

FINAL REPORT

**Crakow,
Poland,
9-11
September
2004**

EUROPEAN FORESTRY COMMISSION

Working Party on the Management of Mountain Watersheds

Twenty-fourth session

EUROPEAN FORESTRY COMMISSION

**WORKING PARTY ON THE
MANAGEMENT OF MOUNTAIN WATERSHEDS**

TWENTY-FOURTH SESSION

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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 2004

INTRODUCTION

1. The twenty-fourth session of the European Forestry Commission's Working Party on the Management of Mountain Watersheds was held in Crakow, Poland from 9-11 September 2004. On 11 September a study tour was organized by the Regional Directorate of State Forests in Crakow with a visit to the Tatra National Park looking at natural hazards, water and forest management.
2. The session was attended by 44 delegates and observers from the following countries: Austria, Germany, Czech Republic, Finland, France, Hungary, Poland, Slovakia, Spain, Switzerland, Belarus, Canada, Japan, Kyrgyz Republic, Tunisia and Ukraine.
3. The 24th session was opened by Edward Pierzgalski, Head, Division of Management of Water Resources, Forest Research Institute, who welcomed everyone and introduced Ms Zofia Chrempinska, Director of the Department of Forestry, Ministry of the Environment, who made opening remarks on behalf of Mr Zbigniew Witkowski, Vice-Minister, Polish Ministry of Environment.
4. Mr Douglas McGuire, representing FAO as Secretary of the Working Party, thanked the Polish hosts for organizing the 24th session. He apologized to participants that the invitations to the session were issued at a late date, and explained how the recent reduction in FAO's Regular Programme budget had forced the cancellation of certain official meetings, including the 24th session, which was subsequently re-instated following requests from member countries. Mr McGuire highlighted some of the important events related to watershed management and sustainable mountain development that have occurred since the last session, such as the International Years of Mountains (2002) and Freshwater (2003), the establishment of the Carpathian Convention and the launch of the Mountain Partnership at the World Summit on Sustainable Development in Johannesburg in 2002. He stressed the importance of the Working Party in continuing to make important contributions related to current challenges such as decreased supplies of fresh water, the effects of climate change and increased natural disasters.
5. Mr Gernot Fiebiger, representing IUFRO, thanked the host country for organizing the meeting and stressed the importance and urgency of the topics to be discussed at this session, recalling in particular the recent natural disasters that have occurred in Europe. He highlighted the key role played by forests in maintaining sustainable development. In this connection he gratefully acknowledged the role of FAO and the close cooperation with IUFRO.
6. Mr Peter Greminger, representing Switzerland and Chairman of the Working Party's Executive Committee, expressed his thanks to the Polish government and institutions who have been involved in organizing the 24th session and the study tour. He also thanked FAO and IUFRO for their collaboration. He noted the need to discuss the future of this group, which works towards achieving a safer mountain environment in Europe. Mr Greminger reminded participants of the final resolution of the 23rd session held in Davos and the importance of continuing to use it as a reference point for the Working Party. He mentioned the responsibility of members to define the future of this group and the advantage of having such a variety of disciplines represented in the membership.
7. The representative of the Regional Directorate of State Forests, Mr Jan Widelka, spoke on behalf of the Director, Mr Alfred Król, who was unable to attend the session due to illness. He spoke of the role of the Directorate in managing the forests of the Crakow region, highlighting some of the key issues and concerns related to forest and watershed management in the region.

SEMINAR: PROTECTION AND SUSTAINABLE DEVELOPMENT IN MOUNTAIN WATERSHEDS

First Session

State and perspective of mountain watershed management

8. Tomasz Juszczka, representing the Liaison Unit of the Ministerial Conference on the Protection of Forests in Europe, based in Warsaw, made a presentation on the aims, objectives and structure of the Ministerial Conference. He described its various resolutions mentioning in detail resolution S4 on 'Mountain Forests', and recalled the important role played by the European Observatory of Mountain Forests, in close collaboration with FAO and IUFRO, who have been mandated to coordinate the implementation of this resolution.

9. Hans Schreier (University of British Columbia), presented the following topic: "Watershed management in need of innovation at multiple levels." He focused on the need not only for continued work in rehabilitation but a greater emphasis on protection in watersheds and the importance of changing the behaviour of people. He suggested moving from the "blue water" management approach to increased efforts to manage "green water". This would entail shifting from a focus on surface water and runoff to more effectively managing water that is found in soil and vegetation.

10. Gernot Fiebiger (IUFRO) presented the topic: "Watershed management –the challenges between research and application." He mentioned the challenges between research and application and described the main criteria and indicators that IUFRO has established for sustainable watershed management, forestry and land use and the need to include the protection of forests in their application.

Second Session

Soil and water conservation in mountain areas

11. Michaela Leitgeb from the Austrian Service for Torrent and Avalanche Control presented a paper on "**An overview of the Austria Service for Torrent Control and Avalanche Control-challenges and management methods**" which describes the challenges and tasks they deal with in protecting inhabitants against natural hazards by investigations, consulting, planning and implementation of active measures, including passive measures, and financial support for projects. Their tasks are to protect settlement areas, and analyse the environment, by regional surveys and risk analysis. Proper headwater management is very important for both sustainable management of water resources and natural hazards.

12. Dusan Huska from Slovakia presented "**Sustainable Land use in hilly areas.**" The aim of the discussion was to look for solutions for the future, to deal with issues related to globalisation, economic policies, transport, and overuse of resources, which all create problems in today's society and for future generations. He pointed to the over-exploitation of energy, land and water resources and the need to improve management of hilly landscapes. The main challenge is to develop appropriate and adequate measures to improve and protect the quality of land, water, nature and cultural heritage.

13. Anton Loipersberger from Bavaria presented a paper by A. Gottle entitled "**Information system for natural disasters as part of preventive risk management**" which discusses the concept of an information system for the prevention of natural disasters. Disastrous events in the last few years (such as the floods of 1999 and 2002) showed us that protection levels are always limited and preventive measures in terms of knowledge need to be enhanced. This was addressed by establishing an internet service available to the public, offering the opportunity to learn precautionary measures in order to achieve adequate land use planning to consequently stop building settlements in areas of flooding. In this way prevention is applied by improved knowledge and precaution.

Third Session

Forest and water management in mountain watersheds

14. Marek Jerzy Gromiec presented a paper on **“Water quality in integrated watershed management,”** focussing on water resources in Poland. He discussed the discharge of wastewater into rivers generated by industry as the main reason for pollution in Poland’s river’s today. Legislation which protects the quality and the exploitation of freshwater resources has been present in Poland for a while. The water act has been in force since July 2001 and Poland is currently struggling to achieve compliance with the EU directive and water framework. Although the directive established a system of controlling the quality of urban wastewater treatment and effluent discharge from established population areas, it is very expensive to implement. The government has already approved a programme to remove industrial wastewater, and although there are no issues regarding the allocation of money, the main problem will instead be the time needed to comply with EU regulations (by 31 December 2005). It is essential to involve the public in solving the problem of the management of Polish waters.

15. Stanislaw Niemtur presented his paper on **“Mountain Forests in Poland - past experiences and future plans”**. He described a good example of a successful water management system, the water reservoir in Czorszyn, indicating that Poland needs more reservoirs like this. More scientific research as well as a better hydrological monitoring system is needed. Also, improvement to the quality of forest ecosystems is necessary, particularly in private forests, for better water management and retention in order to limit floods and erosion processes in mountain forest watersheds. Improving the state of forest resources and providing them with comprehensive protection is an important plan for the future. Shifting from the previous raw material model which dominated in the past to a model dominated by a pro-environmental attitude is also needed to increase the country’s forest resources.

16. In Gernot Fiebigger’s paper on **“The ‘Karbach’ experience - forest and watershed management in the high limestone Alps in southern Salzburg”** he showed examples of successful control of debris flow and bedload disasters, showing the implementation of dams and the technical measures adopted to protect roads and agricultural fields from debris flow and flooding. Other examples of technical measures adopted for control of debris flow, torrent control, erosion control, forest management, avalanche control and reforestation were also shown.

17. Josef Krecek presented a paper he co-authored with Martin J Haigh - **“Protection of mountain wetlands in the context of watershed management”**. The paper stresses the need for improved legislation to control mountain wetlands. Although there are many existing acts related to sectors such as forestry, public health and the environment, there is a need for more specific legislation for mountain wetlands to ensure their protection, restoration and sustainable management. Practical solutions are needed, as well as greater public involvement and improved education in dealing with natural disasters and soil erosion restoration.

Fourth Session

Integrated Watershed Management

18. Lubos Jurik from Slovakia presented “Integrated watershed management for small mountain catchment areas.” He focussed his presentation on the management of water at the lowest appropriate level such as in small catchment areas. He also discussed how to promote sustainable water use, protect and enhance the status of aquatic ecosystems and mitigate the effects of flood. IWRM (Integrated Water Resources Management) is a process which promotes the coordinated development and management of water, land and related resources. Ways to improve the management of water resources at the basin or watershed scale include the integration of land and water, upstream and downstream approaches and groundwater and surface water.

19. Gernot Fiebigger presented “Flood control of Thalgau- the consequences of the 2002 disaster.” He described the flood control methods used and planning against flooding after the disaster of 2002.

The flood control of this example integrates three Austrian tributaries, the main aim being to level down the peak flood and the flood volume by use of retention basins and to manage bedload and debris flow. For each of the tributaries a large retention basin will be built, including a water dosing facility as well as consolidation dams for bedload management and to filter out woody debris, hoping that their systematic flood control will stop future disasters.

20. Douglas McGuire of FAO introduced the review and assessment of watershed management approaches that FAO initiated in 2002 to prepare the next generation of watershed management programmes. The main steps being the identification of the key actors, FAO stocktaking, a series of regional workshops, holding an international conference in Sassari, Italy and commissioned case studies from four different regions. Results included a review paper which presents an overview of the entire process, with the results of each step. There will be proceedings from each of the regional workshops and from the Sassari conference, case studies, and a document aimed at convincing decision makers about the importance of watershed management. Future work is expected to focus on the collaborative development of targeted guidelines and tools based on lessons learned, to better prepare new field projects and programmes in watershed management. The presentation also focussed on the Mountain Partnership as a forum that could assist in the follow-up of the network which is evolving as a result of the Sassari process and which could also be beneficial to the Working Party.

21. Peter Greminger of Switzerland presented “Natural Hazards in the Alpine Convention”. He discussed the Alpine Convention, which comprises the following countries: Italy, France, Austria, Germany, Slovenia, Switzerland, Liechtenstein and Monaco. The Alpine Convention commissioned an internal working group to analyse the events. The purpose of the working group’s report was to recommend measures that would provide more effective protection against natural hazards in alpine environments (following two specific storm events in 1999 and 2000). Mr Greminger outlined the importance of hazard maps in delineating dangerous zones and in the prevention of natural disasters. However the growing safety requirement cannot be fulfilled without the consistent adaptation of land use to the existing risks. The future organization of the division of tasks between private individuals, the state, insurance companies and voluntary organisations must be adapted to the changing economic, ecological and social conditions.

PROGRESS IN WATERSHED MANAGEMENT AND SUSTAINABLE MOUNTAIN DEVELOPMENT

National Reports

22. Austria’s representative, Maria Patek (Head of Division IV/5 Torrent and Avalanche Control Service) presented her paper on “Protection of soil and water resources in forestry areas”. The main issues discussed were the protection from hazards related to torrents, avalanches and erosion, and the urgent need to further strengthen the goals of natural hazard protection through adequate strategies, measures and activities in Austria. Regional planning is also paramount especially in densely populated areas with limited space for settlement as is usually the case in alpine regions. In order to cope with these challenges regional surveys based on GIS were introduced to torrent and avalanche control planning standards in Austria and will be further developed. Hazard-zone maps legally based on the federal forest act, serve as a basis for prioritising and planning the protection measures necessary in torrent and avalanche control as a source of information for land use planning. Rock fall, debris flow and landslides cannot be controlled by technical measures only, so the service has developed an integrated risk management system encompassing hazard analysis and risk assessment, monitoring systems, geo-technical investigations, biological and silvicultural measures, drainage and early warning systems. The Austrian Forest Engineering Service will work in the future for the task of natural risk management by means of modern technology watershed management and interdisciplinary measures.

23. The German national report was presented by A. Loipersberger, from the Bavarian State Agency for Water Management, Munich, who talked about past disasters and the consequences. He described the strategies implemented in Bavaria, the awareness that exists and the level of preparation. A “risk dialogue” has been implemented with the objective to improve public awareness of potential natural hazards, and to prepare people for the next event in accepting residual risk. In 2000 the Alpine Convention installed a working group with the mandate to elaborate a report about the consequences to be drawn from the catastrophes in 1999 and 2000 and to work out conclusions and recommendations. A platform of “Natural Disasters” was established, which includes integral concepts for protection, implementation of measures resulting from the analysis of past damaging events, and trans-boundary exchange of best practices. A Permanent Committee has positively acknowledged the report and has decided to develop a proposal for the establishment of the platform. Climate change and its impact on water issues in Bavaria has also been an important subject and a project in Bavaria has been developed with the objective to understand the consequences of climate change for water management on a regional level.

24. For the Czech Republic, Josef Krecek, from the Department of Hydrology, Prague talked about the progress their research has undergone from 2002-2004. There has been an improvement in the participatory process and in the management of mountain watersheds. The Czech Republic has been involved in the EU INTERREG projects together with Greece, Italy, Hungary and Serbia (as an observer). Follow-up activities on the management of headwater wetlands have been developed using volunteers in the research field, increasing education and public awareness, and thereby increasing knowledge and personal involvement. Participation in international projects, meetings and conferences has increased over the last two years, with increased EU monitoring as well.

25. Finland’s paper was presented by Eero Kubin who talked about watershed management and in particular, forest and water management in Finland. Due to the numerous protection programmes and decisions taken, protected forest areas have increased during the last 30 years almost threefold. Mr Kubin discussed Finnish forest policy and how it is applied in all economic realms, thus helping improve forest sustainability as well as safeguarding and retaining biodiversity. Key biotopes represent valuable habitats, and the Finnish forestry policies have also helped the surveying of threatened species and the prevention of water pollution. Due to these policies the production of forests is stimulated and the management of forests is sustained.

26. The French national report was presented by Antoine Hurand, from the Office National des Forêts. He talked about the management of mountain watersheds in France and how their main concern is erosion and natural risks. The French follow a multi-functional approach to watershed management: the management of natural processes is integrated with other functions, especially forestry. He spoke of the need to combine watershed management with actions specific to the diversity of each situation, including preventive information and general public awareness. The prevention of natural risks implies the collective collaboration between different ministerial departments at a legal level, but decentralising the management of watershed management as well as taking the required responsibility for action.

27. Edward Pierzgalski spoke about the new strategies developed for the mitigation of natural hazards, such as the Act on State of Natural Disaster adopted in April 2002. The main element of this law is the precise establishment at various levels of administration, their response, tasks and activities connected with natural disaster. He talked about the implementation of research results in the prevention of hazards, including a long term investigation on hydrological and erosion processes in mountain watersheds. Work includes activating local flood warning systems on top of the National Monitoring and Protection System which has been modernized since the 1997 catastrophic flood. There has also been the construction of two water reservoirs “Topola” and “Kościelno” on the Nysa Klodzka River which are the main elements of flood protection in the Sudety Mountains. Other work which is being implemented includes a National Programme of Forest Cover Increase, a National Programme of Municipal Sewage Treatment, a Programme of Small Retention, The Water Frame

Directive of the European Union and watershed management programmes according to the Water Act and the EU Water Frame Directive.

28. Although no national report was presented by Slovakia, Lubos Jurik provided an update on the flood situation that has affected the country since 1999, giving statistics on the number of towns and villages affected, the overall area flooded and the cost of damage from the floods. On average, 100-200 flood events have occurred each year with an average associated total cost of 1.6-1.9 billion Slovak Crowns.

29. María Torres-Quevedo from the Ministry of Environment in Spain described the Spanish National Soil Erosion Inventory. Erosion is one of the most serious environmental problems affecting the natural environment in Spain. The effects are loss of soil fertility, degradation of the vegetative cover and a decrease in the natural hydrological control. The objectives are to provide homogenous and comparable statistical information on the soil erosion processes in the national territory. It will also serve as to coordinate implementation of the policies on forest and environmental preservation, both of the Autonomous Communities in Spain and the EU, and to supply information for delimiting the areas with a priority action in combating erosion.

30. The Swiss national report presented by Peter Greminger concentrates on the consequences of decision making for risk-orientated planning; starting from risk analysis to risk evaluation. Mr Greminger used an example of the “inventory of hazardous glaciers” used in the Rhine valley. Analysing the risk of exposure and the probability of hazards, the final decisions are made through participatory processes. There is a lot of room for improvement in the area of integrated watershed management in Switzerland and action still needs to be taken to achieve greater sustainability in the general sense and in the area of natural hazard risk management in particular. The working group’s recommendations to the Alpine Conference include the promotion of integrated risk management which makes optimum use of and appropriately adapts measures for the reduction of risk. It is possible to apply knowledge regarding glaciers, communication about their risk, efficient systematic risk assessment and management, and participatory decision-making, to different hazard types and in other regions. Risk dialogue should be more widely adopted as a tool to find appropriate solutions.

Observer Reports

31. Carlo di Chiara and Ahmed Rajah, Chief Technical Adviser and Regional Coordinator, respectively, for an FAO implemented/Italian funded project in Tunisia, described the main aims and activities of their project, “Water and Soil conservation programme in the watersheds of Siliana Kairouan and Zaghuan, Tunisia.” The project focuses on the improvement of food security in vulnerable areas by providing revenue to small farmers, with a priority given to biological techniques based on a participatory approach.

32. Japan’s representative, Mr Marui, introduced his paper on “Debris disasters caused by local heavy rainfall in Niigata area in July 2004,” describing the characteristics of the debris disasters caused by the local heavy rainfall in central Niigata and how the number of victims was kept to a minimum due to good management and execution of evacuation manoeuvres.

33. Thanks to the generous support of the Swiss government, Kyrgyzstan was able to attend the 24th session of the Working Party as an observer. Mr Muratbek Baihodjoev presented his paper on “Water Resources of Kyrgyzstan” describing his country’s natural resources the need for experienced international expertise in managing them.

34. Hans Schreier of the University of British Columbia talked about the challenge of communicating specialized or technical knowledge to the general public concerning watershed management activities. He shared with participants his case study “Community Watershed Information System,” which demonstrates a pilot system that has made technical information user-friendly and easily accessible to the concerned public and local decision-makers.

35. Mr Fiebiger listed upcoming IUFRO events which in the near future will be posted on the Working Party website on FAO's Forestry Department web site.

REPORT ON INTER-SESSIONAL ACTIVITIES FOLLOWING THE 23rd SESSION OF THE WORKING PARTY

36. Mr McGuire discussed the main inter-sessional activities since the 23rd session in Davos. The main activity was elaboration of a questionnaire which was sent out to all European Forestry Commission members. Following the recommendation of the EFC at its 31st session in 2002 to FAO to work out modalities for closer cooperation between the Working Party, the European Observatory of Mountain Forests (EOMF) and others, a collaborative effort was undertaken beginning in 2002 to collect more accurate and detailed information regarding the members of the Working Party in terms of the institutional setting in each country for watershed management, the bio-physical and socio-economic situation, the communication capacity as well as the gaps and the priorities for each country. The EOMF, led by its Director, Pier Carlo Zingari, devised with FAO the questionnaire, which was sent to all members, then collected and analyzed the results. These are presented in his written report which was made available to participants¹. The information is meant to facilitate the sharing of knowledge between countries regarding watershed management. The importance of inter-sessional activities was stressed as a means of maintaining active involvement of members and thereby adding value to the sessions that are held every two years.

37. It was proposed and agreed that the main inter-sessional activity following the 24th session would be the development of a more detailed web site for the Working Party that would allow members to provide to FAO information, reports, events, etc. to be posted on country-specific sections of the site. Thematic sections could also be developed, depending on interest. All documents (written reports, slide presentations, etc.) from the 24th session will be made available through this site. In addition, information was made available to members about the upcoming seminar on the "Role of ecosystems as water suppliers" in December 2004, organized by the Swiss Agency for the Environment, Forests and Landscape and the UNECE secretariat to the Water Convention, in close cooperation with the Convention on Wetlands. The call for closer cooperation with the EFC through the Working Party was communicated to members, who are encouraged to participate in the seminar and explore more long term mechanisms for closer collaboration on developing measures, from global to national level, to promote policies and strategies integrating forests, wetlands and soils in sustainable water management and to facilitate their implementation.

The role and the future of the Working Party

38. Mr Greminger described the objectives of the Working Party, namely to adopt an integrated approach to environmental protection and to adopt clear and effective procedures for serving the European Forestry Commission and the countries of Europe. The aim is to develop single points of contact through which organizations like IUFRO, the European Observatory of Mountain Forests, the Mountain Forum and others can interact more closely with the Working Party. He also asked members to share their views on the future of the Working Party and to suggest proposals to help improve the organization of the group. The proposal that had been presented earlier of developing at FAO a more structured web site for the Working Party was further discussed as a means to accommodate members' different interests and approaches to watershed management (forestry-related, water-related, etc.). This would allow the group to more effectively exchange ideas and information during the inter-sessional period without overloading the sessions held every two years, which are by necessity limited in duration and frequency.

¹ No presentation of the report was made during the session as has been planned, as Mr Zingari was unfortunately unable to attend the session.

ELECTION OF OFFICERS OF THE WORKING PARTY

39. The twenty-fourth session of the Working Party elected Mr Antoine Hurand (France) as Chairman, Mr Edward Pierzgalski (Poland) as first Vice-Chairman, Ms. Maria Patek (Austria) as second Vice-Chairman and Mr Peter Greminger (Switzerland) as third Vice-Chairman.

DATE AND PLACE OF THE 25th SESSION

40. Austria kindly offered to host the twenty-fifth session of the Working Party in 2006, while Finland confirmed its willingness to host the twenty-sixth session in 2008. Both offers were accepted by participants.

CLOSING OF THE 24th SESSION OF THE WORKING PARTY

41. Mr Greminger took the floor to make closing remarks, thanking the Polish hosts for their fine organization of the session and FAO for its support. There was a special thanks to all participants, delegates and observers and to the interpreters for a job well done.

AGENDA

1. Opening of the Session
2. Adoption of the Agenda
3. Seminar on: *Protection and Sustainable Development of Mountain Watersheds*
4. Report on inter-sessional activities following the 23rd Session of the Working Party
5. Progress in Watershed Management and Sustainable Mountain Development
 - a. Presentation of National Reports
 - b. Presentation of Observer Reports
 - c. Discussion
6. Programme of the Working Party until 2010 – defining long term programme, inter-sessional activities and recommendations to European Forestry Commission
7. Election of officers of the Working Party
8. Date and place of the 25th Session
9. Any other matters
10. Adoption of the report
11. Closing of the session

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Vice-Chairmen Vice-présidents Vicepresidentes	Antoine Hurand (France) Edward Pierzgalski (Poland)
Secretary Secrétaire Secretario	Douglas McGuire (FAO)

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PROGRAMME OF STUDY TOUR**Saturday, 11 September****Examples of landslides, water retention and forest management in the
Carpathian Mountains**

- 7:00 Departure from Crakow
- 9:00 Arrival to Zakopane (Tatra National Park)
- 10:00 Departure by cable train to Kasprowy Wierch (meteorological station-weather and avalanches prognosis)
- 13:00 Lunch
- 14:00 Natural hazards and forest protective roles
- 16:30 Water reservoir in Czorsztyn – conflicts between nature protection and water management
- 17:00 Krościenko Forest Inspectorate – problems of forest management in mountain areas
- 17:30 Reception and summary of study trip
- 21:00 Arrival to Crakow