b>3,200</b>	<b>3,200</b>	<b>6,400</b>		<b>6,400</b>

**7.2 CONSOLIDATED YEARLY PROJECT BUDGET (In US Dollars):/ Continued**  
*(Details By Source of Finance)*

		Quantity Per Year		Unit Cost	Year 1	Year 2	ITTO	Executing Agency	GRAND TOTAL
		Y1	Y2						
70	<b>EXECUTING AGENCY MANAGEMENT COSTS: (15% of Total of Overall Project Budget By Activity)</b>				12,211	12,00	-	24,211	24,211
	<b>SUB-TOTAL (1):</b>						<b>133,088</b>	<b>52,531</b>	<b>185,619</b>
80	<b>ITTO ADMINISTRATION, MONITORING, &amp; EVALUATION</b>								
81	<b>ITTO Monitoring and Review (for 2 Years @ \$10,000 per year)</b>				10,000	10,000	20,000		20,000
	<b>SUB-TOTAL (2)</b>						<b>153,088</b>		<b>205,619</b>
83	<b>Program Support Costs (8% of Sub-Total 2)</b>						12,247		12,247
90	<b>REFUND OF PRE-PROJECT COSTS</b>						-	-	-
100	<b>GRAND TOTAL (US\$)</b>						<b>165,335</b>	<b>52,531</b>	<b>217,866</b>

### 7.3 Yearly Project Budget By Source: ITTO

	Budget Components/Annual Disbursements	TOTAL	Year 1	Year 2
10	Project Personnel	32,400	16,200	16,200
20	Sub-Contract	22,620	16,120	6,500
30	Duty Travel	19,200	9,600	9,600
40	Capital Items	31,868	31,868	-
50	Consumable Items	20,600	10,900	9,700
60	Miscellaneous	6,400	3,200	3,200
<b>SUB-TOTAL (1)</b>		<b>133,088</b>	<b>87,483</b>	<b>45,600</b>
80	ITTO Administration, Monitoring & Evaluation:			
81	ITTO Monitoring & Review	20,000		
<b>SUB-TOTAL (2)</b>		<b>153,088</b>		
83	Program Support Costs: (8% of Sub-total 2)	12,247		
90	Refund of Pre-Project Costs	-		
<b>ITTO TOTAL (In US\$)</b>		<b>165,335</b>		

#### 7.4 Yearly Project Budget By Source: Executing Agency/Host Government

	Budget Components/Annual Disbursements	TOTAL	Year 1	Year 2
10	Project Personnel	20,400	10,200	10,200
20	Sub-Contract	-	-	-
30	Duty Travel	720	360	360
40	Capital Items	7,200	7,200	-
50	Consumable Items	-	-	-
60	Miscellaneous	-	-	-
70	Executing Agency Management Costs: (15% of Overall Project Budget By Activity)	24,211	12,106	12,105
<b>TOTAL: Executing Agency/Host Government</b>		<b>52,531</b>	<b>26,266</b>	<b>26,265</b>

## Part III: Operational Arrangements

### The Local Executing Agency

**Pitris Consult** is the project's local implementing agency. It only enjoys that name in terms of *first among equal partners*. There are four (already existing) participating target women's groups in four target villages (namely: Akyem Adansi, Asankare (in the Ashanti Region), as well as New Jejeti and Nyiresi in the in the Eastern Region of Ghana. Each group has approximately 30 active members and a distinct leadership structure, organizational culture, and bye-laws. So far as the local community groups are concerned, the project will apply a rich combination of **Participatory Learning Action (PLA)** and **Participatory Rural Appraisal (PRA)** strategies to manage and supplement the program. These co-management strategies imply target actor active participation, vigorous collaboration, respected partnership, and participatory action derived from well-informed action and connections that help to enhance project sustainability. **Gender consciousness will permeate all operational management structures.**

### Advisory Institutions on Technical and Scientific Issues

**The Ghana Forestry Commission** and the **Forest Research Institute of Ghana (FORIG)** are the two advisors on technical and scientific matters of the project. Both institutions will, in addition, supply complementary seedlings (at the normal public prices) for teak, *Wawa*, and *Ofram*) through their official nurseries based on pre-agreed terms and orders. One representative from these institutions will also serve on the Project Steering Committee.

### A Steering Committee

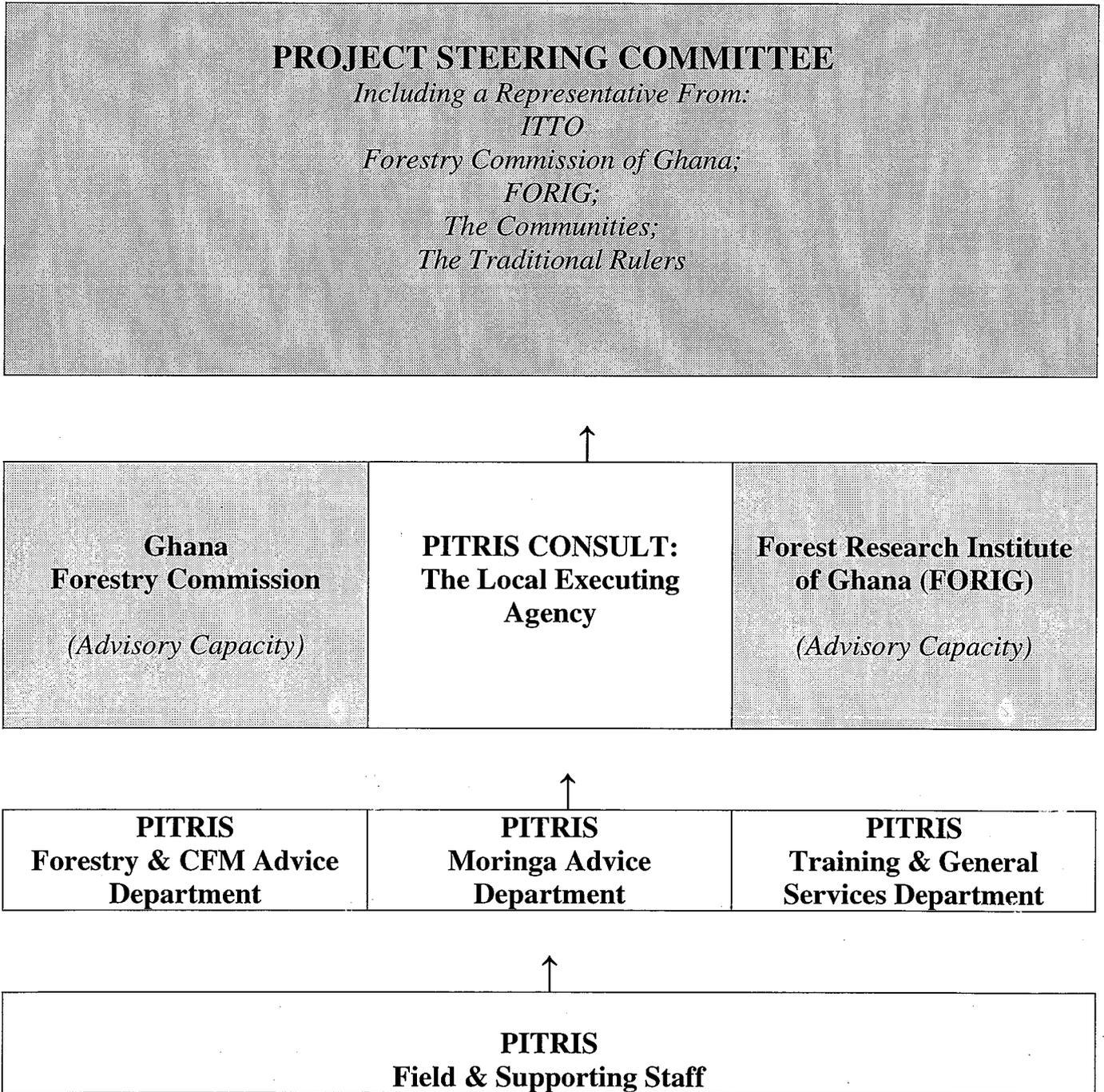
At the top of the management structure is a "**Project Steering Committee**" of **professionals and local renowned personalities, including at least three women**. Some of the Committee members shall be foresters, sociologists or social anthropologists, local traditional chiefs and queen mothers, knowledgeable local farmers, and nutritionists, as well as representatives from ITTO, Forestry Commission, and local Assemblymen or women. The Steering Committee shall meet at least three times every year. The Committee will serve as:

- An active advisory body.
- A mediator (among project stakeholders) with respect to project-related conflicts and tensions.

### The Executing Agency's Project Management Team

The project management team will include the project coordinator, a forestry advisor (who will be an experienced and well seasoned forester), a Moringa use specialist, nurseries officers, an accounts officer, a part-time auditor, and two experienced women community animators. The project's financial procedures and transactions shall be subjected to the scrutiny of a qualified external auditor at least once every year, and it shall be obligatory for all project related staff to submit their documents for such independent audit.

**Organizational Chart**



## 2. Monitoring, Reporting, and Evaluation

Project reporting, monitoring, and evaluation shall be in-built and participatory as far as possible. Emphasis will be on both **summative** and **formative** evaluations. **Summative evaluations** help project partners to be aware of what has happened and the reasons **WHY** they happened. **Formative evaluations** assist stakeholders in making qualitative choices regarding the way forward.

### 2.1 Monitoring, Reporting, and Evaluation Schedules

Description	Dates
1 <sup>st</sup> Disbursement Request	First Week in January 2007
1 <sup>st</sup> Monitoring Mission	End of First Quarter 2007
1 <sup>st</sup> Progress Report	August 2007
2 <sup>nd</sup> Progress Report	February 2008
3 <sup>rd</sup> Progress Report	August 2008
Project Final Technical Report	January 2009
Project Completion Report	March 2009
Final Financial Audit Report	April 2009

### 2.2 Project Reporting Formats

All project **progress reporting activities** will be prepared in approved ITTO formats, and submitted by the project management in good time before Council Sessions. It is very much expected that the **project monitoring mission** will include **one ITTO staff** specially sent down to Ghana for the purpose.

## 3. Future Operation and Maintenance

Possible Future Actions	Agents Or Institutions Responsible
Further routine maintenance of the planted Moringa and forest plantation segments.	<ul style="list-style-type: none"> <li>• The 4 target village women's groups themselves as far as possible.</li> <li>• Hired local labor with payment from a <b>special savings and maintenance fund</b> to be established by the women's groups for that purpose with revenue from <i>Moringa</i> product sales.</li> <li>• Guaranteed supervisory role by <b>PITRIS CONSULT</b>, the local Executing Agency, (and its professionals). After all, the company also enjoys 8 per cent under the benefits sharing scheme.</li> </ul>

## **Part IV: Tropical Timber Framework**

### **1. Compliance With ITTA 1994 Objectives**

**This Project** is in tune with **ITTO GOAL No. 2** which says “**Improve the tropical timber resource base of member countries**”.

**This ITTO GOAL No. 2** therefore relates to objectives **(c)**, **(d)**, and **(f)** of **Article 1 of the ITTA, 1994**.

The relevant **ACTION point** is **No. 5**, which says, “Encourage and assist Members, as appropriate, to:

“Expand the productive capacity of natural forests through intensified silvicultural practices such as **better utilization of lesser-used species, promotion of Non-Timber Forest Products**, guided natural regeneration, enrichment planting, and reforestation.”

2. Furthermore, this proposal is consistent with the following **Objectives of ITTO** as established under **Article 1 of the ITTO Agreement 1994**:

- (c)** To contribute to the process of sustainable development.
- (d)** To enhance the capacity of members to implement a strategy for achieving exports of timber and timber products from sustainably managed forests.
- (j)** To encourage members to support and develop industrial tropical timber reforestation and forest management activities, as well as rehabilitation of degraded forest land with due regard for the interests of local communities dependent on forest resources
- (l)** To encourage members to develop national policies aimed at sustainable utilization and conservation of timber producing forests and their genetic resources, and at maintaining the ecological balance in the regions concerned, in the context of tropical timber trade.
- (m)** To promote the access to, and transfer of, technologies and technical co-operation to implement the objectives of this Agreement, including concession and preferential terms and conditions, as mutually agreed.

**Furthermore, this proposal meets the following ITTO Criteria:**

- (a)** It relates to the production and use of industrial timber through promoting reforestation of commercial species and their sustainable management.
- (b)** It yields benefits to the tropical timber economy as a whole, and is therefore relevant to both producing and consuming countries.

- (c) It relates to maintaining and expanding the international trade in tropical timber by developing plantation technology which will assure higher commercial value.
- (d) It offers reasonable prospects for positive economic returns in relation to cost.

### **Relationship to ITTO Action Plan and Priorities**

The proposal is directly related to the following activities in the **ITTO Action Plan**:

- (1) Arrest the decline and degradation of tropical forests and bring all productive forest estates as soon as possible under sustainable management so as to achieve ITTO's targeted objectives.
- (2) Support national strategies or efforts in full conformity with **ITTO's Principles**.
- (3) To instill a sense of urgency among consumer and producer nations to maintain tropical timber supply through sustainable forest management
- (4) To encourage the development of sustainable timber production from tree plantations to rehabilitate and manage non-forest and degraded lands and to reduce dependency on natural forest for timber supply;
- (5) To encourage the full participation of local institutions in the development and implementation of projects

Interpreted therefore with reference to the **ITTO Action Plan**, the proposal includes intervention issues that:

- Arrest sharp declines in the degradation of already heavily impoverished local tropical landscapes.
- Promote the gradual development of diverse commercial tropical timber species as a strategy to fully rehabilitate poorly managed and heavily burnt tropical forests.
- Add positively to global studies aimed at further enriching participatory resource management practices that encourage the full and active involvement of local people together with their proven or young institutional settings.

The planned interventions are therefore in line with, and very supportive to other on-going Ghana natural resource management policies and operational plans as outlined under **PART (I), Section 2** of this project proposal.

## **Annex A:**

### **Profile of the Local Executing Agency**

The name of the **Project Implementing Agency** is **PITRIS CONSULT, Box 4609, Kumasi, Ghana.**  
**E-mail Addresses: (a) pawar2002gh@yahoo.com (b) pitrisconsult@yahoo.com**

**Pitris Consult** is a registered small private research & consulting firm dedicated to participatory women group development, training, rural forestry institutional capacity building, as well as health-related NTFP promotion. The rich reforestation experience of its Project Management Team, as well as the experience of some of its Steering Committee Members dates back at least ten years.

#### **The Mission of Pitris Consult**

**The Mission of Pitris Consult** is to empower disadvantaged forest-fringe groups to protect, rehabilitate, and sustainably use their local natural resources. This pre-supposes the promotion of Co-Management approaches at grassroots level, as well as the development of multipurpose NTFPs.

#### **The Infrastructure of Pitris Consult**

Pitris Consult has two small offices located at Kumasi in the Ashanti Region, and Ho in the Volta Region of Ghana. It has two computers and a Toyota Pickup vehicle. It has a key staff of five professionals (including an Economist, a Forester, a Sociologist, an Accountant-IT Specialist, and a Qualified Nutritionist) plus seven part-time Consulting Assistants.

In relation to this project, the Forest Research Institute of Ghana (FORIG) has agreed to supply all the needed seeds and seedlings for Ofram, Cedrella, Wawa, and Teak through its seed nurseries at Fumesua near Kumasi in the Ashanti Region of Ghana. (Reference: Dr. D.E. K. A. Siaw of FORIG; Telephone: 233 20 8154871).

Pitris Consult itself has a collection of Moringa Oleifera seeds to plant at least 10 acres. More Moringa seeds (to plant up to 250 acres) can be purchased from Denu and Dzodze (in the Volta Region of Ghana) at a modest price.

**Projects & Studies Conducted In the Last Three Years  
By Pitris Consult**

<b>Project</b>	<b>Beneficiary Group(s)</b>	<b>Donor Who Funded the Project</b>
<b>2004:</b> <b>Preparation of a Collaborative Forest Management Training Manual (for Trainers)</b>	Thirty-one CFM groups registered under the FSD & FORUM Project in the Volta Region of Ghana.	GTZ + Ghana Forest Services Division (of the Forestry Commission)
<b>2003:</b> <b>Facilitating the formation of CFM Committees around the Asuokoko Forest Reserve in the Nkwanta District of Ghana.</b>	Eighteen CFMC Groups in the Nkwanta & Jasikan Forest Districts, Ghana.	FSD + FAO (Accra Office)
<b>2003:</b> <b>Conducting a socio-environmental impact assessment of an ITTO funded project at the Abutia Plains.</b>	AFERM and the land-owning communities associated with the Abutia Plains Reforestation Project	ITTO + Government of Ghana.
<b>2002:</b> <b>River Source Reforestation: (Kalakpa River Source Community Reforestation Project), Ghana.</b>	Three communities in the Ho District of Ghana.	European Union, under the EU-GOG Decentralized Development Cooperation Program.
<b>2002:</b> <b>Socio-Economic Survey of 28 forest reserve (fringe) communities + A participatory identification of promising NTFPs.</b>	Twenty-eight rural communities around Chai River and Togo Plateau Forest Reserves in the Volta Region of Ghana.	DFID (UK) + Ghana Forestry Commission
<b>2003:</b> <b>Research Project:</b>  <b>“Factors that assist rural institutional capacity building in the forest sector”</b>	A published book for interested stakeholders.	Pitris Consult + SIDA + Jasikan District Assembly.

**Pitris Consult's Budgets for 2004, 2003, and 2002  
In Relation to Specific Items  
(Past Budgets of the Implementing Agency)**

**In US Dollars (\$)**

<b>Year</b>	<b>Total Received Revenue</b>	<b>Portion of Revenue Earmarked for Some Specific Items</b>	<b>Percentage of Total</b>
<b>2004</b>	<b>\$36,600</b>	Personnel: = \$12,100	33%
		Duty Travel: = \$2,560	7%
		Capital Items: = \$2,900	8%
		Consumables: = \$3,600	10%
		Sub-Contracts: = \$1,830	5%
<b>2003</b>	<b>\$34,250</b>	Personnel: = \$10,600	31%
		Duty Travel: = \$2,200	5.5%
		Capital Items: = \$3,100	9%
		Consumables: = \$3,300	9.6%
		Sub-Contracts: = \$2,055	6%
<b>2002</b>	<b>\$54,800</b>	Personnel: = \$15,350	28%
		Duty Travel: = \$3,800	7%
		Capital Items: = \$5,480	10%
		Consumables: = \$4,930	9%
		Sub-Contracts: = \$2,740	5%

### Executive Agency Personnel in Quantitative Terms

Level	Quantity	Remarks
<b>Experts With Post-Graduate Degrees</b>	5	<ul style="list-style-type: none"> <li>• Forestry (HFZ).</li> <li>• Community reforestation.</li> <li>• Development Economics.</li> <li>• Nutrition/NTFP/Health</li> <li>• Rural Anthropology</li> </ul>
<b>Experts With First University Degree</b>	1	Seed nursery management.
<b>Middle Level Technicians</b>	2	Co-Management & CFM
<b>Administrative Staff</b>	1	Business Accounting
<b>Total Number of Personnel in Forestry-Related Fields</b>	5	<ul style="list-style-type: none"> <li>• Forestry (HFZ).</li> <li>• Community reforestation.</li> <li>• Development Economics.</li> <li>• Nutrition/NTFP/Health</li> <li>• Two in Co-Management</li> </ul>

#### Curricula Vitae of the Key Staff

The Forest Services Division (FSD) of the Ghana Forestry Commission will provide collaborative implementation support to the implementing agency (Pitris Consult), and the beneficiary women's groups with respect to timber plantation activities so as to effectively execute the project. FSD's advisory professional staff will include:

- A Forestry Expert;
- A Range Supervisor
- Nursery establishment and management specialists;
- One CFM-Co-Management Assistant.
- One agricultural extension specialist;

## **The Key Staff of The Implementing Agency**

### **1<sup>st</sup> Key Implementing Agency Staff (Project Coordinator)**

#### **1.0 Name: Paul K. Pawar (Dr.)**

- 1.1 Address: P. O. Box KS – 4609, Kumasi, Ghana.
- 1.2 Sex: Male.
- 1.3 Date of Birth: 14<sup>th</sup> October 1948.
- 1.4 Nationality: Ghanaian.
- 1.5 Marital Status: Married.
- 1.6 Religion: Christian.

#### **2.0 Educational Background**

- 2.1 PhD. Degree + MSc. (Stockholm University) in Institutional Capacity Building (1994 & 1988).
- 2.2 B.Sc. Degree (Economics with Sociology) University of Ghana, Legon.

#### **3.0 Relevant Work Experience**

- 3.1 Has since 2000 conducted extensive research on Forest Reserve Co-Management Practices in Ghana, especially in the Volta Region
- 3.2 Was consultant to the civil society organizations that implemented the EU – Government of Ghana Decentralized Program that reforested the Kalakpa River Source in the Volta Region.
- 3.3 Has over the past three years served as Consultant on several CFM related programs undertaken by FSD-FORUM in the Volta Region.
- 3.4 Has recently written a training manual on Co-Management Practices that work.
- 3.5 Has in 2004-2005 been conducting field research on Moringa use practices in selected Districts of Ghana.

### **2<sup>nd</sup> Key Implementing Agency Staff (Project Nutrition Advisor)**

#### **1.0 Name: Genevieve Akua Dahlia (MSc. Biochemistry/Nutrition), KNUST.**

- 1.1 Address: P. O. Box KS - 4609, Kumasi, Ghana.
- 1.2 Sex: Female.
- 1.3 Date of Birth: 10<sup>th</sup> August 1968.
- 1.4 Nationality: Ghanaian.
- 1.5 Marital Status: Single
- 1.6 Religion: Christian.

#### **2.0 Educational Background**

- 2.1 MSc. Biochemistry (Kwame Nkrumah University of Science & Technology, Kumasi, 1999).
- 2.2 B.Sc. Degree (Biochemistry with Nutrition) KNUST, Kumasi, 1997.

### **3.0 Relevant Work Experience**

- 3.1 Has since 2000 conducted extensive research on the vitamin properties of Moringa leaf powder.
- 3.2 Was consultant to several Kumasi-based NGO on food packaging.
- 3.3 Has over the past one year conducted research on plant vegetable toxicity levels.
- 3.5 Has since in 2004 been advisor to the Ghana Cocoa Processing Company on chocolate mixtures.

### **3<sup>rd</sup> Key Implementing Agency Staff (Forest Plantation Expert)**

#### **1.0 Name: John Kwasi Aboagye (MSc. Forestry, Gothenburg, Sweden)**

- 1.1 Address: P. O. Box KS - 4609, Kumasi, Ghana.
- 1.2 Sex: Male.
- 1.3 Date of Birth: 11<sup>th</sup> June 1974.
- 1.4 Nationality: Ghanaian.
- 1.5 Marital Status: Married.
- 1.6 Religion: Christian.

#### **2.0 Educational Background**

- 2.1 MSc. Forestry (University of Gothenburg), 2001.
- 2.2 B.Sc. Degree KNUST (Renewable Natural Resources).

#### **3.0 Relevant Work Experience**

- 3.1 Has since 2002 been extensively engaged on Community Reforestation Programs (Supported by the Government of Ghana) in the Western Region of Ghana.
- 3.2 Was Swedish Institute Fellow (for 3 months) in Northern Sweden, studying weeds that colonize other weeds.
- 3.3 Has over the past year served as Assistant Consultant to Dr. Paul Pawar on several CFM related programs undertaken by FSD-FORUM in the Volta Region.

### **4<sup>th</sup> Key Implementing Agency Staff (Community Animator)**

#### **1.0 Name: Mary Awura Adjoah Amoah**

- 1.1 Address: P. O. Box KS - 4609, Kumasi, Ghana.
- 1.2 Sex: Female.
- 1.3 Date of Birth: 30<sup>th</sup> December 1973
- 1.4 Nationality: Ghanaian.
- 1.5 Marital Status: Married.
- 1.6 Religion: Christian.

#### **2.0 Educational Background**

- 2.1 Diploma in Food Nutrition.
- 2.2 Has attended several workshops in Ghana and UK on Community Animation

### **3.0 Relevant Work Experience**

- 3.1 Worked for almost 6 years as Business Advisor to rural women groups in Ashanti and Volta Regions of Ghana.
- 3.2 Was part of the Pitris Consult team that served as consultant to three civil society organizations that implemented the EU – Government of Ghana Decentralized Program that reforested the Kalakpa River Source in the Volta Region.

### **5<sup>th</sup> Key Implementing Agency Staff (Project Accountant)**

- 1.0 **Name:** Michael Kwasi Asare
- 1.1 **Address:** P. O. Box KS – 4609, Kumasi, Ghana.
- 1.2 **Sex:** Male.
- 1.3 **Date of Birth:** 4<sup>th</sup> April 1956
- 1.4 **Nationality:** Ghanaian.
- 1.5 **Marital Status:** Married with children
- 1.6 **Religion:** Christian.

### **2.0 Educational Background**

- 2.1 Has the final certificate of the British Royal Society of Arts in Accounting

### **3.0 Relevant Work Experience**

- 3.1 Has since 2005 worked as part-time accountant for Pitris Consult.