MANPOWER DEVELOPMENT FOR THE GHANA WOOD INDUSTRY TRAINING CENTRE (WITC)

PD 12/98 Rev.2 (I)

FOREST INDUSTRY

GOVERNMENT OF GHANA

ENGLISH

To upgrade the technical manpower capacity of WITC in sawmilling, veneering, plywood and other mechanical processing techniques including kiln drying saw doctoring moulding and furniture processing to meet the needs of tertiary wood processing in Ghana and within the West African sub-region.

TIMBER EXPORT DEVELOPMENT BOARD

THREE (3) YEARS

TO BE DETERMINED

Source Contribution
In US$

ITTO Contribution US$237,375
Gov’t of Ghana US$ 32,000

US$269,375
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PART 1: THE CONTEXT OF THE WOOD INDUSTRY TRAINING CENTRE

A. RELEVANCE TO ITTO

1. COMPLIANCE WITH ITTO OBJECTIVES

This project proposal is consistent with objectives of Article 1 of the International Tropical Timber Agreement. The project address objectives b, c, e, and g. It also contributes towards objectives a and h.

The proposal is a training/human resource development scheme which aims at upgrading teaching and instructional skills of the staff of WITC as well as provide facility for short term employment of international experts to train such personnel.

2. COMPLIANCE WITH ITTO CRITERIA

The project is related to training and development which aims at improving the technical skills of people in the forestry industry sector in planning and management of appropriate forest industries and to develop the capacity of a local training institute to provide training services. The training will includes all relevant topics which will ensure the realization of improve value-added processing of wood products. Essential skills in industrial roundwood processing, moulding, kiln drying, utilization of wood waste, furniture design and processing are very important inputs for the training programme. In this light therefore, this project complies with all the five criteria set out in Article 23.6. of the ITTO.

The project will also yield benefits to the tropical timber economy as a whole and the outputs would be relevant to both producing and consuming countries. In quantitative and qualitative terms, this proposal would further improve the share of the tertiary wood sector's contribution to Ghana's domestic economy, and also achieve tremendous intangible benefits through the learning process. The lessons to be learnt would be extended to other countries in the sub-region especially members of Economic Community of West Africa.

3. RELATIONSHIP TO ITTO ACTION PLAN AND PRIORITIES

The project proposal is consistent with ITTO action plan and is related to the priorities of the committee on Forest Industry, particularly in the following activities:

- seminars to encourage more and further processing in producing member states;
- support for existing training institutes, including curriculum improvement and preparing and disseminating technical training materials;
- the evaluation of training needs and formulation of strategies; support for training in planning and management of forest industries and in marketing; technical level programmes on sawmilling and veneer and plywood manufacture (at the region level);
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It is envisaged that this project would provide a basis for a continuous development of appropriate technical and technology transfer from the industry to the Wood Industry Training Centre (WITC) to various groups of wood workers, so that the identified production weaknesses could be addressed.

B. Relevance to National Policies

The 1994 Forest and Wildlife Policy of Ghana emphasizes the need for value added processing and industrial skills development. In order to realize the objectives of the policy, a Forestry Development Master Plan has strategized as well as programmed and prioritized human resources development of the wood working sector on a sustainable basis as a continuing activity. Hence this proposal fits in perfectly with a national development requirement which has already been identified and therefore needs addressing.

PART II : THE PROJECT

1. Origin

The project proposal derives its origins from the establishment of Wood Industry Training Centre (WITC) which provides technical and middle level managerial skills development needed in the timber industry. The WITC was established in response to the dwindling forest resource base, the over capacity in the industry and the need to overcome the constraints of developing specialized skills in the wood industry.

There has been a rapid loss of forest resources from both reserved and off-reserved areas probably because of increasing population pressure. At the turn of this century, the forest zone of Ghana covered about 34% of the total land area. However, by 1987 over 75% of the land area originally covered by forests had been cleared (Forestry Department, 1987). This corresponds to a deforestation rate of 0.84% (684 km²) of the total forest area per annum. The total volume of timber extracted in Ghana between 1986-1992 was 7.8 million m³ of roundwood (IIEED et al.1993) in excess of the Annual Allowable Cut. The present condition of the forest resource base is such that the annual sustainable harvest has been restricted to a maximum of 1 million m³, although the installed capacity of the timber industry is 3.7million m³. The vegetation in most areas and especially riverine forests are at risk due to cutting and felling of timber for processing and hence the need to maximize of advantages to be derived from the remaining scarce resources of this production forest.

Besides the dwindling resource base, developments in the wood industry has been constrained by poor artisanal woodworking skills; obsolete plant and equipment; lack of quality control measures; inadequate standardization; poor knowledge of international markets and over-capacity in the primary processing industry. The Government of Ghana being very much concerned with the poor quality of indigenous labour in the timber industry, poor recovery rates and high level of wood waste invested in the establishment of the WITC. The establishment of the Centre was based on the premise that improvement in the human resource capacity of the timber industry will improve recovery rates and reduce wastage in the industry which will go a
long way to save the forest resource base, and therefore maximize on the net returns on a sustained basis as more and more people are trained.

The WITC is specifically supposed to:

- create a forum for sharing as well as improving on ideas and transfer of information skills, and appropriate technology among operators in the milling and tertiary wood processing subsector;

- expose operators to production techniques and management through the interchange of individual enterprise experiences and dissemination of technical knowledge from specialists;

- ensure better maximization of rates of wood utilization thereby reducing waste;

- consolidate long term strategy of progressively increasing the value of production from decreasing volume of total output.

The Centre has started its short and long term training programmes, however, there is the need to build on the skills and technical competence of the resource persons to enable the centre carry out its mandate. The Timber Export Development Board therefore intends to implement a capacity building programme to bring the skills of the staff to the expected level, in order that in the long term it will assume a regional training centre of excellence status for the wood industry.

The proposal as presented would strengthen the capacity of WITC to provide more effective skills development which dovetails into some of the needs of ITTO project PD179/91 REV2 (M,I) entitled Establishment of Wood workers and Craftsmanship Village.

2.0 PROJECT OBJECTIVES

2.1 DEVELOPMENT OBJECTIVE

The project seeks to contribute to the development and improvement of skills and technical manpower of the wood industry by providing a sustainable and adequate technical base for the required production efficiency in the milling and furniture making sector.

2.2 SPECIFIC OBJECTIVE

To upgrade the technical manpower capacity of WITC in sawmilling, veneering, and other mechanical processing techniques including kiln drying, saw doctoring and moulding and furniture and management of forest industries to meet the needs of tertiary wood processing in Ghana and within the West African sub-region.
3. PROJECT JUSTIFICATION

3.1 Problems To Be Addressed

3.1.1 Overview

The processing wood subsector of the Ghanaian economy has responded positively to growth and development over the last two years. However, the growth in export of tertiary products has not been appreciable and does not commensurate with the efforts that have been put in place. The subsector remains relatively under-developed, dominated by few specialized processing firms. Analysis of the domestic production potential, however, shows that the industry is capable of achieving ten-fold the current export level over a medium-term period. This target can only be met if there is improvement in the application of technical and managerial skills and changes in attitude within management and workers.

It is estimated that in Ghana, only about 25% of the harvested wood undergo processing into veneer, plywood and furniture and its components before export. Beside, there are four well established furniture manufacturing companies amidst a lot small groups of shops, producing fairly high quality finished products for both the domestic and export market, with one company among them accounting for over 90% of the furniture.

In order to promote value-added production and improve on its efficiency, the Ministry of Lands and Forestry through the Timber Export Development Board established a Wood Industry Training Centre to offer opportunities for training and upgrading of artisanal woodworking skills, and also to support the private sector in taking advantage of this opportunity and any other domestic or overseas training facility in the wood working sector. The centre is also supposed to ensure quality control and standardization measures and find means and ways of supporting potentially viable, value-added operational units in the sector. It is to make market intelligence information available to producers in the sector so that they can pursue strategies to capture niches in the international marketplace and thereby enhance their viability and profitability.

The WITC started its training programmes barely a year ago, however, a review of their impact so far indicates that the quality of the staff at post cannot fully develop and train the skills needed to transform the wood processing industry in Ghana. The centre lacks some of the requisite expertise* in addressing planning, management, mill productivity and technological related problems currently facing the tertiary wood processing industry. As a result, poorly managed production systems continue to exist in the industry, and in the immediate, medium and long term, the WITC should be in position to strategize in order to address these needs of the industry.

3.1.2 Manpower Gaps in WITC

Judging from the experience and background, it is conclusive that a majority of the technical staff at post needs further training in their area of specialization in order to orient them towards the identified present and evolving needs of the timber industry in Ghana. In addition, the following expertise and placement are required to augment the staff position of the Centre:

* The current technical staff position of WITC is shown in appendix 1.
• Furniture Designing 2
• Product Engineering (emphasis on furniture) 1
• Furniture finishing 1
• Moulding/tooling 1
• General machining 1
• Rotary Veneer Production 1
• Sliced Veneer Production 1
• Sawmilling techniques for small diameter logs 1
• Production Management 1
• Logging Harvesting 1

3.2 CHARACTERISTICS OF THE PROJECT AREA

Location

The project will be located in WITC at Akyawkrom, a village near Kumasi, the administrative capital and the largest city in the Ashanti Region. Kumasi is the hub of wood industrial activities in Ghana and it is also accessible to others wood producing regions in Ghana by road, rail and air transports. Kumasi is only next to Accra in terms of the production of furniture.

3.3 END OF PROJECT STATUS

It is expected that at the end of the project a majority of the technical and professional staff of WITC would have been further trained to improve on the quality of training programmes to meet client requirement. The project will ensure that:

i. Skills of the technical staff of WITC are upgraded in various production techniques including kiln drying, design and production of quality wood products and furniture for both export and domestic market.

ii. Industrial extension service of WITC is improved and its coverage extends to all large, medium and a majority of small scale furniture producers in Kumasi, Accra, Takoradi and Oda.

iii. WITC improve on its consultancy services and organize regional programmes to meet the needs of tertiary wood processors within the West African sub-region.

3.4 TARGET BENEFICIARIES

The direct beneficiaries of the project would be technical and professional staff of WITC who would be retrained in various production techniques. The project will indirectly benefit sub-regional ITTO members, individual artisans, the Ghana Timber Industry and other related industries.
3.5 PROJECT STRATEGY

3.5.1 Reasons for Selection

The WITC was selected because of its strategic role in the transformation of the Ghanaian wood industry. The project seeks to improve on the human capacity of the WITC so that they can establish a sustainable base for training and upgrading skills and production techniques of the furniture producers. The training facilities of WITC are very excellent and all its potentials should be harnessed through the use of local and international expertise and other schemes of training.

This project was selected as part of an integrated effort at transforming the wood processing subsector.

Lessons learned from past evaluation

Technical assistance has been offered by the Fintrac International Ltd., England, to selected furniture industries in the country through Ghana Export Promotion Council (GEPC) between 1990 and 1992. The three specialists involved initially covered about fifteen firms of varying sizes and capacities. This proved ineffective and the number had to be pruned down to ten and stratified according to the firms' potential to export. It was assessed at the end of the project that the greatest impact has been in companies where the team's intervention occurred before the manufacture of orders. The study also recommended that any such training on skill improvement should be ongoing and constantly up-dated.

Technical and Scientific Aspects

The approach adopted in this project is the training of resource persons to be trainers. The training would be based on the exchange of experiences and on-the-job training. Consultants would be required to act as specialists. The project is expected to technically upgrade the production facilities and where necessary to ensure that skill levels of the staff of WITC improve to appreciable standards.

3.5.3 Economic Aspects

The knowledge and skills to be acquired and learnt during the project and in subsequent training courses are expected to improve on the ability of WITC to provide the training needs of the industry, thereby increasing the skill manpower for the industry and hence improving the productivity and financial performance of the industries. This will lead to increased earnings from the wood industry.

At present the WITC charges minimal fees for its training courses and industrial extension services because its annual budget is highly subsidized by the Timber Export Development Board, an agency of the Ministry of Lands and Forestry. In the near future, after WITC has made the desired impact on the Ghanaian timber industry, it would be required to be self-financing. This would be done by developing its commercial and training services to charge economic rates for their training and industrial extension services. This project therefore, is expected to assist WITC to develop the capacity and capability to undertake and respond to its future challenges.
3.5.4 **Environmental Aspects**

Since this is a training programme, the implementation of the project will not produce immediate environmental impacts. However, in practice, when the gained knowledge and skills are applied, then the expected environmental impact will be favourable. The environmental issues in wood processing would be addressed through the training programmes.

3.5.5 **Social Aspects**

*Through the project, the technical staff of WITC will be able to improve on their skills and become more professional oriented. This will make them more confident in their approach to work, expand their scope of work and earn more income. The project will also enable the WITC to improve and expand on its training programmes and offer great opportunities to course participants to improve upon their skills, become more marketable and enjoy better standards of living.*

*Through its extension outreach programmes, the management of both large and small-scale wood workers and craftsmen would be given the opportunity to formulate, implement and participate in human resources development programmes. This will boost the morale of the wood workers and improve their chances for better jobs and employment conditions.*

3.5.6 **Managerial aspects**

The project management will be a joint responsibility of the TEDB working in closer collaboration with the management of WITC. A project Implementation Unit made up representatives from the Ministry, TEDB and the industry will be in place.

3.6 **REASON FOR ITTO SUPPORT**

3.6.1 **ITTO ASPECTS**

The ITTO has supported a number of projects in Ghana, however the greatest impact could be attained if the technical manpower capability of the industry is transformed on sustainable basis.

The three objectives of the current ITTO country programme are:

1. Strengthening Government Planning and management capability;

2. Promoting grassroots participatory rural development; and

3. Strengthening institutions providing training and consulting services for development.

The project focuses on the third objective of strengthening institutions that provide training and consulting services for development and will broaden other areas of concern to ITTO overall global program. The project will eventually provide a novelty by training the middle and lower level personnel of the producers so as to improve on their performances. The strategy is thus sustainable.
3.6.2 RELATIONSHIP TO ACTIONS SUPPORTED BY OTHER DONORS

There are no comparable projects now supported by donors.

3.7 RISK

There are no potential risks associated with this project.
4. PROJECT OUTPUT AND ACTIVITIES

Output 1 Technical level of WITC staff in kiln drying, veneering, plymilling, moulding and furniture upgraded

Activities

1.1 Conduct a detailed analysis of the training needs of the technical staff of WITC and technical manpower requirement of the industry;

1.2 identify appropriate institutions within and outside the country to train WITC staff;

1.3 organize industrial attachment courses outside the country for 5 WITC staff outside to acquire specialties in kiln drying, plymilling, veneering, moulding and furniture.

1.4 recruit on short term basis, technical expertise in kiln drying, plymilling veneering, moulding and furniture and attach them to WICT to impact the needed skills to the staff of WITC;

1.5 identify appropriate wood training institute outside the country and develop sandwich programmes to train WITC technical staff;

1.6 train at least 3 staff of WITC in industrial and financial planning, company administration and management;

1.7 train at least 3 technical staff of WITC in advanced furniture production and design in the USA.

OUTPUT 2 Capacity of WITC to provide industrial extension services and specialist courses in kiln drying, veneering, plymilling, moulding and furniture improved and expanded.

Activities

2.1 review the industrial extension service programme of WITC and orient it to meet the needs of the industry

2.2 conduct local promotion campaign for WITC industrial extension services.

OUTPUT 3 A functional information centre established at WITC

3.1 review and evaluate information sources of WITC via the Internet facility to meet the requirement of the industry;

3.2 improve on the library facility at WITC and subscribe to relevant trade, industrial and training journals.
## ACTIVITIES

<table>
<thead>
<tr>
<th>ACTIVITIES</th>
<th>SCHEDULES (in Years)</th>
</tr>
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<tbody>
<tr>
<td>1.1 Conduct a detailed analysis of the training needs of the technical staff of WITC and technical manpower requirement of the industry</td>
<td>![Year 1]</td>
</tr>
<tr>
<td>1.2 Identify appropriate institutions within and outside the country to train WITC staff;</td>
<td>![Year 1]</td>
</tr>
<tr>
<td>1.3 Organize industrial attachment courses outside the country for WITC staff outside to acquire specialties in kiln drying, pluming, veneering, moulding and furniture.</td>
<td>![Year 1]</td>
</tr>
<tr>
<td>1.4 Recruit on short term basis, technical expertise in kiln drying, pluming veneering, moulding and furniture and attach them to WICT to impact the needed skills to the staff of WITC;</td>
<td>![Year 1]</td>
</tr>
<tr>
<td>1.5 Identify appropriate wood training institute outside the country and develop sandwich programmes to train WITC technical staff.</td>
<td>![Year 1]</td>
</tr>
<tr>
<td>1.6 Train at least 3 staff of WITC in industrial and financial planning, company administration and management</td>
<td>![Year 1]</td>
</tr>
<tr>
<td>1.7 Train at least 3 technical staff of WITC in advanced furniture production and design at the USA</td>
<td>![Year 1]</td>
</tr>
<tr>
<td>2.1 Review the industrial extension service programme of WITC and orient it to meet the needs of the industry</td>
<td>![Year 1]</td>
</tr>
<tr>
<td>2.2 Conduct local promotion campaign for WITC industrial extension services.</td>
<td>![Year 1]</td>
</tr>
<tr>
<td>3.1 Review and evaluate information sources of WITC via the Internet facility to meet the requirement of the industry</td>
<td>![Year 1]</td>
</tr>
<tr>
<td>3.2 Improve on the library facility at WITC and subscribe to relevant trade, industrial and training journals.</td>
<td>![Year 1]</td>
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</table>
### Development Objectives

Indigenous skills and technical manpower of the wood industry made more efficient to improve on the production efficiency and technology of the wood processing industry.

- Number of furniture manufacturers producing good quality finished products for export increased by twofold by the end of the project;
- Number of local and foreign participants attending specialist programmes in kiln drying, moulding, design and production at WITC increased by at least 60% by the end of the project;

### Specific Objectives

Current technical capacity of WITC in sawmilling, veneering, and other mechanical processing techniques including kiln drying, saw doctoring, moulding and furniture and management of forest industries made more efficient to meet the needs of tertiary wood processing in Ghana and the West African sub-region.

- WITC have local specialist instructors in sawmilling, plymilling, kiln drying, moulding, production design and industrial planning and management by the end of the project;
- WITC expands its industrial extension service to cover at least 80% of the secondary and tertiary wood processing enterprises Kumasi, Accra, Takoradi, and Oda by the end of the project.

### Project Outputs

1. Technical level of WITC staff in kiln drying, veneering, plymilling, moulding and furniture upgraded.
   - At least 5 professional staff of WICT become specialists in kiln drying, veneering, plymilling, moulding and furniture by the end of the project.
   - Number of expatriate staff of WITC and reliance on international consultants for kiln drying, veneering, moulding and furniture reduced by 80% of the present levels by the end of the project.

2. Capacity of WITC to provide industrial extension services and specialists courses in kiln drying, veneering, plymilling, moulding and furniture expanded.
   - Industrial Extension coverage of WITC increased by 100% of the present levels by the end of the project.

### Means of Verification

- FPIB Export Performance Report & Ministry of Trade and Industry Annual Report;
- Products sampled form the market applying the dowel technology;
- Annual Report of WITC

### Important Assumptions

The Ministry continues with its policy of downstream processing

Timber millers are willing to participate in WITC programmes

Ghana Government Continuous commitment to the Project

Industry is willing to use and pay for the services of WICT
<table>
<thead>
<tr>
<th>PROJECT ELEMENTS</th>
<th>OBJECTIVELY VERIFIABLE INDICATORS</th>
<th>MEANS OF VERIFICATION</th>
<th>IMPORTANT ASSUMPTIONS</th>
</tr>
</thead>
</table>
| 3. Information resource centre established and made functional. | • WITC connected to the Internet by the first year of the project.  
• WITC capable of accessing information via the Internet by the end of the first year of the project.  
• Patronage of WITC library facilities by the industry increased by the end of the project. | • Material and Stores Record  
• Library Report  
• Journals and Magazines | • Industry is willing to consult the Information Resource Centre |
| ACTIVITIES                                           |                                                                                                  |                                                            |                                                              |
| 1.1 Conduct a detailed analysis of the training needs of the technical staff of WITC and technical manpower requirement of the industry | NECESSARY INPUTS  
3 person-month contract for Need Assessment specialist | WITC quarterly report | |
| 1.2 Identify appropriate institutions within and outside the country to train WITC staff; |                                                                                                  | WITC Management Board report | |
| 1.3 Organize industrial attachment courses outside the country for 5 WITC staff to acquire specialties in kiln drying, plymilling, veneering, moulding and furniture. |                                                                                                  | Timber Export Development Board News Bulletin | |
| 1.4 Recruit technical expertise in kiln drying, plymilling veneering, moulding and furniture on a short term basis and attach them to WITC to impact the needed skills to the staff. |                                                                                                  | Timber export Development Board’s minutes and reports on recruitment | |
| 1.5 Identify appropriate wood training institute within ITTO member countries and develop sandwich programmes to train WITC technical staff in Production design, Quality Control, Kiln drying, Saw Doctoring, Marketing and Data base management; |                                                                                                  | WITC Management Board Minutes and report | |
| 1.6 Provide practical training to at least 3 staff of WITC in industrial and financial planning, company administration and management; |                                                                                                  | Trained persons | |
| 1.7 Train at least 3 technical staff of WITC in advanced furniture production and design at the USA |                                                                                                  | Trained persons | |
|                                                                 | Project Administration  
Training cost  
Travel cost  
Workshops and fellowship for trainees |                                                            |                                                              |
|                                                                 | 3 person-month consultancy services each for kiln drying, plymilling, veneering, moulding and furniture experts. |                                                            |                                                              |
|                                                                 | 6 months overseas training courses in Production design, Quality Control, Kiln drying, Saw Doctoring, Marketing Planning and management for 6 staff.  
Training cost  
Travel cost  
Fellowship for trainees |                                                            |                                                              |
<p>|                                                                 | 3 months training course at Ghana Institute of Management and Public Administration in Ghana |                                                            |                                                              |
|                                                                 | 3 months sandwich training programme in the USA |                                                            |                                                              |</p>
<table>
<thead>
<tr>
<th>PROJECT ELEMENTS</th>
<th>OBJECTIVELY VERIFIABLE INDICATORS</th>
<th>MEANS OF VERIFICATION</th>
<th>IMPORTANT ASSUMPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 review the industrial extension service programme of WITC and orient it to meet the needs of the industry</td>
<td>2 workshops lasting for 2 days each for identified user groups</td>
<td>Workshop reports</td>
<td></td>
</tr>
<tr>
<td>2.2 Conduct local promotion campaign for WITC industrial extension services.</td>
<td>Radio and TV advertisement course brochures</td>
<td>Course brochures</td>
<td></td>
</tr>
<tr>
<td>3.1 review and evaluate information sources of WITC via the Internet facility to meet the requirement of the industry</td>
<td>Installation of E-mail and Internet facilities</td>
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</tr>
<tr>
<td>3.2 improve on the library facility at WITC and subscribe to relevant trade, industrial and training journals.</td>
<td>Library books, Cost of subscribing trade, industrial and training journals.</td>
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</tbody>
</table>
PART III: MONITORING REPORTING AND EVALUATION

Project Progress Report

The management of WITC will compile routinely information on the project inputs and outputs. The Project Coordinator will compile monthly and latter quarterly reports which would be distributed to the Timber Export Development Board, the Project Coordinating Committee of the Ministry of Lands and Forestry (MLF), and the ITTO. The project will hold quarterly progress review meetings to assess project status and to make needed decisions.

Project progress report will be prepared six month after the commencement of the project to assess the initial effects of the project. The main concern at the beginning is to assess whether the training programmes are meeting the aspirations of the trainees and the wood processing industry at large.

PROJECT COMPLETION REPORT

A project completion report will be prepared at the end of the project according to ITTO's standard and format.

MONITORING, REVIEWS AND STEERING COMMITTEE VISITS

The nature of the project requires 3 ITTO review missions to Ghana to monitor the project. These visits will conform to the execution of some major components of the project. A monitoring plan which indicate the project's milestones and dates for monitoring visits is presented as follows:

<table>
<thead>
<tr>
<th>PERIOD</th>
<th>INDICATORS TO MONITOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>YEAR 1</td>
<td>August</td>
</tr>
<tr>
<td></td>
<td>Project inception study and assessment of training outputs;</td>
</tr>
<tr>
<td></td>
<td>Assessment of Information Resource Centre</td>
</tr>
<tr>
<td>YEAR 2</td>
<td>October</td>
</tr>
<tr>
<td></td>
<td>Monitor progress on overseas training courses and mid-term review.</td>
</tr>
<tr>
<td>YEAR 3</td>
<td>June</td>
</tr>
<tr>
<td></td>
<td>Progress on the expansion of industrial extension services and training performance of operators.</td>
</tr>
<tr>
<td></td>
<td>October</td>
</tr>
<tr>
<td></td>
<td>End of project Evaluation.</td>
</tr>
</tbody>
</table>

EVALUATION

The project will be evaluated by the ITTO during the middle part of the second year in order to determine whether there is the need to change strategy. The evaluation team will include members of the timber trade associations, TEDB and the Ministry.
## PART IV PROJECT BUDGET

### 1. Overall Project Budget

<table>
<thead>
<tr>
<th>No</th>
<th>Component/Activity</th>
<th>Number</th>
<th>Unit Cost (USS)</th>
<th>TOTAL Cost</th>
<th>ITTO Contribution (USS)</th>
<th>Ghana Govt. Contribution (USS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td><strong>Project Personnel</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>11</td>
<td>Consultants</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>12</td>
<td>• Need assessment expert</td>
<td>1 pers/m</td>
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<td>3 pers/m</td>
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<td>• Moulding specialist</td>
<td>3 pers/m</td>
<td>5,000</td>
<td>15,000</td>
<td>15,000</td>
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<tr>
<td>13</td>
<td>• Furniture Expert</td>
<td>3 pers/m</td>
<td>5,000</td>
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<td>21</td>
<td>Training of WITC staff in</td>
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<td>21</td>
<td>• Processing &amp; production</td>
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<tr>
<td>21</td>
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<tr>
<td>21</td>
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<td></td>
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<tr>
<td>22</td>
<td>• General Administration &amp;</td>
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<td>• Furniture Production and design</td>
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<td>Documentation &amp; advert</td>
<td>lump sum</td>
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<td>Library books &amp; Journals</td>
<td>lump sum</td>
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<td>ITTO Monitoring and evaluation</td>
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<tr>
<td>70</td>
<td>ITTO Administration ($)</td>
<td>lump sum</td>
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<td>32,375</td>
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<td>269,375</td>
<td>237,375</td>
<td>32,000</td>
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</table>

† Pers/m means person months
## OVERALL PROJECT BUDGET BY ACTIVITY

<table>
<thead>
<tr>
<th>OUTPUT/ACTIVITIES</th>
<th>BUDGET COMPONENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Project Personnel</td>
</tr>
<tr>
<td>Output 1</td>
<td></td>
</tr>
<tr>
<td>Technical level of WITC staff in kiln drying, veneering, plymilling, moulding and furniture upgraded</td>
<td>3,000</td>
</tr>
<tr>
<td>Activities</td>
<td></td>
</tr>
<tr>
<td>1.1 Conduct a detailed analysis of the training needs of the technical staff of WITC and technical manpower requirement of the industry</td>
<td>60,000</td>
</tr>
<tr>
<td>1.2 Identify appropriate institutions within and outside the country to train WITC staff.</td>
<td>40,000</td>
</tr>
<tr>
<td>1.3 Organize industrial attachment courses outside the country for 5 WITC staff outside to acquire specialties in kiln drying, plymilling, veneering, moulding and furniture.</td>
<td>36,000</td>
</tr>
<tr>
<td>1.4 Recruit on short term basis, technical expertise in kiln drying, plymilling veneering, moulding and furniture and attach them to WITC to impact the needed skills to the staff</td>
<td>6,000</td>
</tr>
<tr>
<td>1.5 Identify appropriate wood training institute outside the country and develop sandwich programmes to train WITC technical staff.</td>
<td>63,000</td>
</tr>
<tr>
<td>1.6 Train at least 3 staff of WITC in industrial and financial planning company administration and management.</td>
<td>6,000</td>
</tr>
<tr>
<td>1.7 Train at least 3 technical staff of WITC in advanced furniture production and design at the USA</td>
<td>36,000</td>
</tr>
</tbody>
</table>

Output 1 Sub-total 63,000 46,000 88,000 20,000 217,000
### OUTPUT/ACTIVITIES

<table>
<thead>
<tr>
<th>Project Personnel</th>
<th>Sub-contract</th>
<th>Duty Travel</th>
<th>Consumable Items</th>
<th>ITTO Monitoring, Evaluation &amp; Administration</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUTPUT 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capacity of WITC to provide industrial extension services and specialist courses in kiln drying, veneering, plymilling, moulding and furniture improved and expanded.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2.1 review the industrial extension service programme of WITC and orient it to meet the needs of the industry</td>
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<td></td>
<td>6,000</td>
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<tr>
<td>2.2 conduct local promotion campaign for WITC industrial extension services.</td>
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<td>4,000</td>
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<td>Output 2 Sub-total</td>
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<td>10,000</td>
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<td>3. OUTPUT 3</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information resource centre established and made functional.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1 review and evaluate information sources of WITC via the Internet facility to meet the requirement of the industry</td>
<td></td>
<td></td>
<td>10,000</td>
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</tr>
<tr>
<td>3.2 improve the library facility at WITC and subscribe to relevant trade, industrial and training journals.</td>
<td></td>
<td></td>
<td>10,000</td>
<td></td>
<td>10,000</td>
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<tr>
<td>3.1 Output 3 Subtotal</td>
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<td>10,000</td>
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<tr>
<td>GRAND TOTAL</td>
<td>63,000</td>
<td>46,000</td>
<td>88,000</td>
<td>40,000</td>
<td>269,375</td>
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<tr>
<td>COMPONENT</td>
<td>TOTAL (US$)</td>
<td>YEAR 1 (US$)</td>
<td>YEAR 2 (US$)</td>
<td>YEAR 3 (US$)</td>
<td></td>
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<td>63,000</td>
<td>20,000</td>
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<td>Sub-contract</td>
<td>46,000</td>
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<tr>
<td>Duty Travel</td>
<td>88,000</td>
<td>58,000</td>
<td>20,000</td>
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<tr>
<td>Consumable Items</td>
<td>40,000</td>
<td>15,000</td>
<td>20,000</td>
<td>5,000</td>
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<tr>
<td>ITTO Monitoring, Evaluation &amp; Administration</td>
<td>32,375</td>
<td>10,791</td>
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<td>123,791</td>
<td>113,791</td>
<td>31,793</td>
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</tbody>
</table>
### Name and Nationality | Qualification & Work Experience | Duties at WITC
---|---|---
1. Kwaku Duah (Ghanaian) | - B.Sc. (Ed.),
- M.Sc. (Wood technology & Industrial Management). Six years experience as Military Officer.
Vast experience as Production and Marketing manager in Ghanaian timber company | Director of WITC
2. J. O. K. Gyamfi (Ghanaian) | - Full Technology Certificate - City & Guilds of London Institute (Furniture Cabinet Making Finals)
- Sawdoctoring & Wood Machinery Certificate (UK),
- Advanced Teacher training Certificate (Kumasi, Ghana) Five years industrial experience & senior instructor for Efia Wood Products of TEDB | Deputy Director
3. Evans Markin (Ghanaian) | - Diploma (Advance Timber Technology)
- Advance Cert. (Carpentry & Joinery) UK 25 years in wood processing and furniture production. | Head of wood Processing Department
4. John Sagoe (Ghanaian) | - B.Sc. (Biochemistry)
- M.Sc (Wood Tech & Management) Worked several years as Timber Industry Analyst for TEDB, Production assistant for DGC timber Division fiakoradi | Working as Kiln Drying consultant at WITC and for Ghana timber industry.
5. A. K. Koomson (Ghanaian) | - BSc. (Maths) Dip (Education)
- Cert (marketing/Quality Assurance) TRADA, UK Worked several years as Senior marketing Officer of TEDB | Head of Training/Marketing and Consultancy Dept.
6. Kwesi Lumor (Ghanaian) | - Diploma (Plant Engineering)
- Pg. Dip (Forest Products Technology) UK Worked several years with TEDB in sawmill machine maintenance and sawdoctoring | Head of Sawmilling and Sawdoctoring Department
7. Samuel B. Awuah (Ghanaian) | - Final Certificate (Mechanical Engineering),
- Advanced Technical Teachers Certificate
- Trained insawdoctoring - CIDA Worked as maintenance technician with LLL | Instructor with the sawmilling & Sawdoctoring Dept.
8. Emmanuel Adum-Fokuo (Ghanaian) | - Full Technological Certificate _ City & Guild
- Forest Industries technology - TRADA, UK Worked as maintenance engineer MdMim, Production Manager at Poku Transport and Efia Wood Produtch | Senior Instructor in sawmilling, sawmill engineering and Kiln Drying.
9. Abukari Attah (Ghanaian) | - B.Sc(Hons) Natural Resources
- Pg. Dip (Wood Technology & Production Management) Worked as Export Promotion Officer of TEDB | Instructor in wood processing.
1. **Position:** Moulding/Production Design Specialist

**Duration of Contract:** 3 person-months

**Qualification**
Postgraduate degree in Wood Technology with a minimum of 10 years work experience in milling and wood processing in tropical country

**Location**
The Moulding/Production Design Specialist will be based in WITC, Kumasi and will work in close association with the WITC staff.

**Languages**
English.

**Specific Tasks**
The Moulding/Production Design Specialist shall be responsible for training the staff in the design and manufacturing of furniture and building sections. Will ensure that existing product designs are improved for targeted market. Technical capability of all machinery and equipment will be his responsibility. Would train counterpart Ghanaian staff.

2. **Position:** Kiln Drying Specialist

**Duration of Contract:** 3 person-months

**Qualification**
Postgraduate degree in Wood Technology with considerable experience in kiln drying. A minimum of 10 years work experience in milling and wood processing company.

**Location**
The Kiln Drying Specialist will be based in Kumasi and will work in close association with the WITC staff and students of the Centre.

**Languages**
English.

**Specific Tasks**
The Kiln Drying Specialist shall be responsible for the Kiln unit of the WITC and formulate quality policy for the production systems. He/she shall institute a programme to measure non-quality cost (preventive action,
inspection, customer claims) and quality costs associated with processing. Draw up on the job training schedules for the Centre and provide technical and practical assistance to WITC staff responsible for kiln drying in the manufacturing of furniture with respect to the methods, tools, jigs fixtures and machines to used. Ensure that counterpart Ghanaian staff are trained to undertake the functions spelt under terms of reference.

3. **Position:** Veneering & Plymilling Expert  

**Duration of Contract:** 3 man-months  

**Qualification**  
Postgraduate degree in Wood Technology with extensive experience in plymilling and veneering.

**Location**  
Based in Kumasi and will work in close association the WITC staff.

**Languages**  
English.

**Specific Tasks**  
The Veneer and Plymill specialist shall design training programmes in veneer and plymilling and train WITC staff in modern techniques.

4. **Position:** Furniture Production & Design Specialist  

**Duration of Contract:** 3 person-months  

**Qualification**  
Postgraduate degree in wood technology with extensive experience in furniture production and design. A minimum of 15 years work experience in furniture design for international market in a reputable organization.

**Location**  
Based in Kumasi and will work in close association with furniture producers and the WITC staff.

**Languages**  
English.

**Specific Tasks**  
The Furniture Production Design Specialist shall be responsible for training the staff in the design and manufacturing of furniture and building. Will ensure that existing product designs are improved for targeted market.
Technical capability of all machinery and equipment will be his responsibility. Would train counterpart Ghanaian staff. The Data Base Manager shall work with the Marketing Analyst to ensure that the village maintains a regular line of international and local orders. He/she shall also maintain data base on suppliers, pricing, source for raw materials, spare parts and equipment, regularly making information accessible to occupants of the village.