

Report of Ex-post Evaluation

PD 284/04 Rev.2 (F)

**Fire-Management and Post-Fire Restoration with
Local Community Collaboration in Ghana**

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Abbreviations

CREMA	Community Resource Management Area
DA	District Assembly
DWMT	District Wildfire Monitoring Team
FORIG	Forestry Research Institute of Ghana
FSD	Forestry Services Division
GFC	Ghana Forestry Commission
GFMC	Global Fire Monitoring Center
GNFS	Ghana National Fire Service
ITTC	International Tropical Timber Council
ITTO	International Tropical Timber Organization
IUCN	The World Conservation Union
IUCN-WARPO	IUCN West African Regional Programme
MOFA	Ministry of Food and Agriculture
NADMO	National Disaster Management Organisation
RMSC	Resource Management Support Centre (Kumasi)

1. Introduction

1.1 Project Background and Objectives

With funding from the International Tropical Timber Organization (ITTO) and following a request from the Government of Ghana, the International Union for Conservation of Nature (IUCN) was engaged with partners, notably the Forestry Research Institute of Ghana (FORIG) and the Resource Management Support Centre (RMSC) to oversee implementation of the “Fire management and post fire restoration with local community collaboration project in Ghana. In order to confront the insufficiencies in fire management the project engaged mechanisms and processes to optimize benefits to specific local communities in Ghanaian fire-prone areas through the promotion of an adapted approach to fire management that was expected to protect timber, non-timber and other resources, culminating in the restoration of fire damaged lands with adapted local tree species. The project also sought to build on the outputs of previous wildfire projects in Ghana by reinforcing their positive impacts and filling gaps that were not sufficiently addressed.

The project specific objective was focused on working with local communities to stop the progress of forest loss due to uncontrolled fires. It was recognized that not all fires are bad but emphasizes the importance of integrated fire management to tackle the problem of uncontrolled forest fire, especially at local level, which is considered as one of the main causes of forest land degradation.

1.2 Evaluation background

In 2015 the ITTO requested the Global Fire Monitoring Center (GFMC) to carry out an in-depth evaluation of one project related to forest fires by carrying out an analysis and assessment of Project PD 284/04 Rev.2 (F) “Fire-Management and Post-Fire Restoration with Local Community Collaboration in Ghana”. This evaluation was considered to be spearheading an assessment all other completed projects on forest fires and their use of the ITTO Forest Guidelines on Fire Management Tropical Forests (1997), so as to point out the successful and unsuccessful outcomes, the reasons for successes and failures, and the contribution of the project towards the achievement of ITTO’s Objective 2000 and its policy work on forest fires, and to draw lessons that can be used to improve similar projects in the future and possibly provide the basis for establishing a specific programme of work on forest fires within ITTO.

1.3 Scope and approach of the evaluation

Specifically the GFMC was asked to address:

1. The overall role and contribution of the project in light of sectoral policies, development programmes, priorities and requirements to appropriately achieve forest fire management goals in the fire-prone zones concerned by the project implementation in Ghana.
2. The current status of forest fire management within the project’s area of influence, the effectiveness of the project’s implementation and its effectiveness in promoting forest fire management and post-fire restoration in the fire-prone zones of Ghana.
3. The contributions of specific studies/surveys in various disciplines (forest fire management, biodiversity conservation, ecology, socio-economy, community participation, rehabilitation aspects, etc.).
4. The impact of project activities on the livelihoods of target populations in the area covered by the project implementation.

5. The effectiveness of dissemination of project results and findings in Ghana.
6. The overall post-project situation in the project's area of influence.
7. The unexpected effects and impacts, either harmful or beneficial, and the reasons for their occurrences.
8. The cost efficiency in the implementation of the project, including the technical, financial and managerial aspects, in relation to forest fire management and post-fire restoration aspects.
9. Follow-up actions in order to enhance uptake of project results.
10. The project's relative success or failure, including a summary of the key lessons learned; and the identification of any issues or problems that should be taken into account in designing and implementing similar projects in the future.

Following a desk review of documents and materials provided by ITTO and the partner authorities of Ghana, an on-site visit of the responsible project implementers and parts of the project area in and around Kumasi was conducted by GFMC between 7 and 12 April 2015. It included meetings with staff of FORIG and RMSC as well as interactions with local communities in Dormaa Ahenkro (Abonsrakrom, Twumkrom and Asunsu No.1) and in Begoro (Ahomahomasu, Kumfere and Measo), the District Wildfire Monitoring Team (DWMT) including Ghana National Fire Service (GNFS) and the National Disaster Management Organisation (NADMO).

2. Project Facts

2.1 Introduction

The project was approved by the Council at its Thirty-seventh Session in December 2004 in Yokohama, Japan, and fully funded at the same Session. The Agreement regulating the implementation of the project was signed on 27 July 2005. The first instalment of the ITTO funds was released in November 2005. A first 12-month project extension was granted until November 2009, without additional ITTO funds, by the ITTO Secretariat, based on an official request including proper justification with appropriate detailed work plan and budget. A second project extension of 13 months was granted until December 2010. The project completion report was received in March 2012; the duration of the project implementation had lasted 76 months instead of 36 initially designed by the implementing agency (IUCN).

Table 1. Project budget and time frame

Budget and Funding Sources:			
Total Budget		US\$	731,925
ITTO Budget		US\$	585,894
Government of Japan	US\$	560,894	
Government of U.S.A.	US\$	15,000	
Government of Norway	US\$	10,000	
Government of Ghana		US\$	63,977
IUCN		US\$	82,054
Implementing Agency	IUCN - The World Conservation Union, in collaboration with FORIG-Ghana and RMSC-Ghana		
Session of Approval	ITTC Session XXXVII, December 2004, Yokohama, Japan		
Starting Date and Duration	9 November 2005 / 36 months		
Approved Revised Date of Project Completion	First extension: November 2009 (NOLF.09-0051) Second extension: December 2010 (NOLF.10-0228)		

2.2 Project Achievements and Outputs

The final project report (Completion Report) submitted by IUCN and FORIG in December 2011 summarized the reports and other tangible products reflecting the five project outputs (for more details of activities / sub-activities cf. Completion Report):

Output 1: Relationship between utilization of resources by rural communities and effective fire management determined

- Report by Damnyag, L. (2007) on Socioeconomic and Environmental Baseline data for Community-based Fire Management in Ghana
- Report by Hawthorne, W.D., Owusu-Afriyie, K., Gyakari, N. (2007) on Data-Base of Fire Restoration Species
- Report by Hawthorne, W.D., Owusu-Afriyie, K., Gyakari, N. (2007) on Survey of Key Resources in the project areas

Output 2: Roles and responsibilities of key stakeholders in fire management determined

- Report by Ameyaw, J. and Amissah, L. (2007) on the Roles and Responsibility of Stakeholders in Fire Management in Begoro, Winneba and Dorma'a Districts of Ghana
- Report by Amissah, L. (2008) on Training of Fire Volunteers held in Abonsrakrom, Twumkrom and Asunso No.1

Output 3: Mechanisms for effective community based fire management developed and implemented

- Project Report on Stakeholder Workshop held at Dormaa in 2007
- Project Report on Stakeholder Workshop held at Begoro in 2007
- Illustrated bulletins on wildfire management distributed to communities
- Panel-boards on fire management produced in 2007 and 2008 and placed in project areas
- Guidelines and Manual for Community-based Fire Management (CBFiM) produced

Output 4: Fire degraded areas rehabilitated by using valuable species as determined by the local communities

- Report by Hawthorne, W.D., Owusu-Afriyie, K., Gyakari, N. (2008) on Species Restoration and Trials recommended in the project areas
- Authorization n° G190.V.15/230 of 08.05.09, obtained from F/Commission for Taungya Scheme
- A map of 350 ha of Taungya sites for post-fire restoration in Pamu-Berekum produced in 2009
- Protective clothing + boots + cutlasses provided to 193 men and 217 female project beneficiaries
- Eighty thousands (80,000) tree seedlings provided by the project and planted by 410 project beneficiaries
- 20,500 plantain suckers supplied by the project and planted by project beneficiaries

Output 5: Gaps in existing legislation on community based fire management identified and disseminated

- Report by Marfo, E. (2010) on the Review of Existing Legislation on Community-Based Fire Management

Furthermore, the Completion Report summarizes the outcomes and impacts of the project by addressing how key issues affecting fire management capabilities in the country have been impacted by the project (Table 2).

Table 2. Summary of project impacts on key issues affecting fire management capacities in Ghana. Source: Project Completion Report (2011).

<i>Situation Prior to the Project</i>	<i>Impact of the Project</i>
<p>1. The Control and Prevention of Bushfires Act of 1990 (P.N.D.C.L. 229) was the foremost legislation to promote participation in the management of wildfires in Ghana. While Article 7 of the Act advocates creation of fire volunteer squads, the Act however did not empower traditional authorities to play a major role in the enforcement of its specifications.</p>	<p>Action 1 of Strategy 2.2.1.2 of the Fire Guidelines and Manual document produced by this project: PD 284/04 Rev.2 (F) and endorsed by the Government of Ghana, proposes Traditional Authorities and District Assemblies to develop and approve local bye-laws for wildfire management in the country.</p>
<p>2. Ineffective legal framework for the development of adapted wildfire plans, (as captured in the project document) and inappropriately coordinated action for authorisation of implementation.</p>	<p>Strategy 2.5.1.1 of the Fire Guidelines and Manual document produced by PD 284/04 Rev.2 (F) and endorsed by the Government of Ghana, advocates the periodic review and amendment of laws and regulations on wildfire to meet changing situations. Moreover the project led and applied several wildfire plans even as its stakeholder’s workshops proposed that fire bye-laws should be gazetted within 90 days after their submission, and District Assemblies mandated to follow-up the execution of this provision.</p>
<p>3. Insufficiency of mechanisms and guidance in the use of fire including advice and support in post-fire restoration (as captured in the project document).</p>	<p>The project proposed the banning of open burning from 15th December to 15th April, with meteorological services (MSD) assuming the responsibility to advice as appropriate.</p> <p>The project supported project beneficiaries with equipment, tree seedlings, plantain suckers, which were all planted, thereby making post-fire forest restoration a reality.</p>
<p>4. Inadequately documented programme for training local stakeholders and others i.e. scholars in wildfire management.</p>	<p>The Fire Guidelines and Manual document produced by PD 284/04 Rev.2 (F) and endorsed by the Government of Ghana, proposed an illustrated section for training in wildfire prevention, pre-suppression, and suppression.</p>
<p>5. Fire degraded lands around communities (not Forest Reserves) were not receiving adequate attention and consequently not restored.</p>	<p>The project supported reforestation through the establishment of fire-belts and mixed planting using approximately 25,000 seedlings of fire resilient tree species around community and individual farm-holds</p>
<p>6. Fire degraded lands in Forest Reserves around target project communities were receiving very little attention and consequently not adequately restored.</p>	<p>The project supported the mapping, clearing, pegging, holing and reforestation through a Taungya Scheme of 87.2 hectares of land over 350 hectares of mapped and prepared Forest Reserve land under progressive reforestation.</p>

3. Findings: Analysis and Assessment of the ex-post Project Evaluation

The analysis and assessment is the result of in-depth discussion between GFMC, FORIG (Dr. Lucy Amissah, Dr. Kennedy Owusu-Afriyie and Dr. Lawrence Damnyag) and RMSC (Mr. Richard Ninnoni and Mr. Alex Asare) and is structured i.a.w. the request by ITTO. These discussions were influenced by the visits and results of discussions with the visited local communities. The comments by local communities, however, are provided separately.

3.1 The overall role and contribution of the project in light of sectoral policies, development programmes, priorities and requirements to appropriately achieve forest fire management goals in the fire-prone zones concerned by the project implementation in Ghana

From the perspective of the Ghana Forestry Commission, Resource Management Support Center (RMSC), the overall role and contribution of the project has been perceived as follows:

- The ITTO project sponsored studies into various fire issues which served as the basis for formulating subsequent policies, programmes and activities on wildfire management including the project sponsored by the Dutch Government.
- The contribution of this project is an add-on to previous projects that were implemented within the transitional zone which together culminated in the development of the National Wildfire Management Policy under the Dutch Government funded Wildfire Management Project in the Transitional Zone and a number of district/local byelaws across the transitional zone to guide fire use and wildfire management. The views of FORIG include:
 - The project contributed to the policies and programmes of ministries, agencies and institutions in charge of fire control and prevention, e.g. Ghana National Fire Service (GNFS), the Forest Services Division, and Ministry of Food and Agriculture (MOFA) through (a) agricultural extension officers and (b) Ghana Cocoa Board.
 - Issues previously not captured or inadequately captured by existing policies and legislation have been captured by the Fire Guidelines and Manual document developed by the project which has been endorsed by the Government of Ghana. These include:
 - Empowerment of Traditional authorities and District Assemblies to develop and approve local bye-laws for wildfire management in the country (Strategy 2.2.1.2 of the Fire Guidelines and Manual document)
 - Periodic review and amendment of laws and regulations on wildfire to meet changing situations (Strategy 2.5.1.1 of the Fire Guidelines and Manual document)
 - Mechanisms and guidance in the use of fire, e.g. the banning of open burning from 15 December to 15 April, with the Meteorological Services Department assuming the responsibility to advise as appropriate
 - Illustrated section for training in wildfire prevention, pre-suppression and suppression captured by the Fire Guidelines and Manual document)
 - Support and logistics in the form of equipment and tree seedlings and other planting material provided to project beneficiaries were planted, thereby making post-fire restoration a reality.
 - Reforestation was supported in the form of Green Fire Belt establishment around forest reserves.
 - The project has helped to strengthen the community fire volunteer group concept, which is one of the main concepts being used in Ghana to manage wildfire.

- Collaboration among different government institutions such as Ministry of Food and Agriculture (MOFA), Ghana National Fire Service (GNFS), District Assembly (DA) is leading to a better management of fires at the local communities.
- The growth of cash crops such as cocoa in Dormaa district is in line with government policy to increase cocoa production to boost Ghana's foreign exchange.

3.2 The current status of forest fire management within the project's area of influence, the effectiveness of the project's implementation and its effectiveness in promoting forest fire management and post-fire restoration in the fire-prone zones of Ghana

From the perspective of the Ghana Forestry Commission, Regional Management Support Center (RMSC), the overall role and contribution of the project has been perceived as follows:

- Increased awareness/education of negative effects of wildfire
- Willingness of various fire users to use fire more cautiously
- Willingness to volunteer wildfire fighting
- However, although fire management has improved as compared to the pre-project situation, the level of intensity and effectiveness of activities are on a decline

The views of FORIG include:

- There is a significant reduction in incidence of wildfire occurrences in most of the project areas. This is the case because before the inception of this project, wildfire occurrences were more frequent than in the years after the implementation of this project.
- Associated environmental and economic damage to life and property has reduced drastically in the project's area of influence as a result of:
 - Sustained education on the use of fire
 - Enhanced capacity of project beneficiaries (e.g. the Fire Volunteer Squads) to prevent and/or suppress fires
 - The sheer presence of Fire Volunteer Squads within the communities instil fear in people who would otherwise have flouted the law
- Communities members involved in project are now agent of change of fire-use attitudes which is indirectly reducing the incidence of human caused fire.

3.3 The contributions of specific studies/surveys in various disciplines (forest fire management, biodiversity conservation, ecology, socio-economy, community participation, rehabilitation aspects)

From the perspective of RMSC and FORIG the studies and surveys contributed significantly to a better understanding and the acceptance of fire management principles for application:

- Socio-economic studies under the project afforded greater insight into aspects of forest management other than only fire management, for example, such studies gave a better understanding of the underlying needs of forest communities and how to furnish such needs.
- The studies / surveys in the various disciplines contributed to the uptake of project results. For example:
 - The socio-economic and baseline studies succeeded in whipping up interest in the project and thus engendered strong collaboration with the communities.

- Identification and selection of species for reforestation was done together with the communities, thereby encouraging uptake of results.
- Roles and responsibilities of the various stakeholders were identified and defined with the active participation of all the stakeholders.
- The studies on the roles and responsibilities of different stakeholders helped to identify training needs of the fire volunteers.
- It also resulted in training to build their capacity and improve fire management, and rehabilitation of forest areas

Apart from the project reports listed under the five project outputs (c.f. Section 2.2) two significant studies in the form of scientific publications reveal the utility and impacts of the project:

- Restoration Ecology¹
The conclusion of this study is that a) mixed mahogany species can be used in plantations as an appropriate management option to serve a dual role of accelerating the natural regeneration and recovery of species-rich forest ecosystems, whilst improving degraded soils.
- Socio-economy and forest fire management²
The conclusion of this study is that policies and institutions that promote improvement and applications of indigenous wildfire management (IWM) initiatives build on the strong underlying community knowledge and local networks to enhance their effectiveness.
- Exchange with the international community
Results of project shared with international community through a conference paper presented at the 5th International Wildland Fire Conference (2011)³

3.4 The impact of project activities on the livelihoods of target populations in the area covered by the project implementation

Apart from the benefits of successful fire management for the protection and rehabilitation of Ghana's forests the impacts of the project approach on the livelihoods of local population is essential for the perception and acceptance of the fire management approach and – most importantly – for the sustainability and future of the concept. RMSC and FORIG considered the impacts on livelihoods as follows:

- As a result of lower fire incidents farmers are resorting to longer maturing tree crops which are more profitable thus ultimately increasing their incomes and standards of living.
- Community participation in the rehabilitation of fire degraded forests through Taungya farming system has been promoted. This allowed for participating farmers to benefit from access to cultivate virgin forest land to boost agricultural productivity while rehabilitating the forests until canopy closure.

¹ Abrefa-Danquah, J., Appiah, M. and Pappinen, A. 2011. Effect of African mahogany species on soil chemical properties in degraded dry semi-deciduous forest ecosystems in Ghana. *Int. J. Agriculture and Biology* (ISSN Print: 1560–8530; ISSN Online: 1814–9596, 11–334/SBC/2012/14–3–321–328. <http://www.fspublishers.org>)

² Appiah, M., Damnyag, L., Blay, D., Pappinen, A. 2010. Forest and agroecosystem fire management in Ghana. *Mitig. Adapt. Strateg. Global Change* 15: 551-570.

³ “Community fire management, livelihood and restoration of fire degraded areas. The case of three forest districts in Ghana”, presented at the 5th International Wildland Fire Conference – ‘Wildfire 2011’, Sun City / Pilanesberg National Park, South Africa, 9-13 May 2011.

- Prior to the project, fire incidence was very high and had affected the project communities almost annually. This prevented farmers from planting perennial crops which would have provided them with some form of medium- to long-term personal security. Instead farmers only planted short-rotation crops like maize. Over the last year significant amounts of cocoa and cashew farms have been established, which contributed to increasing incomes. This is also partially due to the return of people who had left the region at the times of annual wildfire occurrence. Additionally migrant farmers are coming in to take advantage of the reduced fire incidences and to engage in perennial crop farming.
- Further sources of improvement are from (a) increased area of forest plantations established, leading to likely increase in revenue from timber resources for communities and government.
- The abolition of annual fires has reduced air pollution, which in the past had resulted in significantly adverse impacts on human health and most likely (even if relevant studies have not been carried out) in premature mortality of young, elderly and otherwise sensitive people (people already suffering cardio-vascular diseases, asthma, etc.).

3.5 The effectiveness of dissemination of project results and findings in Ghana

Within Ghana and within the African Region the project results have been used for discussing the subjects in wider audiences. This was basically done through meetings with stakeholders within and outside the project scope through publications, seminars, workshops and community durbars. Furthermore RMSC and FORIG concluded:

- Dissemination of project results and findings through workshops was very effective.
- Fire education on radio was effective.
- Production of the Fire Guidelines and the Manual document provided concrete guidance for action.
- Various workshops, in which some of the results of the project were shared, improved stakeholder collaboration in fire management.

3.6 The overall post-project situation in the project's area of influence

- In the short to medium term there is reduction in wildfire incidence but need to be sustained;
- Enthusiasm of community members and other stakeholders is still high on most of the project output areas;
- Community Fire Volunteer Groups still exist and are still active and responsive to wildfires. However, efficiency of firefighting activities is negatively affected by worn-out and lack of basic fire-fighting equipment and low motivational opportunities like boots, cutlasses, insurance schemes, water containers for fire control, safety equipment (respirator / filter mask etc.), lookout towers, motor bikes, mobile phones, uniforms, identity cards, refresher courses on fire control and prevention, used clothes to support farmers;
- Most of these Fire Volunteer Groups appear over aged and would need to be replaced or supported by younger community members. But it appears that the youth are not encouraged to join such Fire Volunteer Groups due to the lack of incentives including insurance for these activities;

- Neighbouring communities have the desire to establish such fire volunteer groups to help fight wild fire in their areas;
- Fire belt/breaks have been well established around forest reserves in project communities and they are effectively controlling incidence of wildfire in their respective forest reserves;
- These firebreaks contribute to an increase of forest cover, which subsequently provides the suitable climate for the growth of cocoa and cashew;
- If Fire Volunteer Groups in project areas would be well equipped and trained, they would like to train fellow farmers in neighbouring communities on wildfire control and prevention;
- Community fire volunteer groups communicate well with official agencies and institutions in charge of fire control and prevention: Ghana National Fire Service (GNFS), the Forest Services Division, and Ministry of Food and Agriculture (MOFA) through (a) agricultural extension officers and (b) Ghana Cocoa Board.
- Thus, there is need for re-invigorating the activities recommended by the project, by mainstreaming into annual programme of work of the FSD, the WD and MOFA.

3.7 The unexpected effects and impacts, either harmful or beneficial, and the reasons for their occurrences

The aforementioned beneficial impacts had been unforeseen and could therefore be considered as highly valuable project success:

- Through reduction of wildfires, improved microclimatic conditions and rehabilitated forests there has been an unexpected increase in cocoa and cashew production within the project area

Some negative side-effects of the project, however, have also been noted:

- A disincentive to engage more volunteers, i.e. the refusal of other members of the communities to join forces with the trained Fire Volunteers Groups is because they were not selected for training at the onset of the project and consequently did not receive the logistics and benefits provided by the project;
- Only a few young people are joining the aging Fire Volunteer Groups in the communities, a fact that threatens the sustainability of the currently still functioning groups in the future.
- Some adjacent communities who did not participate in the project felt left out and sometimes their activities result in fire incidence close to the participating communities.

Possible caveats that may require attention in the future:

- Exclusion of fire over time would lead to fuel build-up and the potential for more severe / devastating wildfires in the future. Thus need to sustain the current efforts while promoting more stable farming systems and fuel treatment

3.8 The cost efficiency in the implementation of the project, including the technical, financial and managerial aspects, in relation to forest fire management and post-fire restoration aspects

There is an unanimous opinion among the stakeholders in Ghana that the project was implemented wholly in Ghana and that therefore contracting a third party (IUCN) as the executing agency was unnecessary, as it ended up increasing the project's overhead costs.

The GFMC contacted the IUCN /WARPO in April 2015, requesting some information about the project but did not receive a reply.

Thus, despite of the intent of the history of the initiation of the project it seems that the involvement of the third party was costly and not present in the post-project phase, which seems – from the point of view of GFMC – to be as important as the active project phase.

3.9 Follow-up actions in order to enhance uptake of project results

The follow-up actions recommended by this review are provided in two parts. In this section the follow-up by the Government of Ghana and its executive bodies are summarized, based on the on-site discussions in April 2015. Furthermore the GFMC will provide additional recommendations in Section 5 of this report.

Action to be taken within responsibility of government institutions of Ghana:

- There is a need for continuing monitoring and assessment of fires and their impacts on environment and society. The Forestry Services Division (FSD) routinely monitor fire incidence and analyse possible changes in the causative agents of wildfires, trends and impacts, and inform management to respond appropriately;
- Provision of periodic refresher courses and some basic tools to the Fire Volunteer Groups would help the uptake of project results;
- Training and empowerment of more community members and fire volunteers on all aspects of fire management (awareness creation, prevention, pre-suppression activities and tactical wildfire fighting);
- Emphasis should be given to recruit younger volunteers;
- Incentives and insurance cover for fire volunteers should be provided;
- Annual meeting of Fire Volunteer Groups, FSD, MOFA, GNFS and DA would contribute to confidence building and enhancing motivation of the Fire Volunteer Groups.

In the discussions it was strongly recommended that provision of funding for another phase of the project would consolidate the gains achieved in the target communities, and also allow expansion into the remaining communities that were not selected previously.

3.10 The project's relative success or failure, including a summary of the key lessons learned; and the identification of any issues or problems that should be taken into account in designing and implementing similar projects in the future

From the perspective of the Ghana Forestry Commission, Resource Management Support Center (RMSC), the lessons learned include:

- The project is considered highly successful; however, similar projects should place strong emphasis of sustainability by post-project activities;
- Education and awareness creation has been a great success but need to be sustained. It needs a long time to change attitudes and need to be considered in future projects;
- Adaptation of appropriate farming systems and fire use in farming systems outside of reserve areas should be encouraged and enhanced as most wildfires start from outside forest reserves;
- Future projects should look at the formulation and effective implementation of community/local byelaws across the transitional zone;
- It is important to start to pilot these wildfire management success stories across the savannah zones of Ghana as these areas are currently given little attention. The savannah ecosystems are very important sources of livelihoods to the rural populations and provide an invaluable source of medicinal plants and other non-timber forest products that are threatened by wildfires.

The views of FORIG include:

- The establishment of Green Fire Belts as a means of control of wildfire spread in forest reserves is effective;
- The involvement of stakeholders at project conception and implementation phases ensured inclusiveness and consequently a measure of success which would otherwise not have been possible;
- Village Fire Volunteer Groups were motivated with incentives such as cutlasses, uniforms and bicycles; thus, the inclusion of material incentives motivated Fire Volunteer Groups to join and to serve long term;
- Future projects should have similar strategy;
- Less emphasis should be on project workshops and more on provision of simple tools for the Fire Volunteer Groups.

3.11 Statements of Community Members / Volunteer Groups:

During the field mission emphasis was put on obtaining the views of local communities that were involved in the project. The statements by community members should be respected and thus are

3.11.1 Community Asunsu No.1 (Dormaa-Ahenkro) (consulted on 7 April 2015)

Participants: 30

Main issues / statements

- Before the project many devastating fires occurred
- During and after the project the community / Fire Volunteer s (FV) felt to be safe and successful by the considerable reduction of wildfires

- Since the end of project there was no regular refresher training, which would be welcomed
- Public announcements are made in the frame of the National Bushfire Campaign (through radio)
- The fire-use ban between December and end of March is generally observed, including the prohibition to set cooking fires in the field
- All uniforms (blue overalls) that had been handed out to the FV are still there but degraded due to intensive use
- There are no tools for firefighting
- However, the FV have been recognized with the “Best Fire Squad Award” 2009-2010 by the Regional Fire Officer and the Brong Ahafo Regional Minister
- The fire breaks are functioning to protect valuable areas
- The use of fire (prescribed burning) is supported by the FV
- One FV member, Mr. Anthony Yaw Asamoah, was injured during firefighting some years ago, and since then is disabled and cannot work anymore. He did not get any compensation for this injury and since then is in extreme difficulties to sustain the family
- The FV are all relatively old, since they were recruited and formed the group many years ago. There is little interest of the young generation to join the FV; young people should be motivated to join.
- Hand tools are urgently needed (backpack pumps, chainsaw)
- Medical treatment after exhausting fires needed
- Further support for the continuing efforts of the FV is needed

Community Twumkrom (Dormaa-Ahenkro) (consulted on 7 April 2015)

Participants: 14

Main issues / statements

- All of the 24 FV trained in the project are still active in the group.
- Last training was provided in 2007.
- Only two additional volunteers joined since then.
- Young people say that the older ones had received incentives, and they should therefore continue; young people do not receive incentives and therefore do not join.
- The situation changed completely in the last years because people are afraid to burn during the prohibited season because the FV successfully implement the byelaw (fine for burning offense: 1200 Cedi). The FV are authorized by the District Assembly.
- However, no official award has been received.
- Refresher training is needed, including inviting young people to join.
- There are no hand tools. The bicycle, which was given to the FV, is meanwhile broken.
- Request: Uniforms, cutlasses, backpack pumps and smoke masks are needed.
- Uniform as an expression of authority is urgently required, as well as an ID card that shows authorization.
- Health / accident insurance should be provided to FV.
- Climate change: It is observed that the rainy season, which in previous years started already in March, is now starting delayed in April. Also the time between rainfall events is longer than earlier. Hot temperatures contribute to fast desiccation of plants and increased fire danger / hazard.
- Neighbouring communities would like to receive similar training and incentives.

- FV would be available to train other communities.
- Fire breaks efficiently reduce fire spread.
- The efficiency of fire protection has resulted in an increase of growing fire-sensitive crops, notably cocoa and cashew. Many people are now benefitting from fire protection, and even people from other regions are moving to the protected community lands in order to grow cocoa and cashew. In this regard the reduction of wildfires has a significant impact on the local economy and livelihoods.

Community Abonsrakrom (Dormaa-Ahenkro) (consulted on 7 April 2015)

Participants: 9

Main issues / statements

- Out of the 25 FV, which were trained in the project, 6 have passed away; all others are still active in the group.
- Now a total of 40 FV are involved, including 10 younger people.
- The last fire that caused problems and damages occurred in 2011.
- The fire situation is much better as compared to earlier years.
- Uniforms and equipment (cutlasses, boots, backpack pumps, motorbike) are needed.
- Insurance for health and accidents needed
- Neighbouring communities, e.g. Botokrom, would like to have similar incentives.
- The benefit from fire protection can be seen. Crops are protected and significantly more cocoa, cashew nuts and citrus (perennials) are grown.
- Other benefits are now coming in from the commercial forest plantations (benefit sharing), some of them established by a Community Forest Management Project (CFMP) funded by the African Development Bank (AfDB).

Community Ahomahomasu (Begoro) (consulted on 8 April 2015)

Participants: 9

Main issues / statements

- Because of the huge fire problem in the late 1980s two FV groups were established (30 members each).
- Both groups received training by the fire service, Forestry Commission and NGOs Greenbelt and Ecotech and through the Dutch project.
- Formerly the FV had been equipped with cutlasses, boots, hats, overalls.
- Today they use own tools; new tools are urgently needed.
- There is no agreement with authorities.
- People are listening to the FV. However, an ID card and a uniform would give a stronger appearance, mandate and thus motivation.
- Often FV are concerned since they fear revenge by community members when they arrest law / byelaw violators and brought them to the police. Such cases happened in the past, especially when the police did not prosecute the violators.
- Public awareness campaigns are helpful. However, awareness raising materials for the use in communities are not available to them.
- Compared to 15 years ago the situation is much better, the forests and crops are now protected from wildfires.

- People / FV in general are becoming less motivated due to lacking support by GFC.
- In the years before FV were motivated due to the benefits given by the GFC, i.e. the right to use forest lands for planting, or other allowances.

Community Measo (Begoro) (consulted on 8 April 2015)

Participants: 24

Main issues / statements

- The community has a work force of 120 volunteers.
- No young people joining due to lack of incentive accident insurance.
- No official agreement between FV / community and the fire service of GFC.
- Tools are not made available anymore as was the case during the project (they had received axes, shovels, rakes and fire beaters); new tools are required.
- Refresher training is needed.
- Uniforms would be important for visible recognition.
- The provision of a small office for the FV would be helpful.
- The engagement of life-long FV commitment should be awarded, e.g. by a small pension.
- At the time of firebreak construction it was a better situation because of employment (allowances for weeding in acacia fire break plantations) during the first three years (2005-2007).
- During that (active project) time there was also more fire awareness information provided to the public.
- Compared with the 1980s and 1990s the situation of wildfires is now under control.
- Young people are missing in the FV groups.
- Today the availability of cell phones facilitates to organization of actions (before it was only possible by whistle or gong alarms).
- The land-use fires are applied safely and skilled. FV support safeguarding the burnings.
- The biggest problem constitute the nomadic Fulani herders who are migrating through the region and setting fires during the dry (fire-ban) season)

Community Kumfere (Begoro) (consulted on 8 April 2015)

Participants: 22

Main issues / statements

- The community has 25 volunteers, some young volunteers included.
- Compared to 20 years ago: The situation has significantly improved due to the FV interventions.
- The Green Fire Belts contribute to this improvement.
- The last training 4 years ago.
- Firefighting tools are needed (cutlasses, backpack pumps, boots, hats, uniforms, smoke protection).
- Allowances are needed.
- Women of the community are highly interested to join the FV group.

4. Overall assessment

The evaluation mission was conducted more than four years after the completion of the project and the delivery of the final project report. Four main observations were made during the mission:

1) The achievements – Stabilization of ecosystems and land-use systems at landscape level

The achievements of the project are remarkable. Compared to the late 1980s and the 1990s the landscapes in the project areas have changed dramatically. The reduction of recurrent wildfires is significant, and thus are the consequences. The process of recovery of forests and other vegetated lands can be seen at landscape level. This is also reflected by the trends noted by this evaluation mission, e.g. the return and increase of cultivation of perennial trees, the return of rural inhabitants who had abandoned the regions after the devastating wildfires years ago; or even immigration of farmers who seem to trust the sustainability of the landscape potential under a fire protection regime.

From the point of view of the Global Fire Monitoring Center (GFMC), which has operated in a number of ITTO Member Producer Countries since the 1990s, these project results are outstanding.

2) Post-project decline of supporting project-related activities

The evaluation revealed a decline of support for project-related activities after the phasing out of the project. Visibly and symbolically this is manifested by the disappearance of some project outreach activities, e.g. the maintenance or construction of billboards along the roads in the project areas. Although some of these billboards still around – they are degrading and may soon disappear (Annex 1: Visual Impressions of the Evaluation Mission). However, this is a common phenomenon in similar projects around the developing world. The post-project era is often characterized by diminishing financial resources, resulting in dwindling commitments and investments by the authorities.

After the project termination the project areas experienced a halt in capacity building, provision of tools and incentives for supporting or motivating continuing engagement of local communities in fire management.

3) Despite dwindling support – Continuing engagement of local communities

Despite the decline of resources to further support the communities after the termination of the project, the Fire Volunteer Groups are still active and highly committed and the Green Fire Belts are still maintained.

During the mission all Fire Volunteer Groups expressed continuing high spirit of engagement and volunteerism. Nonetheless, the lack of post-project capacitation, the lack of replacement of worn-out tools and the lack of recognition (both by the lack of visibly mandated authority or by provision of insurance and other benefits) has put the burden of workload and responsibility to sustain fire management capability at local level on the shoulders of the economically most disadvantaged population groups.

However, the local communities have clearly recognized and experienced the benefits from the stabilization and restoration of carrying capacity and productivity of the rural landscape,

which in the pre-project period of the 1980s and early 1990s had been characterized by devastating uncontrolled wildfires. This new era of rural development is a merit of increasing awareness and active participation of local communities in fire protection.

4) Project sustainability and international support

The project has been financed and supported by various international actors. It is important to note that the ITTO project “Forest Fire Management in Ghana” (PD. 32/98 Rev. 1 [F]), which preceded the evaluated project between 1998 and 2003, laid the foundation for the second project by providing in-depth analyses of the physical and ecological basics of fire, the social and economic factors underlying the fire situation in the country in the 1990s, and the basic recommendations for fire management solutions.

The project was inspired and complemented by the Wildfire Management Project funded by the Dutch Government., especially with regards to the development of the National Wildfire Management Policy (enacted in 2006).

The Guidelines & Manual “Procedures for Community-Based Fire Management – Ghana”, which were produced during the project, are a good example of cross-fertilization between products of related projects throughout the world, including guidelines and textbooks that had been developed.

On the other side the intent failed to follow the model of the ‘Fire-Fight Initiative’ in other regions of the world to address the fire problems at regional West African level. While the project benefitted from the experience in other continents, the project in the end exclusively focussed on Ghana. This is why it was criticized that the additional costs arising from the involvement of a regional organization (IUCN-WARPO) could have been avoided and better invested in the country.

5. Lessons learned

In support of the issues addressed by the national project implementation institutions (RMSC, FORIG) in Chapter 3.10 of this report, the following conclusions are drawn:

1) Danger of losing the momentum generated by the project

Despite the fact that four years after the project termination the Fire Volunteer Groups are still active, the lack of continuing capacity building (refresher training), replacement of tools and provision of incentives may soon lead to a weakening and eventually also to the termination of community participation in fire management. Follow-up of project activities should not only be considered as justification of the project investments, but would also meet the need of efficient and effective fire management capabilities. A follow-up in the project itself would secure primarily the project outcomes in the selected communities.

Furthermore, the additional value of the achievements lies in the role of the project as a “lighthouse pilot” or demonstration showcase for horizontal outreach to other regions of the country or at West African regional level.

Despite the enacted National Wildfire Management Policy the role and active interest of local communities in integrated fire management and the consequences of termination of minimum support after the end of the project may be underestimated at government level.

2) Need of motivation and inclusion of the young generation

The on-site discussions in the communities revealed the pride and recognition of the generation of elder Fire Volunteer Group members having successfully served and contributed to the protection of natural and human assets. To a certain extent this is compensating the lack of recent and current material support by the authorities. The Fire Volunteer Group, however, are over-aging, and there are only a few, insufficient number of young volunteers.

This increasing gap of involvement between the generations is a clear threat to the sustainability of the system. There is a need to define ways to motivate young people to join the volunteers – certainly a difficult task at times when the young generation tends to seek urban work opportunities and lifestyle. Thus emphasis must be given to search for solutions to include the young generation and also to eventually halt the rural exodus by providing incentives.

3) Lack of a dedicated Rural Fire Management Extension Unit

The project success could be attributed to the smooth and efficient cooperation between different institutions, notably FORIG, GFC / RMSC and GNFS. With the phasing out of the project all institutions went back to their original sectoral work routine. There is a danger that the momentum generated during the project life time will be lost and thus the systematic approach in community-based fire management to become marginalized.

It is timely that the gap be closed by the establishment of a dedicated Rural Fire Management Extension Unit and the position of a Rural Fire Management Officer mandated to systematically support local authorities and communities to establish and enhance fire management capacities. Only then it will be possible to consolidate, sustain and extend the achievements and furthermore address the country-wide needs in fire management.

4) Missing opportunities for enhancing fire management capabilities through regional exchange

Transnational cooperative work in fire management in several regions of tropical Africa, Asia and Latin America has resulted in the generation of synergies and mutual benefits between partnering countries and institutions. For instance, fire management solutions such as successful approaches in community involvement (including revival and adaptation of traditional approaches in fire management) and technical measures (comparable to the establishment of Green Fire Belts as demonstrated in the project) could be shared with neighbour countries.

The exchange of expertise in fire management through joint consultations, workshops and conferences and through a dedicated network could be complemented by sharing of human and technical resources in wildfire emergency situations, particularly with regards to border-crossing wildfires. The latter indeed would require the development of bilateral agreements, standard operating procedures and a systematic joint bilateral or West Africa-wide training component.

Neither the project – although originally envisaged – nor any other networking attempts in the region could achieve the creation of a functioning professional or institutional network. Here

lies a challenge but also an opportunity to foster the development of a common regional culture of fire management.

5) The role and functioning of international or regional sectoral support organizations in sustaining support

In general the disappearance of international project contributors or managers after the delivery of the final report is certainly one of the impediments for maintaining sustainability of project achievements or further developments building on the project achievements.

With the end of this project the involvement of international organizations and / or donors including international specialized organizations or experts was terminated.

However, the history of the project reveals that it took advantage of several related projects, including the support of two projects subsequently funded by ITTO.

An important lesson identified is that the traditional approach by international actors to tackle development issues by time- and budget-limited projects may need to be replaced by a process-support approach. If traditional structures and mandates of international organizations such as ITTO and IUCN will not allow to cater and support long-term process approaches it would be worth to seek an active involvement of dedicated (thematic) networks and institutions such as the Global Wildland Fire Network with its 14 Regional Wildland Fire Networks⁴, investigate the utility to establish a Regional Fire Management Resource Center⁵ and liaise with the voluntary arrangements under the International Wildfire Preparedness Mechanism (IWPM).⁶

⁴ <http://www.fire.uni-freiburg.de/GlobalNetworks/globalNet.html>

⁵ See recommendations in Section 6 (item 4) below

⁶ See recommendations in Section 6 (item 4) below

6. Recommendations

The Ex-Post Evaluation mission was conducted in tandem with the Ex-Post Evaluation of the Thematic Group on Forest Fire, including an *Overall Assessment of the Achievements and Impacts of ITTO's Projects Related to Forest Fires and the Use of the ITTO Forest Guidelines on Fire Management in Tropical Forests*. The joint terms of reference of both evaluations requested to develop a catalogue of recommendations. This catalogue is more of a global nature concerning the future of the global engagement of the ITTO to assist its Member States in strengthening fire management capabilities. Thus for the follow-up of the Ghana project the recommendations are tailored to address the post-project situation in the country and the implications for the West Africa region.

According to the Ex-Post Evaluation the situation in Ghana is characterized by

- The country has successfully implemented a community-based fire management project involving active participation of local fire volunteer groups, public information and technical fire prevention measures including the realization of post-fire restoration Taungya scheme and the establishment of green fire belts;
- The post-project situation is characterized by diminishing support to local communities due to a lack of financial resources, dwindling motivation of volunteers due to subjectively felt lack of recognition by the government, and lack of recruitment of next-generation volunteers;
- There is a lack of a national fire management programme and a dedicated national implementation body;
- Neither Ghana nor the West Africa region has a dedicated professional / institutional networking mechanism in place, which could facilitate exchange of fire management expertise or sharing of human and technical resources. However, there is an interest and availability of professionals to establish a network.

The following recommendations are addressed to the Government of Ghana and the ITTO:

1) Launch of a stop-gap measure programme to secure longevity and sustainability of project investments

The RMSC Kumasi should be provided with the necessary finances to provide interim continuing financial support for the local communities in the project areas, to be used for incentives for Fire Volunteer Groups, replacement of worn-out equipment, refresher training and securing maintenance and thus functioning of the Green Fire Belts. This should be considered as a medium-term stop-gap measure in order to reduce the risk of losing investments by the past project until recommendation (2) would be realized and become effective.

2) Establishment of a Rural Fire Management Extension Unit

The government of Ghana should convene a National Inter-Agency Round Table with participation of civil society, which would be tasked to

- Review the National Wildfire Management Policy and develop an implementation strategy (national fire management programme) and action plan
- Develop a concept and establish a Rural Fire Management Extension Unit, led by a National Rural Fire Management Officer, to be mandated to implement the national fire management programme based on the existing or revised National Wildfire Management Policy

3) Conduct a socio-economic study

Observed but not proven successes and potential threats of the project achievements should be addressed by a socio-economic study and include

- Survey of the impacts of fire management measures (notably wildfire prevention and control) in the project area on changing land-use and types of cropping, and resulting impacts on livelihood, demography and migration
- Principles and incentives for the creation, sustaining and authorization of Fire Volunteer Groups, including recruitment of young volunteers

4) Creation of synergies in advancing fire management capabilities in West Africa through the establishment of a Regional Fire Management Resource Center for West Africa and a Regional West Africa Wildland Fire Network

Following other regions of the world it should be considered to establish a dedicated center of excellence following the concept of Regional Fire Management Resource Centers.⁷ These centers are serving as:

- Freely accessible repository of national and regional scientific, technical information and statistical data (online library and archives); dissemination of information and data;
- Provision of access to advanced fire information systems (satellite monitoring of active fires and area burned, fire danger rating / early warning)
- Facilitator for local, national and regional (West Africa) fire management training
- Advisory services for fire management planning at all levels (local, national and regional)

A “Regional West Africa Fire Management Resource Center” could be positioned in Ghana (Kumasi) in order to take advantage of the expertise of those stakeholders that had been involved in the project. Ideally the proposed national Rural Fire Management Extension Unit would be an integral part of the Center and thus secure its involvement in pragmatic outreach work at grassroot level with participation of governmental institutions and local communities.

In addition, the Center would serve as Convener and Secretariat of a Regional West Africa Wildland Fire Network, which would cover the West Africa Region within the UNISDR Regional Sub Sahara Wildland Fire Network⁸. Through active participation within the (voluntary) International Wildfire Preparedness Mechanism (IWPM)⁹ the Center would secure the interests and participation of Ghana and the West Africa Region.

While the ITTO is encouraged to consider supporting the establishment and basic operational costs, the future of the Center may require the acquisition of finances from multiple donors and projects, such as those under the carbon credit finance schemes.

⁷ Currently three Regional Fire Monitoring / Fire Management Resource Centers are operational: Southeast Europe / South Caucasus; Eastern Europe and Central Asia: See GFMC papers addressing the Asian region “Enhancing the Dialogue and Efficiency of Cooperation in Wildland Fire Management in the Asian Region: An Action Plan for 2014-2015” and “Objectives and Principles of Regional Wildland Fire Management Resource Centers: Transiting from Informal Networking to Sharing of Scientific, Technical and Human Resources”, in which the tasks of Regional Fire Management Resource Centers are outlined: <http://www.fire.uni-freiburg.de/GlobalNetworks/CentralAsia/Int-Symposium-Pan-Asia-Wildland-Fire-Network-2013-RFMRC.pdf>

⁸ <http://www.fire.uni-freiburg.de/GlobalNetworks/Africa/Afrifirenet.html>

⁹ <http://www.fire.uni-freiburg.de/iwpm/index.htm>

Annex 1

Visual Impressions of the Evaluation Mission



Figures 1 to 3. Degrading project billboards reveal dwindling support in the post-project era.



Figures 4 to 7. Community Fire Volunteer Groups still show commitment and pride, although lacking recognition and incentives since the termination of the project.



Figure 8. In all project communities the Community Fire Volunteer Groups are becoming overaged.



Figures 9 and 10. Green Fire Belts are fully functioning after project termination.



Figures 11 to 12. Wildfires transiting from the open, degraded and highly flammable lands sometimes enter Green Fire Belts but with reduced spread and easily controlled.




Figures 13 and 14. Careful application of controlled fire for vegetation clearing, planting and harvesting is practiced by project community members with caution and safety.

Annex 2

Country Management Response to ITTO Ex-Post Evaluation	
Project Title: Fire-Management and Post-Fire Restoration with Local Community Collaboration in Ghana Project ID: PD 284/04 Rev.2 (F)	
A) Overall Response to the Evaluation: <i>(please insert your overall views on the evaluation report, e.g. structure, methodology and its conclusions)</i>	
<p>The structure and methods used are scientifically sound. The findings and conclusions arrived at in the report generally reflect what transpired during the implementation phase as well as the post implementations phase of the project. We therefore agree with the contents of the report.</p>	
Evaluation Report Recommendations*	B) Response to recommendations <i>(e.g. 'accept', 'partially accept' or 'reject' - please provide a brief explanation)</i>
<p>Recommendation 1</p> <p><u>Launch of a stop-gap measure programme to secure longevity and sustainability of project investments</u></p>	Accept
<p>Recommendation 2</p> <p><u>Establishment of a Rural Fire Management Extension Unit</u></p>	Accept
<p>Recommendation 3</p> <p><u>Conduct a socio-economic study</u></p>	Accept
<p>Recommendation 4</p> <p><u>Creation of synergies in advancing fire management capabilities in West Africa through the establishment of a Regional Fire Management Resource Center for West Africa and a Regional West Africa Wildland Fire Network</u></p>	Accept

Name, Title and Institution of Respondent: Dr. Daniel A. Ofori, Director, CSIR-Forestry Research of Ghana.

Date, Signature: 
 DR. STEPHEN ADU-BREBU
 FOR DIRECTOR.

DIRECTOR
 FORESTRY RESEARCH
 INSTITUTE OF GHANA
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 Kumasi - Ghana

Annex 3

TERMS OF REFERENCE

Ex-Post Evaluation of the Thematic Group on Forest Fire, including an Overall Assessment of the Achievements and Impacts of ITTO's Projects Related to Forest Fires and the Use of the ITTO Forest Guidelines on Fire Management in Tropical forests

I. Background

ITTO is an intergovernmental organization established in 1986 to administer the provisions and operation of the International Tropical Timber Agreement (ITTA), particularly in the promotion of the conservation and sustainable management, use and trade of tropical forest resources through international cooperation, policy work and project activities.

One project will be the subject of an in-depth Ex-post Evaluation, as follows:

PD 284/04 Rev.2 (F): Fire-management and post-fire restoration with local community collaboration in Ghana

Moreover, in order to proceed with the ex-post evaluation of the Thematic Group of Project on Forest Fires, all other completed projects related to forest fires will also be evaluated as a group, as per the ITTO Manual for Project Monitoring, Review, Reporting and Evaluation. This thematic evaluation will also provide a good opportunity for the assessment of the implementation of the ITTO Guidelines on Fire Management in Tropical Forests (1997).

The background information on project PD 284/04 Rev.2 (F) is provided in Annex 1. Information related to all other completed ITTO projects on forest fire are provided in Annex 2 of these Terms of Reference.

II. Purpose and Scope of Evaluation

A) Purpose

The primary purpose of the evaluation is to provide an in-depth evaluation of one project related to forest fires and further thematically assess all other completed projects on forest fires and their use of the ITTO Forest Guidelines on Fire Management Tropical Forests (1997), so as to point out the successful and unsuccessful outcomes, the reasons for successes and failures, and the contribution of the project towards the achievement of ITTO's Objective 2000 and its policy work on forest fires, and to draw lessons that can be used to improve similar projects in the future and possibly provide the basis for establishing a specific programme of work on forest fires within ITTO. The evaluation should also refer to the appropriate recommendations in the report on the Meta-Evaluation of previously evaluated ITTO projects [ITTC-JC(XLV/2)].

In addition, this evaluation is to also assess the use and/or implementation of the ITTO Guidelines on Fire Management in Tropical Forests (1997), through a review of the outcomes, achievements and lessons learnt of all completed ITTO projects on forest fire, with a view towards producing the following:

- A Technical Report compiling the best practices and lessons learnt on fire management in tropical forests, while providing appropriate guidance on the ways and means to update the ITTO fire-related guidelines and a Special Edition of the Tropical Forest Update (TFU), in close consultation with the ITTO Secretariat;
- High quality outreach materials (PPT presentation, Brochure/Leaflet and Poster) on best practices and lessons learnt as regards forest fires and the use of the TTO Guidelines on Fire Management in Tropical Forests (1997), in consultation with the ITTO Outreach and Communications Officer; and
- The selection of participants, in consultation with the ITTO Secretariat, to be provided financial support for attendance at Wildfire 2015, and in the preparation of a potential side-event at Wildfire 2015. Participants will be selected on the basis of their production of articles on forest fire for the Special Edition of the TFU.

B) Scope of Work

a) Carry out an In-depth Analysis and Assessment of Project PD 284/04 Rev.2 (F):

1. The overall role and contribution of the project in light of sectoral policies, development programmes, priorities and requirements to appropriately achieve forest fire management goals in the fire-prone zones concerned by the project implementation in Ghana.
2. The current status of forest fire management within the project's area of influence, the effectiveness of the project's implementation and its effectiveness in promoting forest fire management and post-fire restoration in the fire-prone zones of Ghana.
3. The contributions of specific studies/surveys in various disciplines (forest fire management, biodiversity conservation, ecology, socio-economy, community participation, rehabilitation aspects, etc.).
4. The impact of project activities on the livelihoods of target populations in the area covered by the project implementation.
5. The effectiveness of dissemination of project results and findings in Ghana.
6. The overall post-project situation in the project's area of influence.
7. The unexpected effects and impacts, either harmful or beneficial, and the reasons for their occurrences.
8. The cost efficiency in the implementation of the project, including the technical, financial and managerial aspects, in relation to forest fire management and post-fire restoration aspects.
9. Follow-up actions in order to enhance uptake of project results.
10. The project's relative success or failure, including a summary of the key lessons learnt; and the identification of any issues or problems that should be taken into account in designing and implementing similar projects in the future.

b) Carry out an analysis and assessment of all other completed ITTO projects on forest fires and their use of the ITTO Guidelines on Fire Management in Tropical Forests (note: The ITTO will provide all available project documents in electronic form):

1. The overall role and contribution of completed ITTO projects on forest fire (refer to Annex 2), and their use of the ITTO Guidelines on Fire Management in Tropical Forests, through the compilation of results/findings of all completed ITTO projects on forest fire, including key lessons learnt derived from the implementation of these.
2. The contributions of completed ITTO projects on forest fire in various tropical forest-related disciplines (forest management, biodiversity conservation, ecology, socio-economy, community participation, rehabilitation/restoration aspects, etc.).

c) Provide a synthesis on the ex-post evaluation of PD 284/04 Rev.2 (F):

1. Assess the overall role and meaningful contribution of the project in achieving the fire management and post-fire restoration in Ghana, taking into account ITTO's objectives, and ITTO Guidelines on Fire Management in Tropical Forests.
2. Evaluate the overall impact on and relevance of the project for the country environmental authorities, executing agency (IUCN West African Regional Programme -WARPO- based in Ouagadougou in Burkina Faso), collaborating agencies (Forestry Research Institute of Ghana -FORIG- and Resource Management Support Center -RMSC- of Ghana), the forest management sector and local communities being involved and the project implementation, in Ghana.
3. Evaluate the overall attainment of the objectives and assess the overall effectiveness of the project.
4. Evaluate the overall appropriateness of the costs, cost structure and use of financial resources for the project implementation.

d) Provide a synthesis on the assessment of the ITTO completed projects and the use of the ITTO Guidelines on Fire Management as a thematic group on forest fires:

1. Take stock of the results/findings of all completed ITTO projects on forest fire, within the framework of the ITTO Guidelines on Fire Management in Tropical Forests, including lessons learned from the implementation of all completed ITTO projects on fire management in ITTO member countries and provide tentative actions for future ITTO work under this theme.
2. Emphasize the overall role and meaningful contribution of completed ITTO projects in the use and/or implementation of the ITTO Guidelines on Fire Management in Tropical Forests, while taking into account the appropriate ITTO's objectives and policies (sustainable forest management, forest rehabilitation/restoration, biodiversity conservation, etc.).
3. Highlight the strengths/weaknesses of the ITTO Guidelines on Fire Management in Tropical Forests, in view of updating this important ITTO policy document in relation to relevant new scientific and technical

elements (such as climate change) impacting the management of tropical forests in general and forest fire management in particular

e) And make recommendations on PD 284/04 Rev.2 (F) and the Thematic Group as a whole:

1. The needs for similar projects in the future.
2. The objectives of such future projects.
3. The innovative approaches/designs for future projects which could contribute to improving the forest fire management, prevention and control, and post-fire restoration.
4. The appropriate target groups (government institutions, non-governmental organizations, forestry sector, local communities, etc.), for the implementation of such future projects, in a participatory approach.
5. The follow-up and evaluation practices, processes and procedures required in the field of fire in tropical forests.
6. The development of a draft follow-up work plan to review and/or enhance the ITTO Guidelines on Fire Management in Tropical Forests (1997), and further define its focus and potential components.
7. Any other supplemental and/or alternative activities, processes, procedures, and/or follow-up programmes, if considered appropriate.

III. Approach

A) Composition of the evaluation team

The evaluation of PD 284/04 Rev.2 (F) and assessment of all completed ITTO projects on fire management in tropical forests will be undertaken by an international consultant, as detailed above. The international consultant will be also in charge of the final report and the presentation of the results at a tentative side-event at the Wildfire 2015 Conference in South Korea during October 2015 and at the Fifty-first Council Session in Kuala Lumpur, Malaysia, in November 2015.

B) Consultation during evaluation exercise

The international consultant will maintain close liaison with the ITTO Secretariat and will carry out its work in close cooperation with the concerned project executing agency (IUCN-WARPO), collaborating agencies (FORIG and RMSC), and Government of Ghana. Although the international consultant should feel free to discuss with the appropriate authorities about all matters relevant to its assignment, it is not authorized to make any commitments on behalf of ITTO.

C) Activities and report of the team

The work required in this evaluation will consist of:

1. Desk review of documents and materials provided by ITTO.
2. Mission in Ghana. The international consultant will visit the project's implementing team members for a further desk review of project documents and materials. The mission in Ghana shall also include field visits to the project's area of influence in order to review field implementation and to evaluate the project results and impacts, and should include discussions with project stakeholders and target beneficiaries. A minimum of five working days is required for the mission. The field visits will be a good opportunity to take appropriate high resolution photographs.
3. Preparation of an ex-post evaluation report for the project PD 284/04 rev.2 (F), in English, in accordance with the scope of work, and format and the checklist contained in the ITTO Manual for Project Monitoring, Reviewing, Reporting and Evaluation (Third Edition).
4. Preparation of a Technical Report compiling the best practices and lessons learnt on fire management in tropical forests stemming from the completed projects, and on their use and/or implementation of the ITTO Guidelines on Fire Management in tropical forests (including an annex containing a draft profile/annotated table of contents and appropriate guidance which could lead to updating the aforementioned ITTO policy document).
5. Assisting in the selection of participants, to be provided financial support for attendance at the Sixth International Wildland Fire Conference, to be held in October 2015, based on the quality of draft articles produced by the potential participants for the Special Edition of the TFU. Further assess, review and edit the draft articles and their corresponding high-resolution photos in collaboration with the ITTO Outreach and Communications Officer, with a view towards including the best ones in the Special Edition of the TFU to be focused on fire management in tropical forests.
6. Assist in the preparation and running of a side-event at Wildfire 2015 in collaboration with the ITTO Secretariat and give or assist in a PPT presentation on the ITTO forest-fire work.

7. Preparation of an Overall Executive Summary [refer to c) and d) Scope of Work] here above.
8. Presentation of the Overall Executive Summary at the Fifty-first Session of the International Tropical Timber Council (November 2015, Kuala Lumpur, Malaysia) by the international consultant.
9. Preparation of an article for possible publication in the ITTO Tropical Forest Update (TFU), in consultation with the editor, containing an overview of the projects and summarizing the lessons learned from the evaluation work. Appropriate high-resolution photographs should be provided (if possible in time for the special edition on forest fires).
10. The production of outreach and communication materials (PowerPoint presentation, brochure/leaflet and poster) in time for WildFire 2015 and the Fifty-first Session of the International Tropical Timber Council, for the effective dissemination and promotion of ITTO forest fire-related, in collaboration with the ITTO Secretariat.

In writing the ex-post evaluation report for PD 284/04 rev.2 (F); and the related synthesis/executive summary report, the international consultant will have the opportunity to discuss its preliminary findings, conclusions and recommendations with the representatives of the Government of Ghana and ITTO Secretariat, before the final version of the report is made. Responsibility for the final content of the reports, however, remains with the evaluation team.

D) Duration of the assignment

The duration of the assignment will be 54 working days for the international consultant, and will consist of approximately two weeks travelling in Ghana to review the project and to Kuala Lumpur for the presentation of his findings at the Fifty-first Session of the International Tropical Timber Council (It is to be noted that travel costs to South Korea for the WildFire 2015 conference will be covered by the consultant). The remaining time will be used for the preparation of the aforementioned reports and other products.

E) Proposed Work Schedule

- March – April 2015: Desk review for PD 284/04 Rev.2 (F)
- End of April 2015: Mission in Ghana
- End of May 2015: Submission of a draft report to the ITTO Secretariat and to the project executing agency (IUCN-WARPO), the collaborating agencies (FORIG and RMSC) and Government of Ghana, for comments and suggestions
- May – July 2015: Desk review for all completed ITTO projects on forest fire management
- 15 August 2015: Submission of both a draft full ex-post evaluation report and overall executive summary to ITTO Secretariat
- End of August 2015: Submission of a draft full technical report to ITTO Secretariat, regarding the assessment of the implementation of the ITTO Guidelines on Fire Management in Tropical Forests
- 18 September 2015: Submission of both the full technical report and the overall executive summary to ITTO Secretariat, taking into account the comments from the ITTO Secretariat. Other dates for review of articles and other products need to be consulted with our Communications and Outreach Officer.
- October 2015: Presentation of the findings, recommendations and conclusion of ITTO's work on forest fires tentatively at a side-event at Wildfire 2015
- November 2015: Presentation of the findings, recommendations and conclusion of the ex-post evaluation of PD 284/04 Rev.2 (F) and the assessment of the implementation of the ITTO Guidelines on Fire Management in Tropical Forests, at the Joint Session of the Committees during the Fifty-first Council Session in Kuala Lumpur (Malaysia). Submission of the final version of both the full ex-post evaluation report and technical report, taking into account the comments made by the delegates during the Joint Session of the Committees.

F) Proposed Consultants

- Johann GOLDAMMER, International Consultant, GFMC

Project Information

PD 284/04 Rev.2 (F) Fire-Management and Post-Fire Restoration with Local Community Collaboration in Ghana

Budget and Funding Sources:

Total Budget:		US\$	731,925
ITTO Budget:		US\$	585,894
Government of Japan:	US\$	560,894	
Government of U.S.A.:	US\$	15,000	
Government of Norway:	US\$	10,000	
Government of Ghana:		US\$	63,977
IUCN :		US\$	82,054
Implementing Agency:	IUCN - The World Conservation union in collaboration with FORIG-Ghana and RMSC-Ghana		
Session of Approval:	ITTC Session XXXVII, December 2004, Yokohama, Japan		
Starting Date and Duration:	9 November 2005 / 36 months		
Approved Revised Date of Project Completion:	First extension: November 2009 (NOLF.09-0051) Second extension: December 2010 (NOLF.10-0228)		

I. Introduction

The project was approved by the Council at its Thirty-seventh Session in December 2004 in Yokohama, Japan, and fully funded at the same Session. The Agreement regulating the implementation of the project was signed on 27 July 2005. The first instalment of the ITTO funds was released in November 2005. A first 12-month project extension was granted until November 2009, without additional ITTO funds, by the ITTO Secretariat, based on an official request including proper justification with appropriate detailed work plan and budget. A second project extension of 13 months was granted until December 2010. As an acceptable version of the project completion report was received in March 2012, the duration of the project implementation had lasted 76 months instead of 36 initially designed by the implementing agency (IUCN).

II. Project Objective

The project aimed at promoting the contribution of efficient community-based fire management to forest restoration and sustainable management in Ghanaian fire prone areas. More specifically, it intended to reduce the uncontrolled forest fires in the target communities' forests and thus increase their productive capacity. The project specific objective was focused on working with local communities to stop the progress of forest loss due to uncontrolled fires. It was recognized that not all fires are bad but emphasizes the importance of integrated fire management to tackle the problem of uncontrolled forest fire, especially at local level, which is considered as one of the main causes of forest land degradation.

III. Project Achievements and Outputs

The project implementation contributed to attain the specific objective through the reports and other tangible products presented under each output here after:

Output 1: *Relationship between utilization of resources by rural communities and effective fire management determined*

- Report by Damnyag, L. (2007) on Socioeconomic and Environmental Baseline data for Community-based Fire Management in Ghana.
- Report by Hawthorne, W. D., Owusu-Afriyie, K., Gyakari, N. (2007) on Data-Base of Fire Restoration Species.

- Report by Hawthorne, W. D., Owusu-Afriyie, K., Gyakari, N. (2007) on Survey of Key Resources in the project areas.

Output 2: Roles and responsibilities of key stakeholders in fire management determined

- Report by Ameyaw, J. & Amissah, L. (2007) on the Roles and Responsibility of Stakeholders in Fire Management in Begoro, Winneba and Dorma'a Districts of Ghana.
- Report by Amissah, L. (2008) on Training of Fire Volunteers held in Abonsrakrom, Twumkrom and Asunso n° 1.

Output 3: Mechanisms for effective community based fire management developed and implemented

- Project Report on Stakeholder Workshop held at Dorma'a in 2007.
- Project Report on Stakeholder Workshop held at Begoro in 2007.
- Illustrated bulletins on wildfire management distributed to communities.
- Panel-boards on fire management produced in 2007 and 2008 and placed in project areas.
- Guidelines and Manual for Community-based Fire Management (CBFIM) produced.

Output 4: Fire degraded areas rehabilitated by using valuable species as determined by the local communities

- Report by Hawthorne, W. D., Owusu-Afriyie, K., Gyakari, N. (2008) on Species Restoration and Trials recommended in the project areas.
- Authorization n° G190.V.15/230 of 08.05.09, obtained from F/Commission for Taungya Scheme.
- A map of 350 ha of Taungya sites for post-fire restoration in Pamu-Berekum produced in 2009.
- Protective clothing + boots + cutlasses provided to 193 men and 217 female project beneficiaries.
- Eighty thousands (80,000) tree seedlings provided by the project and planted by 410 project beneficiaries.
- 20,500 plantain suckers supplied by the project and planted by project beneficiaries.

Output 5: Gaps in existing legislation on community based fire management identified and disseminated

- Report by Marfo, E. (2010) on the Review of Existing Legislation on Community Based Fire Management.

IV. Outcomes and Impacts

The main project outcomes and impacts are summarized here after:

<i>Prior to the Project</i>	<i>Impact of the Project</i>
<p>1. The Control and Prevention of Bushfires Act of 1990 (P.N.D.C.L. 229) was the foremost legislation to promote participation in the management of wildfires in Ghana. While Article 7 of the Act advocates creation of fire volunteer squads, the Act however did not empower traditional authorities to play a major role in the enforcement of its specifications.</p>	<p>Action 1 of Strategy 2.2.1.2 of the Fire Guidelines and Manual document produced by this project : PD 284/04 Rev. (F) and endorsed by the Government of Ghana, proposes Traditional Authorities and District Assemblies to develop and approve local bye-laws for wildfire management in the country.</p>
<p>2. Ineffective legal framework for the development of adapted wildfire plans, (as captured in the project document) and inappropriately coordinated action for authorisation of implementation.</p>	<p>Strategy 2.5.1.1 of the Fire Guidelines and Manual document produced by PD 284/04 Rev. (F) and endorsed by the Government of Ghana, advocates the periodic review and amendment of laws and regulations on wildfire to meet changing situations. Moreover the project led and applied several wildfire plans even as its stakeholder's workshops proposed that fire bye-laws should be gazetted within 90 days after their submission, and District Assemblies mandated to follow-up the execution of this provision.</p>

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| 3. Insufficiency of mechanisms and guidance in the use of fire including advice and support in post-fire restoration (as captured in the project document). | The project proposed the banning of open burning from 15 th December to 15 th April, with meteorological services (MSD) assuming the responsibility to advise as appropriate. |
| | The project supported project beneficiaries with equipment, tree seedlings, plantain suckers, which were all planted, thereby making post-fire forest restoration a reality. |
| 4. Inadequately documented programme for training local stakeholders and others i.e. scholars in wildfire management. | The Fire Guidelines and Manual document produced by PD 284/04 Rev. (F) and endorsed by the Government of Ghana, proposed an illustrated section for training in wildfire prevention, pre-suppression, and suppression. |
| 5. Fire degraded lands around communities (not Forest Reserves) were not receiving adequate attention and consequently not restored. | The project supported reforestation through the establishment of fire-belts and mixed planting using approximately 25,000 seedlings of fire resilient tree species around community and individual farm-holds |
| 6. Fire degraded lands in Forest Reserves around target project communities were receiving very little attention and consequently not adequately restored. | The project supported the mapping, clearing, pegging, holing and reforestation through a Taungya Scheme of 87.2 hectares of land over 350 hectares of mapped and prepared Forest Reserve land under progressive reforestation. |

The project's specific objective sought to reduce uncontrolled forest fires in the forests of target communities thereby increasing the productive capacity of such forests.

V. Lessons Learnt and sustainability

5.1 *Lessons from project identification, design and implementation*

The involvement of stakeholders' right from the conception phase of the project followed by the immediate identification of their roles and responsibilities in fire management was very crucial for the success of the project, although it is a time consuming process. That's why the duration of the project implementation lasted 76 months instead of 36 months initially planned the implementation agency. However, the roles in project implementation given to FORIG and the RMSC seemed not to have taken into account the official mandates of these organisations, an aspect which could have derailed several interventions of the project. More specifically, FORIG is a research organisation with interest in experimentation, demonstrations and trials, while the RMSC is a rural policy development and implementation organisation and consequently interested in engaging the direct implementation of wildfire interventions with communities along with related policy implementation. RMSC is responsible for leading the development and implementation of Community Resource Management Area (CREMA) schemes in Ghana, which includes this project's post-fire restoration Taungya scheme. There is need to clearly understand the official mandates of partnering organisations in relationship to the proposed project outputs before contracting.

Pertaining to matters and lessons learned related to the project sustainability, it should be mentioned that after producing a map of sites authorised for community involvement in post-fire restoration at the Pamu-Berekum Forest Reserve, the project initiated discussions for a "benefit sharing agreement". The benefit sharing agreement expected to be signed by the Traditional Authorities of the target communities and the Forestry Commission, was not achieved at project completion. The awaited agreement is a legal document that spells the roles, responsibilities, rights and benefits of communities to the trees that they planted in the government forest reserve. One reason why this agreement was not accomplished in time was because the process was not foreseen and planned during the project conception. This is also part of a land tenure and tree tenure issue that lies within the competence of the RMSC. This agreement should be supported for resolution by a second phase of the project; otherwise the efforts of communities (tree ownership) will not be adequately rewarded.

5.2 *Lessons from other operational matters*

The project encountered early problems in the transmission of funds delayed on two occasions because of non-compliance by the Executive Agency with annual audits using external auditors. While the Executing Agency justified the non-compliance as due to its own globalised audit system for its projects, this was unsatisfactory for the funding agency. While the annual audits were eventually undertaken with regularity by the Executive Agency, the initial non-compliance for approximately two years was responsible for some delay in the execution of the project activities. The lesson here is that there should be agreement on all aspects contained in the project contract (i.e. the contract should be discussed with main project implementers) during the commencement of the project.

Pertaining to technical lessons:

- The project revealed that inadequate practices in wildfire management were significantly related to inappropriate human behaviour. This was found to be second only to insufficient capacity by stakeholders to effectively plan, and engage control measures in wildfire management. As a result, it was proposed that any training in the prevention and management of wildfires should not only target fire volunteer squads but should equally engage representatives of the different social classes of communities, and be as broad and inclusive as possible. It is only through such an inclusive approach that inadequate cultural and social practices that promote wild-fires will effectively be checked.
- The project also revealed that while the Ghana National Fire Service and the Forestry Services Division of the Forestry Commission were at the apex of importance and influence of fire management in Ghana, different stakeholders were important for different aspects of fire management i.e. education, law enforcement, community mobilization etc. Neither district level organizational stakeholders nor local level stakeholders could ensure effective fire management in isolation, hence the need for collaboration and institutional / stakeholder networking in fire management. Also, the effectiveness of stakeholders in executing their roles and responsibilities in fire management seemed to vary from one district to another depending on a variety of factors including past experience, capacity and motivation.

5.3 *Project sustainability*

The project has achieved significant success at the national and regional (West Africa) levels. This is manifested by its demonstrated capacity to attract new researchers and promoters such as the STEWARD Initiative of the USAID. The project outcomes and outputs are now linked to the Global Partnership on Forest Landscape Restoration (GPFLR) currently providing international visibility to the project impacts and effects.

More specifically, the project fulfilled the responsibility of sustainability as follows:

a) Institutional sustainability

Institutional sustainability was pursued through (a) the engagement of community wildfire focal points belonging to already existing and organized local structures, (b) the involvement of existing governmental and non-governmental fire stakeholders and their networks / decongested government units, in all project interventions, and (c) the preparation and adoption of regulatory guidelines by government, in the form of the *“Guidelines and Manual on Community-based wildfire Management”* in Ghana. These processes and instruments have constituted an assurance that the project outputs and outcomes will continue to be useful to wildfire stakeholders.

b) Economic / financial sustainability

The post-fire restoration interventions by project beneficiaries involved the planting of perennial economic species such as plantains in addition to tree species. Interventions also included the planting of annual crops i.e. maize, within the framework of the Taungya scheme in the Pamu-Berekum Forest Reserve. The products of these species i.e. plantains and maize, have an existing local market in the communities as well as in the large markets at the headquarters of the concerned District Assemblies.

c) Resource / ecological sustainability

During the project implementation, there were no consequential wildfires, leading to positive increases and higher yields of timber and non-timber forest products in areas where the project was operational. Another consequence was that project equally contributed towards increased productivity of biodiversity. Moreover, the community Taungya scheme initiated by the project included the planting of wildlife friendly species such as Figs

that attract avifauna including bats, snails, earthworms currently contributing towards increased biological diversity and consequently, enhanced resource sustainability.

d) **Social sustainability**

The project improved and multiplied social encounters between fire volunteer squads and other stakeholders. On several occasions networks were initiated or stimulated between wildfire volunteer squads and unusual actors such as lecturers at the Sunyani forestry school and university professors in the presence of the more habitual actors i.e. the FSD, the NFS and the District Assemblies. These networks improved the motivation of fire volunteer squads thereby contributing towards the social sustainability of the project. Moreover the preceding processes helped to build the confidence of fire squads who are now likely to provide practical training to other national and trans-border communities.

VI. Concluding Remarks

As the ITTO Secretariat has received the Project Completion Report, Final Technical Report and Guidelines and Manual for Community-based Fire Management and Post-fire Restoration in Ghana, as well a satisfactory Final Financial Audit Report, the Committee may wish to declare the Project PD 284/04 Rev.2 (F) as completed. Soft copies of abovementioned reports and documents are available upon request from the Secretariat.

[Document CRF(XLVI)/2]

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List of completed ITTO Projects on Forest Fire Management

PD. No.	Project Title	Implementing Agency (E.A. & C.A.)	Contacts (e-mails & names)
AFRICA			
PD 032/98 Rev.1 (F)	FOREST FIRE MANAGEMENT IN GHANA	E.A.: FORIG	Director (to be hired soon): director@csir-forig.org.gh Mrs. Lucy AMISSAH: lamissah@yahoo.com & lamissah@csir-forig.org.gh Mr. Victor AGYEMAN: victoragyeman@hotmail.com
PD 051/98 Rev.1 (F)	FOREST FIRE MANAGEMENT IN COTE D'IVOIRE ON AN EXPERIMENTAL BASIS	E.A.: SODEFOR	Mr. Mamadou SANGARE (Managing Director): dqsodefor@sodefor.ci Mr. Paul GBANZAI: gbanzaipaul@gmail.com Mrs. Haya COULIBALY: hayacoulibaly2005@yahoo.fr
PD 284/98 Rev.2 (F)	FIRE-MANAGEMENT AND POST-FIRE RESTORATION WITH LOCAL COMMUNITY COLLABORATION IN GHANA	E.A.: IUCN - WARPO	Mr. Joseph NIANOGO (Regional Director): paco@iucn.org
		C.A.: FORIG	Director (to be hired soon): director@csir-forig.org.gh Mr. Dominic BLAY: dblay@gmail.com & dblay@csir-forig.org.gh Mr. Lawrence DAMNYAG: ldamnyag@yahoo.com Mr. Victor AGYEMAN: victoragyeman@hotmail.com
		C.A.: RMSC	Mr. Alex ASASRE: abasare99@yahoo.com
ASIA – PACIFIC			
PD 017/87 (F)	INVESTIGATION OF THE STEPS NEEDED TO REHABILITATE THE AREAS OF EAST KALIMANTAN SERIOUSLY AFFECTED BY FIRE	Agency for Forestry Research and Development, Ministry of Forestry, Indonesia	Dr. Kosasi Kadir (contact details are not available in existing ITTO files)
PD 084/90 (F)	THE ESTABLISHMENT OF A DEMONSTRATION PLOT FOR REHABILITATION OF FOREST AFFECTED BY FIRE IN EAST KALIMANTAN [PHASE II OF PD	Agency for Forestry Research and Development, Ministry of Forestry, Indonesia	Ditto

	17/87 (F)]		
PD 012/93 Rev.3 (F)	INTEGRATED FOREST FIRE MANAGEMENT IN INDONESIA - PHASE I: NATIONAL GUIDELINES ON THE PROTECTION OF TROPICAL FORESTS AGAINST FIRE	Faculty of Forestry, Bogor Agricultural University	Mr. Ediwijoto Project Coordinator Ministry of Forestry of Indonesia Tel: (62-21) 570-1114 Fax: (62-21) 573-87332 (May be outdated)
PD 228/03 Rev.3 (F) I	TROPICAL FOREST FIRE MONITORING AND MANAGEMENT SYSTEM BASED ON SATELLITE REMOTE SENSING DATA IN CHINA - PHASE I	Research Institute of Forest Resources Information and Techniques, Chinese Academy of Forestry (IFRIT, CAF)	Mr. Yi Haoruo Chinese Academy of Forestry, Wan Shou Shan, Beijing 100091, China Tel: 86-10 6288 9161/9157 Fax: 86-10 6288 8316/9161 E-mail yihr@caf.ac.cn
PD 228/03 Rev.1 (F) II	TROPICAL FOREST FIRE MONITORING AND MANAGEMENT SYSTEM BASED ON SATELLITE REMOTE SENSING DATA IN CHINA - PHASE II	Ditto	Ditto

E.A.: Executing Agency

C.A.: Collaborating Agency

Country Management Response to ITTO Ex-Post Evaluation	
Project Title: Fire-Management and Post-Fire Restoration with Local Community Collaboration in Ghana Project ID: PD 284/04 Rev.2 (F)	
A) Overall Response to the Evaluation:	
(please insert your overall views on the evaluation report, e.g. structure, methodology and its conclusions)	
Evaluation Report Recommendations*	B) Response to recommendations (e.g. 'accept', 'partially accept' or 'reject' – please provide a brief explanation)
Recommendation 1 (copy & paste recommendation)	
Recommendation 2 (copy & paste recommendation)	
Recommendation 3 (copy & paste recommendation)	
Recommendation 4 (copy & paste recommendation)	
Recommendation 5 (copy & paste recommendation)	

**Please add or delete rows as needed*

Name, Title and Institution of Respondent: _____

Date, Signature:

* * *