

Towards Developing a Global Wildland Fire Strategy¹

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Abstract

Considering the transboundary and global issues related to wildland fire there is a need to develop informal partnerships and formal, internationally binding agreements to address wildland fire problems. These must be in compliance with international laws and conventions. The mechanisms developed by the United Nations are essential and must be involved, and their efficiency must be improved. These include the UN agencies and conventions with their specific mandates (e.g. FAO, WHO, WMO, UNEP, UNDP etc., UN Conventions on Biodiversity (UNCBD) and Combat of Desertification (UNCCD), the Ramsar Convention on Wetlands, and the UN Framework Convention on Climate Change (UNFCCC).

Given the large number of sectoral responsibilities within the UN system the need has been recognized to pragmatically facilitate a common policy dialogue by setting up a Working Group on Wildland Fire within the Inter-Agency Task Force for Disaster Reduction of the United Nations International Strategy for Disaster Reduction (UN-ISDR) in 2001. The establishment of the Global Wildland Fire Network was one of the priority fields addressed by the UN-ISDR Working Group on Wildland Fire, aimed at enhancing existing capabilities in fire monitoring, early warning and impact assessment, and facilitation of international cooperation in fire management. The Global Wildland Fire Network was endorsed by the International Wildland Fire Summit, held in Sydney, Australia, 8 October 2003.

Introduction

“The increasing incidence, extent and severity of uncontrolled burning globally, together with its many adverse consequences, has brought fire into the international environmental policy arena, with growing calls for international action leading to greater control of burning, especially in tropical countries and in the boreal zone. Despite this concern, there is a paucity of accurate and timely information on the number of fires, area burned and phytomass consumed annually at national, regional and global scales, and on the social, economic and environmental costs. Given that fire is also an important natural process in many ecosystems, and that people have traditionally used fire for millennia as a land-management tool, the challenge is to develop informed policy that recognizes both the beneficial and traditional roles of fire, while reducing the incidence and extent of uncontrolled burning and its adverse impacts.”

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This statement has been taken from the closing paper of the 3rd International Wildland Fire Conference (3-6 October 2003) that aimed at summarizing the findings of the conference and providing directions for the International Wildland Fire Summit (Sydney, Australia, 8 October 2003) and the follow-up process. The Summit was held in accordance with the outcomes of the World Summit for Sustainable Development (WSSD) (Johannesburg 2002) which provided the ground and mandate for an action programme to reduce the negative effects of wildland fires on environment and humanity. Consequently the summit was held under the theme *Fire Management and Sustainable Development: Strengthening International Cooperation to Reduce the Negative Impacts of Fire on Humanity and the Global Environment*.

The Summit theme had been selected to underscore the need to address the increasing vulnerability of ecosystems and human populations to uncontrolled wildland fires as well as the inappropriate or excessive application of fire in modifying vegetation cover. Consequently a high priority has been given to define solutions and to enhance international cooperation in the arena of wildland fire management. These solutions must be based on pragmatic and realizable approaches and instruments that result in a consensus of common strategies, frameworks for implementation and financing mechanisms.

The Summit provided a number of strategic recommendations aimed at harmonization and standardization of approaches, e.g., templates for international agreements for cooperation in wildland fire management, or standard operating procedures aimed at facilitating multilateral cooperation in wildland fire crises. Most crucial, however, is the development of mechanisms that will result in concrete action at international level. Such mechanisms will include both informal and formal agreements at bilateral and international levels. Informal agreements are carried out predominantly bilaterally, often through involvement of civil society including non-government organizations. However, there is an increasing role of informal international projects such as the IUCN-WWF Project FireFight South East Asia, The Nature Conservancy (TNC) or the newly established IUCN-WWF-TNC Global Fire Partnership.

Considering the transboundary and global issues related to wildland fire there is a need to develop informal partnerships and formal, internationally binding agreements to address wildland fire problems. These must be in compliance with international laws and conventions. The mechanisms developed by the United Nations are essential and must be involved, and their efficiency must be improved. These include the UN agencies and conventions with their specific mandates (e.g., FAO, WHO, WMO, UNEP, UNDP etc., UN Conventions on Biodiversity (UNCBD) and Combat of Desertification (UNCCD), the Ramsar Convention on Wetlands, and the UN Framework Convention on Climate Change (UNFCCC).

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With the upcoming termination of the lifetime of the Working Group on Wildland Fire, the Inter-Agency Task Force for Disaster Reduction in November 2003 endorsed the Global Wildland Fire Network as a follow-up programme under the ISDR, and established the Wildland Fire Advisory Group. In continuation of the Working Group the Advisory Group will serve as a liaison between the international wildland fire community, the Global Wildland Fire Network and the ISDR. The ultimate goal of the work of the advisory group is to provide advice and guidance to the international community, through the United Nations system, to reach an international consensus on modalities and promote common protocols and action to reduce the negative impacts of fire on humanity and the global environment.

History, proposed *Modus Operandi* and Status for building Regional Wildland Fire Networks

History

In accordance with the Framework for the Implementation of the International Strategy for Disaster Reduction (ISDR) a proposal was submitted in 2000 to create a "Working Group on Wildland Fire" within the UN-ISDR Inter-Agency Task Force for Disaster Reduction (IATF). This proposal was in line with several declarations made in international conferences during the 1990s and intended to bring together both the technical members of the fire community and the authorities concerned with policy and national practices in wildland fire management to realise their common interests of fire risk management and disaster reduction at global scale. The IATF at its second meeting on 11 October 2000 agreed to establish the Working Group on Wildland Fire as the 4th Working Group ("WG-4") at UN inter-agency level.

Through the Working Group it was envisaged to establish an interagency and inter-sectoral forum of UN and other international agencies and programmes, including civil society and NGOs. One of the priority fields of activity to be addressed by WG-4 was the establishment of the "Global Network of Regional Wildland Fire Networks". The 3rd Global Wildland Fire Conference and the International Wildland Fire Summit (Sydney, 3-6 and 8 October 2003) were used as a platform to convene representatives from regional networks. The strategy agreed by the Summit ("Strategy for Future Development of International Cooperation in Wildland Fire Management") includes the following agreement (see Annex I of the English version of this paper):

"The Regional Wildland Fire Networks will be consolidated, developed and promoted through active networking in information sharing, capacity building, preparation of bilateral and multilateral agreements, etc. This process will be facilitated through regional Wildland Fire Conferences and Summits in cooperation with the International Liaison Committee and the UN-ISDR Working Group on Wildland Fire".

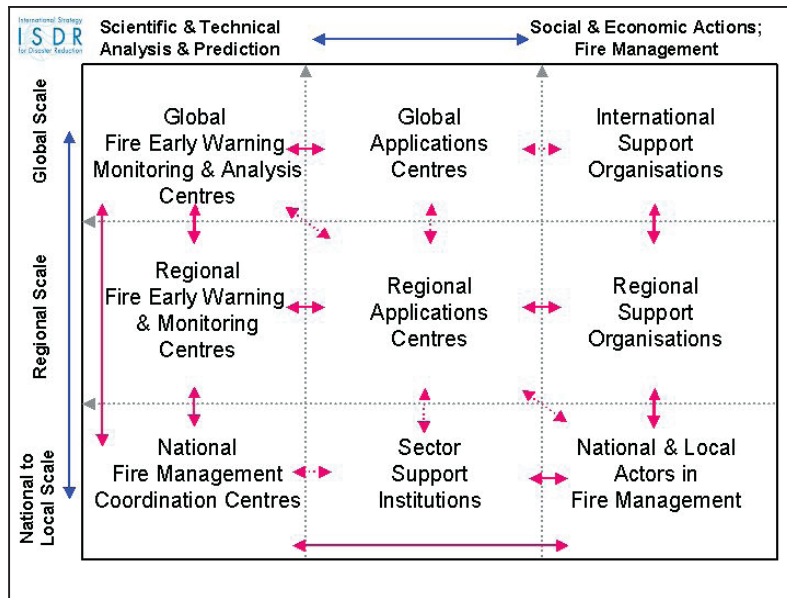


Figure 1—The role of the Global Wildland Fire Network in collection and dissemination of local to global wildland fire information for development of informed policy and decision support

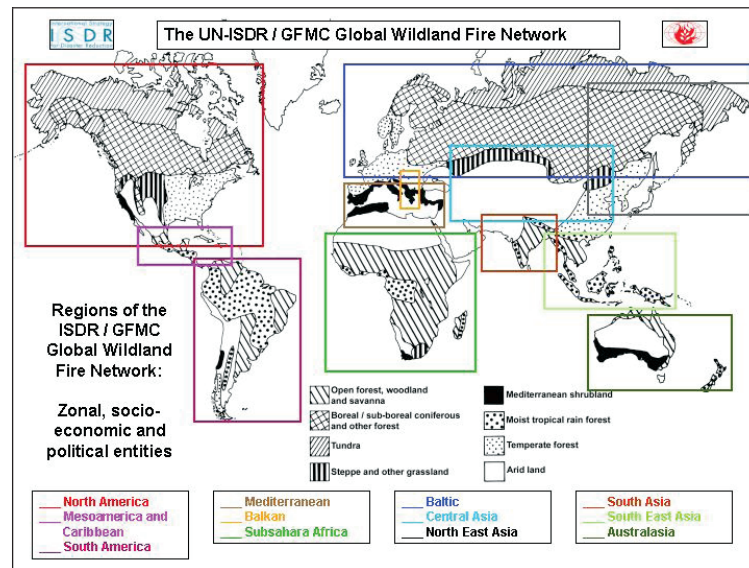


Figure 2—Delineation of regions within the Global Wildland Fire Network

During the Sydney conference and summit a side meeting was held on 5 October 2003 with the regional fire management groups mandated under the auspices of the UN (ISDR Working Group on Wildland Fire, UN ECE/FAO/ILO Team of Specialists on Forest Fire, Fire Management Working Group, FAO North American Forestry Commission (NAFC) and the Forest Fire Group of FAO *Silva Mediterranea*). This was the first joint meeting of the four UN groups, attended also by ILC / AFAC (Australian Fire Authorities Council) members. A key output of the

joint meeting was the recommendation to maintain a body under the auspices of the UN to enable the international community to maintain a unifying platform for UN- and non-UN groups and agreements.

The Global Fire Monitoring Center (GFMC) reported the results of the Summit and the joint meeting of the UN-mandated wildland fire groups to the 8th Meeting of the UN-ISDR Inter-Agency Task Force for Disaster Reduction (5-6 November 2003) and recommend that the ISDR would provide further support to the Global Wildland Fire Network and create an advisory group at UN level. The report recommended:

“The Working Group suggests the IATF to support the further establishment and strengthening of the Global Wildland Fire Network as a key instrument to foster the international dialogue and efficient cooperation in the arena wildland fire. Given the inter-sectoral nature of wildland fire and the number of UN agencies and programmes involved, as well as other international organizations and civil society, it is suggested to maintain an advisory body for the UN within the IATF.”

The recommendation to maintain an advisory body for the UN must be understood i.a.w. the constitution of the IATF and the expected lifetime of a Working Group of ca. two to three years. Following these rules of the IATF the Working Group 4 on Wildland Fire would finish its work by end of 2003 and transit to an active outreach programme, the Global Wildland Fire Network (GWFN). To support the work of the GWFN the IATF accepted the proposal to create a *Wildland Fire Advisory Group* (WFAG) under the auspices of the ISDR. The WFAG will represent an advisory body to the UN system aimed at providing technical, scientific and policy-supporting advice to the UN family through the International Strategy for Disaster Reduction (UN-ISDR) and the IATF, and acting as a liaison between the United Nations system, the Global Wildland Fire Network and its supporting partners. It is envisaged to call for participation and support from UN agencies and programmes, other international organizations, non-government organizations, notably the IUCN-TNC-WWF Global Fire Partnership, government agencies, inter-governmental institutions and agreements, civil society, academia, the International Liaison Committee (ILC) of the series of International Conferences on Wildland Fire and the Global Fire Monitoring Center (GFMC) (to act as convener and secretariat).

Proposed Modus Operandi

On behalf of the ISDR the Global Fire Monitoring Center (GFMC) is facilitating the establishment of the Global Wildland Fire Network by supporting the establishment of Regional Wildland Fire Networks and enhancing inter-regional communication and cooperation. The GFMC will liaise with existing operational and proposed international networks, notably with the FAO Forestry Department, the UN-mandated regional teams (ISDR Wildland Fire Advisory Group, ECE/FAO/ILO Team of Specialists on Forest Fire, Fire Management Working Group of the FAO North American Forestry Commission (NAFC), Forest Fire Group of FAO *Silva Mediterranea*), the Global Observation of Forest Cover - Global Observation of Landcover Dynamics (GOFC-GOLD) Fire Implementation Team (a subset of the Global Terrestrial Observing System - GTOS), and the Advisory Group on Environmental Emergencies (AGEE) and the Joint Environment Unit of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) and the United Nations Environment Programme (UNEP).

Status of the Regional Wildland Fire Networks

Regional Networks are formed in two ways. First, independent regional initiatives that were in place before 2001-2002 and after have been contacted and encouraged to become connected to the Global Wildland Fire Network. Second, a number of activities are being initiated in those regions where no such regional efforts are in place. The following information is taken from the website of the Global Wildland Fire Network: <http://www.fire.uni-freiburg.de/GlobalNetworks/globalNet.html>

Regional Sub Sahara Africa Wildland Fire Network

The Regional Sub Sahara Wildland Fire Network ("Afrifirenet") was the first regional network that has been launched formally in 2002. The network includes the "Africa Wildland Fire Training Center" which is offering capacity building in wildland fire management for Sub Sahara Africa. Regional website:

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

Regional South East Asia Wildland Fire Network

Within the ASEAN region (Association of South East Asian Nations) the signing of the legally binding ASEAN Agreement on Transboundary Haze Pollution (10 June 2002; meanwhile ratified and entered into force on 25 November 2003) constitutes a multinational agreement for cooperation in fire management. At the ASEAN Senior Officials for Environment (ASOEN) Haze Technical Task Force meeting (10 June 2002) and the subsequent ASEAN Ministerial Meeting on Haze (11 June 2002) it was recommended that the ASEAN nations work together with the GFMC to establish a South East Asian Wildland Fire Network. Regional websites are:

ASEAN Haze Action Online Website: <http://www.haze-online.or.id>

GFMC Regional Website:

<http://www.fire.uni-freiburg.de/GlobalNetworks/SouthEastAsia/ASEAN-FireNet.html>

Regional North East Asia Wildland Fire Network

This network is currently being prepared and will include the participation of the Republic of Korea (South Korea), Democratic People's Republic of Korea (North Korea) (not yet confirmed), Japan and the Far East of the Russian Federation. During the International Wildland Fire Summit the representatives of the Republic of Korea have indicated a strong interest to support the formation of a regional node in South Korea. In November 2003 the Korean Forest Research Institute, Forest Fire Division, made its resources available to build the regional network. A kick-off meeting has been held in Seoul on 6 March 2004. Preliminary regional website:

<http://www.fire.uni-freiburg.de/GlobalNetworks/Northeast-Asia/Northeastasia.html>

Regional Central Asia Wildland Fire Network

Central Asia and its neighbour countries have recently suffered major forest and other wildland fire problems. The need has been recognized to initiate regional cooperation in wildland fire management, including wildland fire science. The "ECE/FAO International Conference on Management of Forest Fire Emergencies and International Cooperation in the Eastern Mediterranean, Balkans and adjoining Regions of the Near East and Central Asia" (Turkey, April 2004) provided an

opportunity to clarify detailed objectives and modus operandi of the networking arrangement. A preliminary website in which the conference results will be presented (not finalized at the time of writing this manuscript) has been established at:

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

Regional Australasia Wildland Fire Network

In 1993 the Australian Fire Authorities Council (AFAC) was established to improve the collaboration and co-ordination of efforts between those Australian agencies with a responsibility for the protection of life and property from fire and other emergencies. The membership of agencies from the greater region saw AFAC's name change to the Australasian Fire Authorities Council in 1996. AFAC aims to promote and coordinate activities in fire prevention, management and research through five Strategy Groups. This regional arrangement offers the most suitable conditions for taking the lead in building the Regional Australasia Wildland Fire Network. For more details see the websites of AFAC and the GFMC:

www.ausfire.com

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

Regional Mediterranean Wildland Fire Network

Following the discussions with FAO *Silva Mediterranea* in 2002 the formation of a Regional Mediterranean Wildland Fire Network is practically established under the auspices of this FAO group. A Workshop "Multilateral Assistance Against Forest Fires in the Mediterranean Basin" was held in Zaragoza, Spain, 10-11 June 2003. The objectives of the workshop included to study procedures to coordinate the existing mutual agreements and common legal and logistical tools to make effective, when needed, the multilateral assistance against forest fires within the Mediterranean Basin by sharing resources. A discussion was included about the possible role of the regional network and the GFMC to facilitate this process. The workshop was a preliminary activity to prepare a future Mediterranean conference on Multilateral Assistance against forest fires. For details see:

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

Regional Balkan Wildland Fire Network

After initial discussion at the International Scientific Conference "Fire and Emergency Safety During the XXI Century - The Course of Europe" in Bulgaria in 2002 and a regional meeting of the International Commission for the Prevention and Extinction of Fires (CTIF) the network formation is underway. In March-April 2004 the "ECE/FAO International Conference on Management of Forest Fire Emergencies and International Cooperation in the Eastern Mediterranean, Balkans and adjoining Regions of the Near East and Central Asia", held in Turkey (see Regional Central Asia Wildland Fire Network) provided an opportunity to clarify detailed objectives and modus operandi of the network. Regional website:

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

Regional Baltic Wildland Fire Network

At the Baltic Exercise for Fire Information and Resources Exchange - BALTEX FIRE 2000 (Finland, June 2000) the UN ECE/ECE/ILO Team of Specialists on Forest Fires, through the Global Fire Monitoring Center (GFMC), initiated a communication and coordination process among the countries bordering the Baltic Basin. The initiative is the starting point for the Regional Baltic Wildland Fire Network structures. On 10 May 2004 a Regional Baltic Wildland Fire Meeting will be convened in Finland (host: Ministry for Interior, Finland). Regional website:

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

Regional Mesoamerica Wildland Fire Network

An important regional initiative has been launched by the First Central Mesoamerican Meeting on Forest Fire Protection (Primera Reunión Mesoamericana de Cooperación en Materia de Protección contra Incendios Forestales) held in Guatemala City, 8-9 July 2002, with participation of Belice, Costa Rica, El Salvador, Guatemala, Honduras, México, Nicaragua and Panamá. The countries agreed formally to launch a programme of cooperation which includes sharing of information and resources in fire management as well as in capacity building. All materials on the cooperative processes in the Mesoamerica Region are available at:

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

Regional South America Wildland Fire Network

Several regional activities will be involved in building a Regional South America Wildland Fire Network. The formation of the network will be discussed and founded at the upcoming 3rd South American Symposium on Forest Fire Control (3^o Simpósio Sul-Americano sobre Controle de Incêndios Florestais), 14-17 June 2004, Curitiba, Brazil. This foundation meeting will be co-sponsored by the Global Wildland Fire Network (through GFMC), FAO, UNEP, GOFCC-GOLD, The Nature Conservancy (TNC) and the U.S. Forest Service. The recommendations of the Foundation Meeting of the network will be presented to the participants of the Western Hemispheric Wildland Fire Conference, scheduled for 23 October 2004 in Costa Rica. This conference will be a one-day side event of the joint meeting of the members of the FAO Forestry Commissions of North America and Latin America / Caribbean. Information on the meeting and preliminary regional website see:

http://www.fire.uni-freiburg.de/course/meeting/meet2003_14.htm

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

Regional North America Wildland Fire Network

Discussions about the formation and possible *modus operandi* of a Regional North America Wildland Fire Network are currently underway. The Fire Management Working Group (FMWG) of the North American Forestry Commission (NAFC) represents a regional network which will liaise North America's contribution to the Global Wildland Fire Network. Websites:

<http://www.fs.fed.us/global/nafc/fire/aboutus.htm>

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

Regional South Asia Wildland Fire Network

This network is currently under construction and most likely will include India, Bangladesh, Nepal, Bhutan and Pakistan. The Dehradun Forest Research Institute, India, has indicated interest to serve as a coordinating unit. Nepal has indicated interest to support the network.

The International Wildland Fire Summit: Pragmatic Short-to-Medium-Term Solutions

The International Wildland Fire Summit was an important step towards building international consensus and initiate pragmatic action in international cooperation in wildland fire management. There is no need to repeat what has been summarized in the Communiqué of the Summit (see Annex I of the English version of this paper). However, out of the list of the Summit Outputs and the specific actions to be taken by Summit participants two of the five agreements are worth to be mentioned here explicitly because they are straight forward, pragmatic and ready for implementation, (a) an international agreement template that can be used by agencies wishing to form a cooperative or mutual aid arrangement with one or more other countries for cooperation in wildland fire management, and (b) an agreement that an Incident Command System (ICS) should become the international standard for wildland incident management in international or interagency agreements and exchanges. The agreed “Strategy for Future Development of International Cooperation in Wildland Fire Management”, however, is important for the future roadmap (cf. section 4 and Annex II of the English version of this paper).

Inter-Regional and Global Dialogue at UN Level: Medium-Term Perspectives and Long-Term Challenges

At the time of writing this paper in early 2004 there are the following perspectives and challenges to commence or consolidate the regional to international dialogue on wildland fire issues:

Short- to Medium-Term Perspectives

It is now crucial that the Global Wildland Fire Network will be activated and the recommendations of the Summit be implemented straight forward by enhancing the international dialogue and building informal and formal partnerships. The following events will take place within the near future:

- A series of consultations in the frame of Regional Wildland Fire Networks has been initiated for in Northeast Asia (March 2004), the Baltic Region (May 2004), South America (June 2004) and Mesoamerica (second half of 2004). These consultations will be used to define critical issues in the regions and come up with priority issues to be addressed by regional cooperative efforts.
- Activation of the UN-ISDR Wildland Fire Advisory Group
- A Western Hemispheric wildland fire conference is scheduled for October 2004 (Costa Rica). In this meeting the heads of forestry

agencies will be invited by the Regional Forestry Commissions of Latin America / Caribbean and North America to express their views on needs and opportunities in wildland fire management cooperation in the Americas.

- A number of international wildland fire management training courses and workshops will be conducted in the regions (e.g., workshops conducted in Africa jointly by GFMC, the Regional Sub Sahara Wildland Fire Network, FAO, UN-OCHA, UNEP, UNU). These inter-agency workshops will have a pilot role for other regions.
- A ministerial meeting held at FAO Rome in March 2005 will focus on wildland fire issues. This meeting will play an important role in bringing forward the recommendations from regional-level consultations in 2003-2004 to the international actors.

Long-Term Perspectives

The above-listed short- to medium-term activities will provide political fora to define priority fields of action and political consensus. Most important, however, are technical and procedural agreements to initiate programmes that would address, among other, the following key issues:

- Common methodologies to assess wildland fire impacts (standards for wildland fire inventories / statistics; common algorithms for application of remote sensing tools)
- Regular national wildland fire impact assessments as part for global wildland fire inventories
- Standards for economic damage assessments
- Role of sustainable vegetation fire management in the carbon-trading market
- Wildland fire mitigation strategies and methodologies for urban interface areas in industrialized countries; including education
- Enabling legislation and institutional strengthening for sustainable fire management in the developing world
- Capabilities of local communities in fire preparedness, prevention, suppression and in rehabilitation of burned over areas.
- Advanced high-level training in cooperative wildland fire management at international level through the United Nations University, Institute for Environment and Human Security.

With the bottom-up networking arrangement of the Global Wildland Fire Network, the recommendations of the International Wildland Fire Summit, including the Summit's predecessor conferences, and the recommendations of the 2005 Ministerial Meeting at FAO Rome it will be possible to

- Conduct the Global Forest Fire Assessment 2005 jointly with FAO, GFMC and GOFC-GOLD

- Recruit additional agencies and international organizations and programs to fund the Global Wildland Fire Network
- Prepare an input paper to the UN General Assembly that seeks the support of countries to strengthen international cooperation in response to wildland fire disasters and post fire mitigation

To achieve these goals it is essential that formal and informal arrangements will work hand in hand. However, the mandates of the United Nations agencies, programmes and conventions require a lead of the UN system. The ISDR is available as an international, inter-agency and inter-sectoral platform and will be supported by the UN-ISDR Wildland Fire Advisory Group.

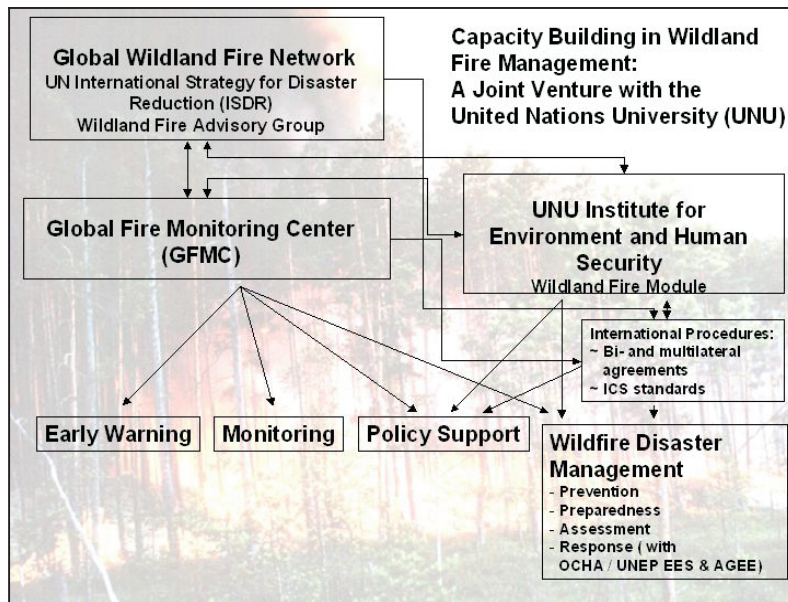


Figure 3—Model of cooperative arrangements between the Global Wildland Fire Network und the United Nations University for high-level capacity building in wildland fire management.

Conclusions and Outlook

During the period 2000 to 2005 a number of bilateral and international cooperative agreements in the arena of sustainable wildland fire management have been initiated. There is a strong consensus at international level to further promote informal and formal cooperation programmes. A large number of bilateral and multilateral projects have been supported by the FAO (through Technical Cooperation Projects [TCPs]), the International Tropical Timber Organization (ITTO), the U.S.A. (through agencies including the U.S. Forest Service, the Bureau of Land Management, the U.S. Agency for International Development, the Office for Foreign Disaster Assistance), Canada, Australia, Germany (through the German Agency for Technical Cooperation [GTZ]), and other countries. The large number of bilateral agreements between countries sharing a common border or common disaster management system (e.g., the ICS) indicate the willingness of nations to offer and share resources.

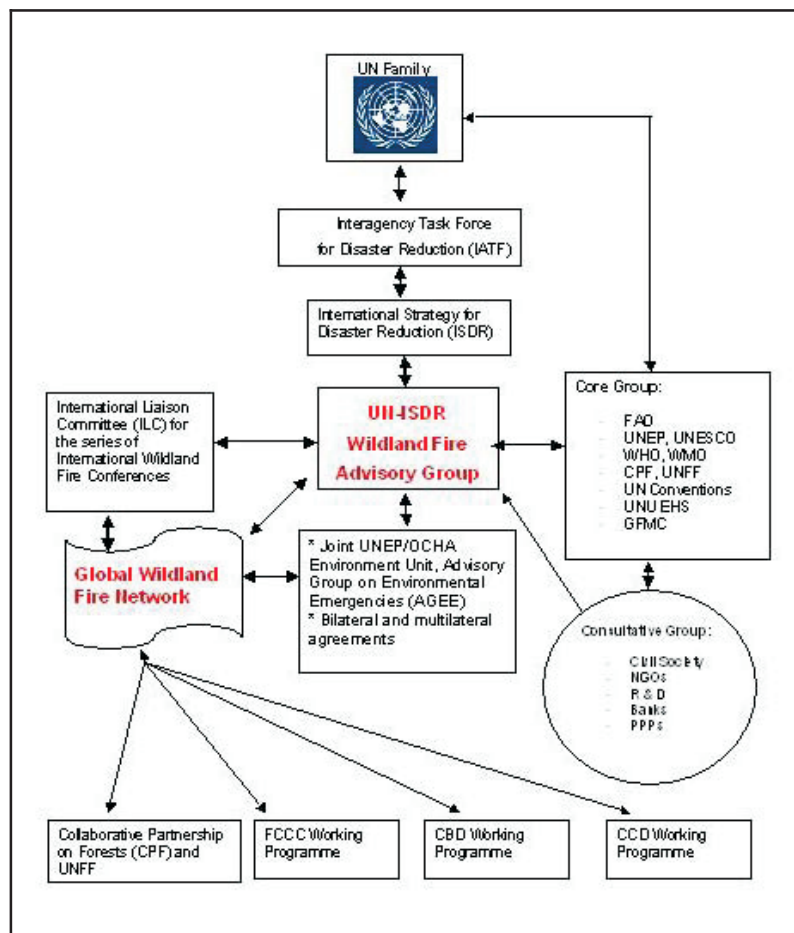


Figure 4—Draft scheme of cooperative relationships between the Wildland Fire Advisory Group, the Global Wildland Fire Network and the International Liaison Committee of the series of International Wildland Fire conferences

The United Nations have recognized the significance of wildland fires in global change processes and have offered an inter-agency approach towards harmonizing the international efforts in reducing the negative consequences of wildfires, land-use fires and other excessive burning. The reasons for increasing vegetation degradation by fire and the increase of vulnerability of vegetation systems and humans to wildland fire, as well as the underlying causes of excessive burning are complex. Solutions towards sustainable fire management must address a broad range of factors contributing to this development. Demographics, poverty, social and political instability, and the consequences of economic globalisation are part of this development and difficult to be addressed by single or sectoral measures.

Annexes

Annexes I and II cited in this Spanish version of the paper are included in the original (English) version of this paper.

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- International Forest Fire News (IFFN)
<http://www.fire.uni-freiburg.de/iffn/iffn.htm>

