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EXECUTIVE SUMMARY

Ex-post Evaluation

PD 284/04 Rev.2 (F)

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

Prepared by

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Global Fire Monitoring Center (GFMC)**

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 of 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 Dormaa 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. (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>
<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. (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 and RMSC. These discussions were influenced by the visits and results of discussions with the visited local communities.

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

- The contribution of this project is an add-on to previous projects that were implemented within the transitional zone.
- The project contributed to the policies and programmes of ministries, agencies and institutions in charge of fire control and prevention.
- 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.

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

- 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
- Communities members involved in project are now agent of change of fire-use attitudes which is indirectly reducing the incidence of human caused fire.
- 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 contributions of specific studies/surveys in various disciplines (forest fire management, biodiversity conservation, ecology, socio-economy, community participation, rehabilitation aspects)

- 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; an identification and selection of species for reforestation was done together with the communities, thereby encouraging uptake of results; and the 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.
- Apart of the project reports listed under the five project outputs two significant studies in the form of scientific publications (addressing restoration ecology and socio-economy and forest fire management) reveal the utility and impacts of the project.

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

Apart of 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.

- 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.

- 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.
- 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.).

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 by workshops, fire education on radio, and the production of the Fire Guidelines and the Manual, which provided concrete guidance for action.

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

- 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 on wildfire control and prevention;
- Thus, there is need for re-invigorating the activities recommended by the project.

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

- 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
- 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.

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 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

- 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 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;
- 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.

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 are supporting the above-summarized observations and underscore the needs for support of the volunteers.

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. 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.

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.

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.

5. Lessons learned

In support of the issues addressed by the national project implantation institutions 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 are 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 could 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 Networks, investigate the utility to establish a Regional Fire Management Resource Center and liaise with the voluntary arrangements under the International Wildfire Preparedness Mechanism (IWPM).

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. 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 Network. Through active participation within the (voluntary) International Wildfire Preparedness Mechanism (IWPM) 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 finances scheme.

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>	
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.	
Evaluation Report Recommendations*	B) Response to recommendations <i>(e.g. 'accept', 'partially accept' or 'reject' – please provide a brief explanation)</i>
Recommendation 1 <u>Launch of a stop-gap measure programme to secure longevity and sustainability of project investments</u>	Accept
Recommendation 2 <u>Establishment of a Rural Fire Management Extension Unit</u>	Accept
Recommendation 3 <u>Conduct a socio-economic study</u>	Accept
Recommendation 4 <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>	Accept

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

Date, Signature:


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