

REPORT OF THE

**SEVENTH SESSION
OF THE NORTH AMERICAN
FORESTRY COMMISSION**

Held at Mexico D.F., Mexico
4-8 February 1974



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Rome, 1974

MEMBER NATIONS

Canada

Mexico

USA

LIST OF PREVIOUS SESSIONS

First Session	Mexico, D.F.	24 - 29 July 1961
Second Session	Ottawa, Canada	17 - 22 June 1963
Third Session	Washington, D.C.	18 - 22 October 1965
Fourth Session	Mexico, D.F.	2 - 7 October 1967
Fifth Session	Ottawa, Canada	15 - 20 September 1969
Sixth Session	Washington, D.C.	27 - 31 March 1972

TABLE OF CONTENTS

FO:NAFC-74/Rep.

<u>Report of the Seventh Session of the NAFC</u>		<u>Page</u>
Summary of Recommendations:		iv
A. Addressed to Member Governments		iv
B. Addressed to FAO		iv
Summary of Instructions to NAFC Study Groups		v
REPORT		1
I. Introduction		1
II. Adoption of the Agenda		1
III. The State of Forestry in the Region:		1
Canada		2
USA		3
Mexico		4
Statement by FAO		5
IV. Review of the Activities of Study Groups:		7
a) Forest Insects and Diseases		7
b) Fire Management		8
c) Wildlife and Outdoor Recreation		8
d) Forest Tree Improvement		9
e) Forest Engineering		9
V. Report of the Committee of Alternates		10
VI. Selected Technical Items:		10
a) Forestry Development Planning Activities of FAO		10
b) Forestry in Rural Land Use Planning in the USA		11
c) Rural Development in the Forest Areas of Mexico		12
d) The Impact of Forestry Mechanization on Social Structures		13
e) Training Programmes for the Logging Industry in Mexico		13
f) Silvicultural Systems for Major Forest Types		14
VII. Position Report by FAO Secretariat:		15
a) Follow up of NAFC recommendations		15
b) Programme of Work and Budget 1974-75		16
c) Field Programmes		16
d) Second Session of the Committee on Forestry		16
VIII. Other Business		17
IX. Election of Officers		17
X. Date and Place of the Next Session		17
XI. Adoption of Report		17
APPENDICES		
1. List of Participants		19
2. Agenda		23
3. List of Documents		25
4. Opening Address by Dr. H. Steinlin		27
5. Report of the 3rd Session of the Committee of Alternates		31
6. Study Group on Remote Sensing		33

SUMMARY OF RECOMMENDATIONS

A. Recommendations addressed to Member Governments

1. The Commission endorsed the proposal of its Study Group on Forest Insects and Diseases that a representative of the Dirección General de Sanidad Vegetal of Mexico be invited to participate in the work of this Group (para. 45).
2. The Commission recommended that all three member countries allocate additional funds and manpower to research on improvement of trees and associated plant material, with the specific objective of combating problems of the urban environment (para. 58).
3. In agreement with the proposal of its Study Group on Forest Engineering, the Commission reiterated its recommendation for the establishment in Mexico of a 5-year programme of research and instruction on logging operations, with the financial and technical support of FAO and the UNDP (para. 61).
4. The Commission decided to establish a new informal Study Group on Remote Sensing, suggesting an initial membership of two officers from each member country (para. 65).

B. Recommendations to FAO

1. FAO should explore appropriate ways and means of increasing contact and communication between the North American and the Latin American Forestry Commissions (para. 46).
2. FAO should take further action on the recommendation of the Study Group on Forest Tree Improvement concerning the establishment in Mexico of a regional tree seed centre. The new Chairman of the Commission, or his delegate, was urged to raise this matter at the forthcoming session of the Committee on Forestry and press for the inclusion of the centre in FAO's Programme of Work (para. 59).
3. FAO should support the programme on logging operations which forms the subject of Recommendation 3 above addressed to member governments. (para. 61).

Summary of Instructions to NAFC Study Groups

1. The Study Group on Forest Insects and Diseases was requested to define the responsibilities and objectives of the North American Plant Protection Organization it proposed should be formed to help co-ordinate the activities of the several nations' plant protection agencies (para.45).
2. The Study Group on Fire Management should: (i) conduct a detailed review of the objectives and organization of the proposed Seminar on Forest Fire Prevention before proceeding with the execution of this project (para.49); (ii) restudy the possibility of adopting international forest fire control symbols, taking into account the legal implications in the various member countries (para. 50).
3. The Study Group on Wildlife and Outdoor Recreation should: (i) describe well-defined limits for its wildlife studies and place increasing emphasis on outdoor recreation; priorities should be developed in detail and presented to the Commission at its 8th Session (para.54); (ii) make contact with the International Association of Game, Fish and Conservation Commissioners and report back to the Commission on the possibilities for co-operation (para.55).

NORTH AMERICAN FORESTRY COMMISSION
Seventh Session

FO:NAFC-74/Rep.

REPORT

I. INTRODUCTION

1. The Seventh Session of the North American Forestry Commission was held in Mexico D.F. from 4 to 8 February 1974, at the generous invitation of the Government of Mexico, and under the auspices of the Subsecretariat of Forestry and Wildlife within the Ministry of Agriculture and Animal Husbandry. The list of participants is given as Appendix 1.

2. At the inaugural ceremony, Dr. Hans Steinlin, Director of the FAO Forest Resources Division, expressed the greetings of Dr. A.H. Bosma, Director-General of FAO, and thanked the Mexican Government and Forestry Delegation for their hospitality. The Chairman of the Seventh Session of the NAFC, Ing. Jesus Vasquez Soto, expressed the pleasure of Mexico in receiving the distinguished Forestry Delegations of Canada, headed by Dr. G.P. Thomas, Director-General of the Canadian Forestry Service, Department of the Environment, and of the USA, headed by Mr. J. McGuire, Chief of the Forest Service, US Department of Agriculture. He stressed the importance of these meetings in searching for new ways to solve North American forestry problems.

3. Dr. Oscar Brauer Herrera, Minister of Agriculture and Animal Husbandry, extended greetings from the President of the Republic to the Commission participants. He commented on the intense interest of the Government in the efficient use of Mexican forest resources without reduction of their future productivity. He conducted the official inauguration of the Session, wishing the Commission success in its deliberations.

II. ADOPTION OF THE AGENDA

4. Mr. G.S. Nagle of the FAO Forestry Department's Plans Unit, Secretary of the Commission, reviewed the provisional agenda and proposed some minor changes:

- a) that the report of the Committee of Alternates (COA) follow the review of the activities of the Study Groups (i.e. provisional items 3 and 4 be switched in order). Discussion of the COA screening of recommendations from Study Groups could proceed during the course of the individual Study Group reports.
- b) that the recommendations from the NAFC to the FAO Committee on Forestry (COFO) should be finalized after the approval of the report (i.e. provisional item 12 should follow provisional item 14).

The final Agenda was approved with these changes. It appears as Appendix 2. The list of documents considered by the Commission is in Appendix 3.

III. THE STATE OF FORESTRY IN THE REGION

5. A statement on progress, problems and new policies in their national forestry sector was given by each member country, and a wider review statement was given by Dr. Steinlin of FAO.

6. CANADA: Dr. G.P. Thomas, Director-General of the Canadian Forestry Service, Canadian Department of the Environment, presented the paper on forestry developments in Canada (FO:NAFC/74/2(a)). During 1974 Canada is celebrating the seventy-fifth anniversary of the initiation of its federal forestry programme. Dr. Thomas reviewed briefly the succession of forestry legislation, beginning with the arrival of Europeans around 1600, and culminating with the establishment to-day of identifiable and professionally trained forest services in the ten provinces, the two northern territorial governments and the Federal Government. The federal forestry service originated in 1899. Provincial services originated between 1905 and 1934. Professional forestry education in Canada dates back to 1907. To-day six forestry schools have education and research programmes in keeping with public concern for the environmental issues in which forest management has a role to play.
7. Since the Sixth Session of NAFC the economic situation in the forest industries has dramatically improved. Demands for all wood products have increased each year, resulting in increases in the value of exports of 6% in 1971 and 17% in 1972. The total value of forest products exports reached 3.7 billion dollars in 1972. Total employment in the forest industries continues to decline by 1% to 2% annually.
8. It was reported that all forestry agencies in Canada have adapted to accommodate the trend of increased public concern and involvement in decisions affecting forest land. The federal organization described at the Sixth Session is now altered to include inland waters management together with forestry, lands and wildlife under a new federal Environmental Management Service. This Service is responsible not only for the operational roles and research of its four individual units, but also for environmental impact assessments of major new developments throughout the country.
9. Dr. Thomas reported that the federal government, through the Canadian Forestry Service, has developed a new formula for assisting provincial governments in controlling major outbreaks of forest pests. It is based on federal sharing of costs above a threshold value on a sliding scale by which the federal share increases directly with the total cost of a programme. Progress was reported also in the development of a cost-sharing programme in forest engineering research and developments relating to harvesting and wood transport. The federal government shares also, with industry, the cost of a large programme in pollution abatement research. However, most direct financial assistance to provinces is not through the Canadian Forestry Service but through the Department of Regional Economic Expansion. The Forestry Service is a consultant on these programmes, which include land consolidation, forest improvement, economic studies, major training programmes and modernization and construction of forest-based industries.
10. Dr. Thomas described an increased interest in urban forestry -- the cultivation and management of trees for the potential physiological, sociological and economic well-being of the urban society in its urban environment. Under this programme research in Dutch Elm Disease has reached increased importance. Canadian scientists are encouraged by results obtained from injecting a chemical that gives evidence of complete and lasting control. Cost factors are still of some concern.
11. The Earth Resources Satellite Programme is now yielding imagery that is of real value to Canada's remote sensing programme. Values are being established for resource inventories and for environmental monitoring and surveillance. Studies have indicated promise also in mapping forest fires, northern vegetation, damages from insects, diseases and pollution and other human activities.
12. Because of the concern with growing shortages and rapidly rising costs of phenols used in manufacturing glues used in the particle board industry, Canadians have been seeking alternatives. Dr. Thomas reported that a derivative of spent sulphate liquor can be developed much more cheaply and has been demonstrated to be a satisfactory alternative. This has the added advantage of assisting in abatement of pollution from the pulp and paper industry.

13. Canadian participation in international forestry has continued to increase steadily. The Canadian Forestry Service was involved in programmes during the biennium in co-operation with the Canadian International Development Agency, the International Development Research Centre, FAO, ECE, OECD, IUFRO, and such others as the International Society for Photogrammetry. Also, a fruitful exchange of technology has been developed with the USSR through the Canada/USSR Working Group on Forest-Based Industries.

14. Highlights were given of developments in the provincial forestry programmes. All centred around new legislation developed to improve management and utilization of forest resources to meet the growing demand for forest products of all kinds and at the same time to protect and manage the environment for the benefit of all citizens. Most noteworthy are the new developments in the previously inaccessible northern forests, especially in British Columbia, which will probably be in full production within the next decade.

15. Interest was expressed during the discussion about the rising Canadian exports of forest products, most of which go to the US. Delegates also expressed interest in news of changes in Provincial forest tenures in Canada. The national delegation pointed out that the situation varied province by province, but many of the existing forest tenure arrangements were very old, and some of the Provincial authorities were seeking ways and means to gain increased socio-economic benefit from their public forest resources, under the new conditions of the 1970s.

16. USA: Mr. J. McGuire, Chief of the US Forest Service, described the current status and emerging trends in forestry in the US (FO/NATG/74/2(c)). Three problem areas were identified which have commanded increased attention in 1972-73, and will command even more attention in all of North America in the future. They were: developing the capability to meet present and future wood-product needs; meeting public demands for multiple uses of forested areas; and managing urban and rural forests without degrading the environment.

17. An inventory and analysis of forest resources, land needed to produce future supplies, and actions needed to accomplish management goals has recently been completed. Consideration has been given to meeting both domestic and some world needs in the immediate and more distant future. National studies by a Presidential Panel and a Congressional Commission affirm that national requirements for wood can be met by intensifying management on all classes of ownership, expanding reforestation and improving utilization. Guidelines for a new national forestry policy have been formulated. An incentive programme has been implemented to encourage improved production on non-industrial private lands, which constitute a large proportion of the forested land in the USA.

18. Increasing interest in forest practices and in associated environmental values has led to greater public participation in management decision-making. New laws relating to protection of the environment have been enacted. Public interest groups, state organizations, industry and the federal government are all working together. Though it is not always easy, the different objectives of these organizations are being harnessed to common broad forest management purposes.

19. Non-timber values are receiving increased attention in the formulation and implementation of forest policy. The Forest Service is responding to public demand for more balanced management of public lands. Congress has or is expected to provide additional resources to assure greater opportunities for recreation, more acreage in wilderness, improved management of rangelands, better habitat for fish and wildlife, maintenance of water quality, and the wise use of mineral and oil resources in forested areas.

20. These changes in national direction have already had a marked effect on land management practices and policies. They have necessitated a multi-disciplinary approach to problem definition, planning, priority-setting and programme implementation. A concerted, continuing effort will also be required in dealing with the public to assure a sound forestry

programme and the attainment of management goals. The practice of forestry has entered a new era in the United States.

21. Following the US presentation, delegates discussed the potential advantages and disadvantages to forestry of large increases of product prices recently, and in the decades ahead. Supply will have to be expanded if projected demands are to be met without sharply rising prices. Delegates were also interested in the effects of environmental issues and pressures in the USA on national priorities and programmes. The probably increasing rate of surface mining under new global energy supply conditions was mentioned, since most of this would occur on federal lands. This will intensify management problems in some areas. In all countries of the region, rising pressures to use forest land for different purposes will require improved means of reconciling different user needs, improved information systems and definitions of terms (e.g. conservation, protection, preservation) and basically more intensive management of all forest land, public and private. State and federal incentives programmes were discussed, which aim to improve forest management on the smaller private woodlands.

22. Mexico: Ing. Jesus Vasquez Soto, Under-Secretary of Forestry and Wildlife, presented a concise review of Mexico's forestry activities in 1972-73, the present situation, and plans for the immediate future (FO:NAFC/74/2(b)).

23. Forest resources: The exact dimensions of the forest resources of Mexico are still not well defined. Partial figures of the National Forest Inventory have served to estimate a total area of 41,336,600 hectares (102,142,738 acres), of which 22,697,207 ha. (56,084,798 acres) belong to temperate forests and 18,639,400 ha. (46,057,957 acres) to tropical forests. It is also estimated that the total volume of standing timber is more than 2,000 million cubic meters (70,629 million cu. ft.).

24. National Forestry Development Plan: In order to carry out a rational development of Mexico's forest resources, a National Plan of Forestry Development has been undertaken. It is intended that rural populations will obtain better incomes through forest production. In the course of the implementation of the National Forestry Development Plan, during 1972-73, the following decentralized agencies have been created: "Acuitzio y Villa Madero, S de R.L."; "Vicente Guerrero"; "Productos Forestales de la Tarahumara (PROFORTARAH)".

25. Forestry Exploitation and Industries: Up to 1973, Mexico had 1,275 forest exploitation permits on an area of 6,455,536 ha. and an authorized total volume of 17,012,707 cu. meters of logs. There are 600 sawmills in the country. About 70% of them produce more than 5,000 board ft. daily. There are 18 triplay factories, one fiber board factory, 2 veneer factories, 5 particle board factories, 11 mold factories, 6 impregnation plants and 30 resin distillation plants. In addition, there are 62 pulp and paper mills.

26. Research and Teaching: The National Forestry Research Institute of Mexico is formed into four Departments: Forest Tree Improvement, Silviculture, Technology, and Education and Training. There are also six Experimentation Camps and three Experimentation Areas. This Institute has given priority to the following areas: education and training; Lake of Texcoco reforestation experiments; country's resin areas problems; logging supply; wood utilization for housing.

27. Protection and Pests: The main work in forest protection is carried out by the General Directorate of Forest Protection and Reforestation with the help of the Forest Units. Fire prevention and combat is also undertaken by this Directorate. Forest fire combat campaign involves 178 patrols, 72 camps and 2,335 corporations (each one made up of 10 farmers). Dendroctonus is the main forest pest in the country. In the last years, fire emergency campaigns have taken place: emergency plans for forest pest combat at Michoacán and Mexico States; Dendroctonus flontalis combat at Santa María Ecatepec, Oax; Pine sawfly control in the Nests Tarasca and Slash and Sanitation in the National Parks (Zoqueapan y Anexas), Ixtaccihuatl and Popocatepetl.

28. Reforestation: The Mexican Government, through the Under-Secretary of Forestry and Wildlife, has initiated an important national level reforestation campaign. For this purpose, the official nurseries have increased from 50 in 1971 to 61 in 1973; and the existing ones have been improved. Seedling production increased from 23,847,000 to 36,000,000.

29. Recreation: Mexico has 49 National Parks, covering 700,000 ha. (1,729,700 acres), 43 of which are under the direct responsibility of the Ministry of Agriculture and Animal Husbandry. Development and improvement works are under way in the following National Parks: Constitución de 1857 (Baja California); El Chico (Hidalgo); Lagunas de Zempoala; Miguel Hidalgo (Mexico).

30. Wildlife: The growing danger of the disappearance of the main wildlife species in the country has necessitated the reinforcement of the guard service in the states of Tamaulipas, Nuevo León, Sonora and Baja California. An important programme is carried out in protection of the white-winged Dove (Zenaida asiática).

31. Extension: Twelve audio-visual units were purchased during the period 1972-73 to aid forest extension and information work. A film called "Fire in the Jungle" was also produced. In the same period 10,000,000 copies of information pamphlets were produced and distributed.

32. New Forest Policy: The urgent problems that the rural sector has been facing have obliged Mexico to develop a new forest policy. In 1973 the General Directorate of Forest Development was created with the purpose of preparing regional projects so as to promote the use of forests within a technical and national framework, focussed on the important social problems. The base of the new forest policy rests on the availability of raw material, national market analysis, forest exploitation research, transport and existing industries, the location and capacity of new areas for the establishment of new processing plants, etc. The New Forest Development Plan is being implemented in the States of Chihuahua, Durango, Michoacán, Oaxaca, Jalisco, Chiapas, Guerrero, México, Puebla, Quintana Roo, Veracruz, Campeche, Sonora, Nayarit, Sinaloa, Hidalgo and Morelos. The main points of this implementation are: a) reorganization of exploitation; b) the institution of a strong co-ordination between the private industry and the decentralized agencies; c) elaboration of models to guide the establishment of forest industries such as saw mills, laminated paper factories, resin installations, etc. based on real raw material availability; d) encouragement of stable efficient enterprises; e) creation of artificial forests with fast-growing species; f) enterprise integration with private and federal and/or state funds; g) close collaboration with decentralized agencies in the utilization of their forests; h) development of wildlife and scenery activities; i) to speed the incorporation of the Forest Units Technical Services into the Official Service.

33. Discussion centred on the new rural development thrust of forest policy, and admiration was expressed by delegates from Canada and the USA over the direction and scope of the new policies. Rural employment in forestry activities was discussed, together with the types of problems which are generated in urban areas by heavy migration into the city from rural areas. Ing. Vasquez Soto explained that the Industrial Development Nucleus Policy of the Mexican Government aimed to establish new focal points for industry in rural areas, and that the forest industry was a high priority candidate for this type of development. Industrial diversification for rural communities was also discussed, considering the problems often encountered in towns which are completely dependent on a single industry.

34. Dr. H. Steinlin, Director of the FAO Forest Resources Division, conveyed special greetings to the participants in the Seventh Session of the NAFC from the Forestry Department of FAO, on behalf of Dr. B.K. Steenberg, Assistant Director-General, together with the congratulations and thanks of FAO to the NAFC for its clear perception and sound execution of the functions of a Regional Forestry Commission.* The exchange of experiences and ideas is one of the most valuable tools for enhancing the further development of forestry. Dr. Steinlin

* The full text of Dr. Steinlin's address is given in Appendix 4 to this report.

also stressed the Forestry Department's appreciation of the personal, voluntary assistance to forestry activities in the region given by Dr. A. De Faddo, FAO Country Representative in Mexico, without whose efforts it would be extremely difficult for the Department to maintain liaison with the Commission.

35. In reviewing recent trends in forestry, Dr. Steinlin warned that the profession cannot afford to stagnate, in what is a critical period of its history. Changing economic conditions, new technical developments and possibilities as well as new or changing needs of mankind and society - all must be met by adequate adaptation of principles and methods in forestry operations. These decisions on major changes in forestry approaches should be taken only after careful deliberations, without over-reacting to pressures or lobbying from narrow interest groups.

36. Recent increases in the demand for wood have been coupled with a dramatic rise of timber prices in most regions of the world. Timber trend studies on a regional and global basis have been forecasting for a decade that demand would outstrip economic supply in the near future, if significant new supply investments were not forthcoming. The intervention of some stagnant periods of demand in the 1960s has probably acted to slow the pace of new supply investments, particularly at the turn of the decade into the 1970s. We must organize forestry activities to meet the rising demands for wood products, and exercise some restraining influence on scarcity prices in the future.

37. Along with a growing demand for wood, there is a growing labour, particularly in the highly industrialized countries. Significant progress has been achieved in the field of mechanized timber harvesting and to some extent also in stand establishment, reforestation and other silvicultural practices. New harvesting methods and big machinery which can help solve the manpower problem, can also have adverse effects on the forest itself, in terms of the land's protection and production capabilities, the regenerative capacity, the hydrological regime, the microclimate, amenity and recreational values. Multiple-use forestry is not as easy to carry out in practice as to talk about in theory. There is no doubt that as forest managers we must increase our efforts to use new techniques and technology to make the best integrated use of the whole forest, for the sake of society as a whole.

38. A significant and politically powerful segment of society has recognized the various service functions of forests in the light of their increasing concern for the environment. In principle foresters should be happy about the increasing interest of our society in forests and forestry. The real differences and even conflicts of opinion over forest land management must be recognized, and clarified on the basis of analyses which are as scientific as possible. The forest manager or land use planning team must identify the full range of feasible options for managing a given forest area, identifying the different costs and benefits as clearly as possible. A decision-making body - public or private - will then need to decide which objectives are to be met and how the priorities are to be ordered within a given time period.

39. We know we are on firm ground, in the basic environmental impact of wood production and consumption. Timber is the only important raw material which is both renewable and can be produced on a world-wide basis. The production of wood by photosynthesis, using the energy of the sun, has a positive rather than a negative effect on the environment. Still, we face innumerable challenges in providing a high production of this valuable material for human use - while meeting the needs of our increasingly urbanized societies for an unspoiled environment, outdoor recreation, and other amenities.

40. Ing. Vasquez Soto noted the great difference in the Mexican situation from the USA and Canada, with respect to the availability of woods labour. The degree and appropriate types of mechanization of logging in developing countries with ample rural labour was discussed. The need to develop some technology of the "middle ground" which would handle large timber

in rough topography, yet still provide considerable employment, was discussed; it was noted that higher value products can often be obtained with labour-intensive methods.

41. It was noted that there was a growing environmental consciousness in Mexico, and an important array of supplementary benefits from forestry (wildlife, watershed protection) in most ecosystems of the country. The problems of wildlife management were discussed from the conservationist and protein supply points of view; it was noted that these two objectives were not necessarily in conflict, with appropriate management techniques.

IV. REVIEW OF THE ACTIVITIES OF STUDY GROUPS.^{*}

42. (a) Forest Insects and Diseases

Dr. R. Thatcher of the US Forest Service, on behalf of the Chairman of the Study Group, presented a concise review of the Report of the Study Group on Forest Insects and Diseases (FO:NAFC/74/4(a)). The Study Group on Forest Insects and Diseases met from 9 to 13 April 1973 in Uruapan, Mexico, to discuss forest protection problems of mutual concern to Mexico, the United States and Canada.

43. The Study Group concluded that some major actions are needed to solve the important pest problems now confronting forest resource managers in North America. Future tasks of the Study Group include: (1) publication of a revised manual on forest insects and diseases of mutual concern to two or more of the member nations; (2) improved exchange of information and specialists on research, survey and control programmes; (3) closer collaboration between insect and disease specialists and silviculturists in both research and forest management operations; and (4) stronger participation of forest pathologists and entomologists of the member countries in international research and action organizations.

44. Considerable attention was focused upon the ability of plant quarantine to prevent the introduction of damaging pests into North American forests and wood in use. A possible weak point in the quarantine system involves the continuing potential for introducing destructive forest insects and diseases in wooden packing cases, dunnage and similar materials. The Study Group will make further assessments of this problem and develop recommendations to avoid destructive new introductions. It was also recognized that the Study Group might gain greater balance and work more effectively in the area of plant quarantines by adding a delegate from the plant protection agency of Mexico. The Study Group therefore recommends that the North American Forestry Commission extend an invitation to the head of Sanidad Vegetal, S.A.G., to participate in the Study Group on Forest Insects and Disease. To develop broader guidelines and attain more cohesive quarantine action, the Study Group further recommends that the North American Forestry Commission support the formation of a North American Plant Protection Organization to help co-ordinate activities of the several nations' plant protection agencies.

45. In the discussion that followed the report of the Study Group, the Commission endorsed the proposal that a representative from the Sanidad Vegetal, S.A.G., of Mexico be invited to participate in the work of the Study Group. The Study Group was requested to define the responsibilities and objectives of the proposed North American Plant Protection Organization.

46. There was some discussion of the need and means for strengthening communications between groups interested in forest pest problems in the North American and Latin American Forestry Commissions. The Heads of the Canadian and US Delegations encouraged informal contacts (e.g. correspondence) between officers having mutual interests. However, formal contacts involving travel and/or scheduled exchanges should be delayed until the scope for

* Reference is made to the Report of the Committee of Alternates (FO:NAFC/74/3), which briefly reviews the accepted recommendations of the Study Groups (Appendix 5).

such actions have been defined by the parent Commissions. Dr. Steinlin proposed that the MAGC communicate its interest in mutual exchanges to the LAFC at its next meeting in early 1975. The Commission requested FAO to explore the appropriate ways and means of increasing contact and communication between the LAFC and NAFC.

47. (b) Fire Management

Ing. Jaime Carrillo Sanchez, Director-General of Forestry Protection and Reforestation, S.A.G., presented a review of the Report of the Fire Management Study Group (FO:NAFC/74/4(b)). The Group met in Guadalajara, Mexico, from 18-22 June 1973. It discussed future international fire control study tours and seminars, the possible adoption of international forest fire prevention symbols for promotion by member countries of NAFC, and the scope for international fire control poster or film contests. In this latter regard, a display of fire control posters from each country was mounted in the meeting room of the Seventh Session of NAFC. The posters included national winners of poster contests in primary, secondary and adult classes. The national winners will be presented with an Award Certificate from NAFC. In addition delegates saw representative fire-fighting and fire-control training films from each member country, in a late afternoon session.

48. The wide range of activities developed by this group now includes the publication of "Forest Fire News", a bulletin which reviews important activities in this field in all three countries. The bulletin is published in English and Spanish.

49. Congratulations were extended to the organizers of the International Symposium on Forest Fires held in Denver, Colorado, USA, in May 1972, for what had been a very interesting and productive meeting. The Study Group recommended a further international seminar on fire prevention. The Commission, while favourably inclined, instructed the Study Group to conduct a detailed review of the objectives and organization of the seminar before proceeding with execution of this project.

50. Similarly, the recommendations of the Fire Management Study Group concerning the international adoption of a standard fire fighting symbol, e.g. "Smokey the Bear", would have to be restudied taking into consideration the legal implications in the various member countries.

51. (c) Wildlife and Outdoor Recreation

Dr. Gaston Moisan, Assistant Deputy Minister of the Fish and Game Branch, Department of Tourism, Fish and Game, Province of Quebec, Canada, presented a review of the report of this Study Group (FO:NAFC/74/4(c)). The Group met for its fifth session in Mexico D.F., on 1-2 November 1973. It reviewed progress to date on its recommendations to NAFC, and further discussed its role as a forum of information exchange on problems of common or bilateral interest among the member countries of NAFC.

52. A sub-committee of the Group has been reviewing the possible utility of a North American Data Bank for wildland recreation research data. The sub-committee has agreed that a computerized "bibliography" system would be useful and feasible between the member countries; the sub-committee will now explore the mechanics and feasibility of having computable data reference systems between Canada, the US and Mexico.

53. A list was produced of contiguous areas between member countries that are of such quality and such international significance that their co-operative protection and management would be of mutual benefit to the nations concerned. Discussions indicated that the Study Group could serve as a forum for international discussion of issues in these areas, while bilateral arrangements would continue to be most appropriate for detailed planning and programmes. In the case of trail and other tri-national systems, the Group could serve in the process of problem identification and strategy formulation in detail.

54. In the discussion, it was noted that the Study Group has not yet completed the tasks which it had undertaken, and that it has made no recommendations to the Seventh Session of NAFC. It was recognized that the Study Group had not received well-defined guidance on how best to implement seven of its recommendations which had been approved by the Sixth Session of NAFC. The Commission commented on the wide scope of activities which the Group had encompassed; and suggested that in general it should seek to describe well defined limits for its wildlife studies, and to place increasing emphasis on outdoor recreation. The Commission directed the Study Group to develop its priorities in detail, and to present these to the Eighth Session of NAFC.

55. The Study Group requested permission to establish co-operation with the International Association of Game, Fish and Conservation Commissioners. The Commission, in granting approval instructed that this Association be contacted and that the Study Group report back to the Commission on the possibilities for co-operation.

56. (d) Forest Tree Improvement

Dr. John Barber, Director of the Southern Forest Experiment Station, Forest Service, USDA, presented the report of the Study Group (FO:NAFC/74/4(d)). The seventh session of the Group was held at Gulfport, Miss., USA, in March 1973. The Group reviewed the status of previous recommendations to NAFC, the accomplishments of the Group during the year, and formulated some new recommendations to the Commission. The Group did not establish new tasks at the seventh session.

57. In connection with its task of bringing together information on the extent and nature of endangered germ plasm in North America, and with making recommendations for action to conserve these resources, the Group recommended that FAO endeavour to obtain the necessary resources to establish a forest seed centre in Mexico.

58. The exploration of needs for co-operative work in improvement of trees and associated plant material, with the specific objective of combating problems of the urban environment, is charged to this Group as task no.22. The Group recommended that all three Member Governments be asked to allocate additional funds and manpower for investigative work in this field. The NAFC supported this recommendation.

59. Discussion centred on the establishment of a regional forest tree seed centre in Mexico. The FAO Secretariat reiterated the budgetary problems involved, and indicated that adequate funding was not available for this purpose in the Regular Programme. FAO has submitted to UNDP a proposal for a Global Project for Conservation of Forest Germ-Plasm Resources, but the proposal has not been accepted. The Commission strongly recommended that the new Chairman, raise this matter at the forthcoming session of the FAO Committee on Forestry and press for the inclusion of a regional tree seed centre in Mexico in the Programme of Work of FAO.

60. (e) Forest Engineering

Mr. C.R. Silversides, Chief of the Logging Development Programme, Canadian Forestry Service, Department of the Environment, reviewed the report of this Study Group (FO:NAFC/74/4(e)). The Sixth Session of this Study Group was held in the form of a tour to various sites in the southeastern US to inspect recent developments in sawmilling, plywood, production, wood treatment, and production of naval stores. No new recommendations to NAFC were formulated.

61. The Group reiterated its recommendations for a full five-year programme of research and instruction to improve logging operations in Mexico with the financial and technical support of FAO and the UNDP. Contributions to the national goals would include increased rural employment, improved efficiency in forestry operations, improved forest working conditions, replacement of forest product imports, reduced cost of wood production. If the proposed training programme is accepted and implemented, the Group should be called upon to assist in organizing the various activities outlined in the proposal.

62. The Commission endorsed both these recommendations, re-emphasizing its support for the proposed programme, expressed at the Sixth Session of NAFC. The Group was encouraged to continue its efforts in improving inter-country communication in this field, and it was noted that the USA has increased its membership on the Study Group, and Canada hopes to do so in 1974.

7. COMMITTEE OF ALTERNATES

63. The Committee of Alternates (COA) of the NAFC, composed of Messrs. Jesus Veruette Fuentes of Mexico (Chairman), M.B. Dickerman of the USA and D.R. Redmond of Canada, met in Mexico D.F., from 12-14 November 1973, together with the FAO Country Representative for Mexico, Dr. A. De Tuddo. The Committee analysed the reports of the Study Groups of NAFC, and reviewed their recommendations to the Commission in terms of an overall view of timing, feasibility, etc. (FO:NAFC/74/3). The Committee also finalized the programme for the Seventh Session of the NAFC.

64. COA reviewed the needs for new study groups, in keeping with the new developments in forestry in the region. Two specific possibilities considered were study groups to work on the applications of new remote sensing techniques in forestry (e.g. satellite imagery), and on forestry in rural land use planning. COA concluded that this latter possibility, a Study Group on Forestry in Rural Land Use Planning, should be discussed further in view of the wide ramifications. However, the Committee recommended action on the formation of a new Study Group on Remote Sensing, and drew up terms of reference for such a Group, to be considered by NAFC (FO:NAFC/74/3(a)).

65. The Commission approved this recommendation and suggested an initial membership of two officers from each country, this appointed group selecting its own Chairman. Special attention was called to the need to avoid duplicating the work of other groups in this field, notably the Working Group on Remote Sensing of IUFRO. Other groups are mentioned in the accepted terms of reference for the Study Group, attached as Appendix 6 to this report. The NAFC commended the Committee of Alternates for its work, and recommended that it continue in operation to prepare for the Eighth Session of the NAFC.

VI. SELECTED TECHNICAL ITEMS

(a) Forestry Development Planning Activities of FAO

66. Mr. G.S. Nagle presented a Secretariat Note outlining the activities of the Forestry Department of FAO in the field of forestry development planning (FO:NAFC/74/5). Within the Regular Programme of FAO forestry many activities have a planning component, or are part of a larger planning activity - e.g. education, institutional development, logging plans and so on. However, there are also programme components whose main objective is improvement of overall sector planning and integration with other elements of the economy. The main thrust of this development planning activity has been in training courses and seminars for forestry administrators and planners. These activities have been made possible through the support of Trust Funds from the Swedish International Development Authority (SIDA) and the Finnish Department for International Assistance (FINAID). Since 1971, two seminars and one workshop have been held for different regional groups of developing countries. Evaluation of experience to date is very favourable, and follow-up activities are being instituted to provide a continuing flow of information on development planning to past seminar and workshop participants.

67. In addition to Regular Programme activities, many UNDP field projects being operated by the Forestry Department are directly concerned with providing development planning assistance. A wide range of closely related activities is also covered, such as institutional change, forestry sector statistics and resource surveys. A case study was outlined

in the Secretariat note, of the forestry development planning project in Peninsular Malaysia. Forestry and agricultural activities are closely entwined in this country, and major changes in forest industry structure are contemplated. A computerized information system was developed which helps guide decision-making of public land managers in these important sectors.

68. In the discussion, the need to integrate planning, programming and budgeting with each other, and with implementation, was pointed out. It has been too common in developing countries for plans to be made in isolation from the realities of the other aspects. The forestry sector specially has suffered from poor communication with other sectors of the economy, and with national planners. This is due in part to the isolated, remote nature of many forestry activities; also lack of clarity in setting out the socio-economic case for forestry has too often been a factor. The forestry planning seminars aim to improve communication by foresters, in the terms of the national planners.

69. The relevance of sophisticated economic models to developing country problems was discussed. There is no doubt that the accuracy of base data has sometimes been stretched too far in economic analyses - but this is not an unavoidable problem. The objective of computer models such as the Malaysia forestry model (which is mainly a data storage and retrieval device with a minimum of mathematical 'modelling') is in fact to maintain the use of the important details in basic data which normally disappear into 'averages' in manual computation. The number of alternatives which can economically be considered, in operational detail, is expanded.

(b) Forestry in Rural Land Use Planning in the USA

70. This paper (FO:NAFC/74/6) was presented, together with excellent illustrations, by Mr. Robert A. Cook, a regional planner for the Forest Service, USDA. The paper describes the procedure used by the Southwest Region of the Forest Service to determine land use capabilities, to aid land use planning and decision-making. The Multiple Use - Sustained Yield Act specifically states that the Forest Service is to manage lands under its control without impairment of the productivity of that land. The increasing environmental concern and participation of professional and public groups in public land use decisions requires more meaningful definition of land productivity and responses to various actions.

71. In the system described, homogeneous units of land (called land and water response units) are delineated from an inventory and analysis of six basic land characteristics: land form, soils, geology, vegetation, aspect, and slope. A capability and sensitivity rating is determined for each land response unit (LRU). The capability rating is determined from an evaluation of three soil regimes:

- the moisture regime
- the temperature regime
- the nutrient regime

The sensitivity rating for each LRU is determined from:

- the erosion hazard
- the run-off potential
- the slope hazard.

72. Land response units are then aggregated into one of three classes based on their sensitivity and capability rating as follows:

1. Those LRU's having high sensitivities and low capabilities fall into an Amenity class.
2. Those LRU's having low sensitivities and high capabilities fall into a Commodity class.

3. Those LRU's having high sensitivities and high capabilities fall into a Combination class.

73. The following resource inventories are taken in each response unit;

- vegetative (trees, grasses, shrubs)
- water yield
- wildlife habitat
- air quality
- natural beauty
- near naturalness
- non-renewable and/or critical resources on area
- etc.

74. All of these resource characteristics and capabilities are stored in computer files, and a programme has been developed to combine them into consistent groupings called Suitability Units, each of which has different characteristics. The suitability units are evaluated along with the social, political, economic and cultural demands of the local, regional and national public. Land use allocations are made by the manager and appropriate decisions made concerning management of the particular unit of land.

75. Discussion centred on how planners and managers can arrive at land use planning decisions which will best satisfy all the demands for goods and services from the land. Where conflict exists among the land use capabilities and social needs of the public, the costs, benefits and environmental impacts of each use must be considered as carefully as possible. This evaluation, like the soil survey, does not in any way constitute an allocation of land, but merely presents data to the decision-maker in a way that helps him make the allocation of land. When dealing with public lands the ultimate decision will be a political one, where a reasonable compromise can usually be reached more effectively in the presence of good information than without.

76. Mr. M.J. Romaine, Chief of the Land Evaluation and Classification Division of the Department of the Environment of Canada, discussed the factors that led to the implementation of the Canada Land Inventory (CLI) about 10 years ago. He described the relative roles of the different levels of government in gathering the data and compiling the inventory, and briefly how the data are utilized in land use planning. In Canada 89% of the land is publically owned. There was also discussion of a project to use CLI data in a regional economic development model, as a guide to land use allocation in the East Kootenay Region of British Columbia.

(c) Rural Development in the Forest Areas of Mexico

77. Ing. Leon Jorge Castanos, Director-General of Forestry Development, SAG, reviewed this report (FO:NAFC/74/7), on the current refocussing of forestry efforts on rural development problems, in all regions of Mexico. It will be necessary to establish companies (public, private and mixed) or forest agencies in each region of the country, according to the local resource, population, and existing industry situations.

78. A major objective will be to increase the active participation of forest owners, not only as employees, but as shareholders of forest enterprises. The programmes include a wide range of rural activities such as farming and cattle-raising, industrialization, wildlife management, tourism and others. Increases in economic production will be sought from each of these activities, with equitable distribution of the returns, and significant economic improvement for marginal-income rural working forces.

79. Success in the programme will depend on efficient administration, the generation of investable surpluses, or profits, to create more jobs, the proper channelling of these public and private investments, and the social organization of smaller forest owners to bring their resources under planned management of a type which will support a stable industry.

80. There was discussion of the financing of the ambitious programme reviewed in this paper. The problems of adequate rural institutions and infrastructure to support the proposed local organizations of landowners in planning their forest investments were also discussed. The range of different resource endowments, populations and feasible forestry practices over the country would require a very wide-ranging programme of assistance to these new agencies or industries.

81. Delegates complemented the Forestry and Wildlife Sub-Secretariat on the scope and vision of the programme outlined. The NAFC is sure to hear more about it as developments proceed, and the Commission would like to facilitate any communications or discussion on the international plane which may be useful to the programme.

(d) The Impact of Forestry Mechanization on Social Structures

82. Mr. C.R. Silversides, Chief of the Logging Development Programme of the Canadian Forestry Service, presented this paper (FO:NAFC/74/8), which was based mainly on Canadian experience in this field.

Because forest operations are normally conducted away from population centres, the impact of change in the techniques used has been felt primarily by the forest workers rather than by society as a whole. In Canada it could be said that changes in society have had a greater effect upon forest mechanization than vice versa. In Canada there is little indigenous population within the major industrial forest region, the Boreal forest.

83. Mechanization, as a change in technology, creates new opportunities, new social organization. Evolutionary changes do take place and are readily accepted, but revolutionary proposals, initially at least, meet with resistance. The mechanization of Canadian forest operations has had a major impact on the options or opportunities available to a forest worker. Pre-mechanization, the forester was a skilled "Jack of all trades" and could perform most, if not all, jobs encountered in forest operations. With the increased specialization which a high degree of mechanization brought, men were presented with many alternatives in which they could become skilled and the many with universal skills disappeared. The change from general labour to specialized labour has rendered the structure of harvest operations rigid. Men cannot or will not be readily moved from one job to another.

84. When the mechanization of forest operations was first proposed, the spectre of mass unemployment and labour displacement was raised. In the countries where mechanization of forestry has advanced most rapidly, this has not occurred. It has been found that industry has had to mechanize to maintain productivity and attempt to keep up with the drain of workers from the forest. Woods work, in a society that is becoming increasingly urbanized, is not attractive to most.

85. Discussion centred on the problems faced by increasingly urbanized countries in finding, training and holding workers in forest areas remote from urban centres. There was also discussion of a possible shift in comparative advantage in forestry production towards developing countries with ample rural labour forces, if the supply of woods labour continues its radical decline in developed countries.

86. It was noted that increasing concern for the human environment has very much encompassed the work environment, and that safety, noise reduction, vibration reduction and other such objectives have become a critical part of machine design in all aspects of forest harvesting.

(e) Training Programmes for the Logging Industry in Mexico

87. Ing. Adolfo Vargas Gutierrez of the Forestry Development Directorate, SAG, presented a statement based on the proposal developed by the Study Group on Forest Engineering, approved by the NAFC at its Sixth Session in 1972, and subsequently developed in some detail

into a project proposal for consideration by the Mexican Government and UNDP. The note (FO:NAFC/74/9) is a summary of this proposal for a broad five-year programme of specialized training of personnel in logging and related fields.

88. During this programme it is proposed to train and up-grade 1,050 workers, 120 assistants, 150 technicians and 120 professionals. When assimilated into harvesting operations in Mexico, these personnel would significantly improve output and efficiency in this sub-sector. It is hoped that the financing will be divided between the Mexican Government and its Country Programme funds through UNDP, with the latter nearing about one-quarter of the total cost. The Government's direct contribution has already been approved.

89. There was discussion of the possible means for Mexico and FAO to clarify the feasibility of, and if possible obtain, the necessary UNDP financing. There was also discussion of the possibility of a reduced, more selective approach to part of the training programme if necessary. It was agreed that the proposal was basically sound, and that further advice should be sought from the Study Group on Forest Engineering, if the project is financed.

(f) Silvicultural Systems for Major Forest Types

90. Dr. David M. Smith, Professor of Silviculture, Yale University School of Forestry and Environment Studies, presented a review of this paper (FO:NAFC/74/10), together with excellent illustrative slides.

91. During the initial stages of silvicultural practice in the USA, selection cutting became very common and fashionable among foresters. By 1950 it had become apparent that this technique worked well only in stands that were already truly uneven-aged and healthy. There were, and still are, so many decrepit, old-growth stands in the West and so many forests degraded by high-grading in the East that their replacement by clearcutting captured the enthusiasm of foresters. The availability of funds for public and private investment in intensive artificial regeneration measures also fostered this radical change in silvicultural policy. Partial cutting of many forms remained important, but much of it changed to the context of even-aged management.

92. The recent popular campaign against clearcutting is, in large measure, a case of a highly visible and undeniably ugly practice being seized upon as a vehicle for a more deep-seated controversy about forest-land use. The contention that clearcutting harms soil, watersheds, forest productivity, and the physical environment is largely without foundation in long-continued scientific studies. These are special cases involving organic soils, certain kinds of swamps, and unstable slopes subject to landslides where partial cutting is mandatory. Otherwise it has repeatedly been demonstrated that at least 95% of the damage to soil and water associated with timber harvest is caused by road construction and other mechanical effects that gouge into the mineral soil. Selection cutting seems destined to be useful, among other places, as an essentially cosmetic measure in roadside screens and in protecting and shading the margins of crucial waterways.

93. USA experience has also revealed that there are more cases than previously known in which the severe exposure of clearcutting can cause regeneration failure in certain species or on certain unfavourable sites. Most of these instances are ones in which the desired species must start as advanced regeneration. Some of the species are shade-tolerant conifers, but the category also includes many oaks, maples, ashes, and certain other valuable eastern hardwoods. Even Douglas-fir in the dryer parts of its range must start as advance regeneration. In cases where advance regeneration does not already exist, it can frequently be induced by shelterwood cutting.

94. It is also apparent that there are only a few very intolerant tree species of true pioneer status which have an ecological regeneration requirement that dictates clearcutting. Real need for clearcutting is more often to be found in important operational considerations than in natural requirements.

95. There has recently been increased use of the shelterwood method. This has taken place partly because of aesthetic considerations and also because of the special regeneration requirements just mentioned. Shelterwood management also finds increasing favour as a means of manipulating growing stock in even-aged stands, especially because of the revival of interest in increasing sawtimber production. However, neither this method nor any other deserves status as a universal panacea of silviculture.

96. In the subsequent discussion it was stated that the intensification of silviculture after World War II came about because the public and the private corporate sectors finally came to recognize the economic importance of timber production. Consideration was also given to the important role of silviculture in multi-purpose management and environmental protection. It was also suggested that the management of complex mixtures on non-restrictive sites might sometimes proceed on the view that stratified mixtures could be even-aged and could sometimes be reproduced naturally by techniques akin to clearcutting. It was pointed out that a full array of silvicultural systems must be available to the professional forester to meet the needs for management of forests under a very wide variety of natural and socio-economic circumstances.

VII. POSITION REPORT BY THE FAO SECRETARIAT

(a) Follow-up of NAFC Recommendations Addressed to FAO

97. Dr. A. De Tuddo, Senior Agricultural Advisor and FAO Representative in Mexico, delivered a paper by the FAO Secretariat outlining the action taken by FAO on each of the recommendations addressed to FAO by the Sixth Session of NAFC, and updating the information on action taken since 1972 on those recommendations from previous sessions on which further action was pending (FO:NAFC/74/11).

98. Significant progress has been achieved on recommendations concerning increased FAO activity in forestry development planning, and in wildlife management and outdoor recreation. Symposia and training seminars in several regions have been held on these subjects. A large-scale programme for wildland management and conservation in Latin America, supported by a donation from the Rockefeller Brothers Fund, has been making good progress since its inception in 1971.

99. Plans for two recommended FAO/IUFRO global consultations are proceeding as rapidly as possible, in line with adequate preparation, and the wishes of host countries. These are the Second World Symposium on Dangerous Forest Insects and Diseases, proposed in India in early 1975, and the Third World Consultation on Forest Tree Breeding, proposed in Australia in early 1977. FAO is assisting in the organization of the recommended 1974 seminar and study tour on forest fire control and prevention, to be conducted in the USA by the Forest Service, USDA, for an international group of technical fire control personnel.

100. As recommended by NAFC, reports of each Regional Forestry Commission will be given wider circulation to members of other Forestry Commissions; specifically reports of recent sessions of other Commissions are being delivered to delegates at each successive Forestry Commission. Delegates to this Session of NAFC have received Reports of the Sixteenth Session of the European Forestry Commission (Rome, May 1972; FO:EFU/72/Rep.) and of the Ninth Session of the Asia-Pacific Forestry Commission (Canberra, September 1973, FO:APFC/73/Rep.).

101. Recommendations on which progress has been slight, and future action is pending, include: increased Regular Programme activities in forest fire management; a global project through UNDP or other agency for conservation of forest germ plasm resources; international forest plant material quarantine procedures; computerized storage system for forest genetics information; and a world directory of forest genetics. Some progress has been made on the collection of seed from Mexican pines, but NAFC recommends further efforts by FAO to secure support for a Regional Forest Tree Seed Centre in Mexico (see para. 59).

(b) FAO Programme of Work and Budget for 1974-75

102. Dr. Steinlin, Director of the Forest Resources Division, FAO, introduced the extensive FAO Budget document to the delegates (C 73/3). Highlights of the programme of the Forestry Department were outlined and discussed.

103. Progress and plans toward the Technical Conference on the Tropical Moist Forest scheduled for 1975 were discussed. A meeting of experts in Rome had made significant progress in formulating the shape and content of the Conference. Negotiations were proceeding with possible host countries, and with donors to support fellowships for attendance by developing country delegates.

104. Another highlight of the 1974-75 Programme is the Second World Consultation on Wood-Based Panels, scheduled for February 1975 in New Delhi, India. The preparation of a very interesting programme is well underway.

105. The diverse programmes of seminars, consultations and training courses in forestry will include: forestry development planning (Latin America); forest inventory (Africa and Latin America); education planning (Latin America, French-speaking countries, Near East and Far East); silviculture and management of tropical rain forests (global); forest harvesting operations (Africa and Asia); training logging instructors (Asia/Far East and Latin America); sawmill planning (Amazon); wood seasoning and preservation (Asia/Far East); watershed management (Africa and the Far East); forest seed handling (South East Asia).

106. Important publications will include: manuals on reforestation in the African savannah, watershed management and torrent control, and forestry development planning; a geographic comparison of the economics of pulp and paper production; a world directory of forestry education institutions; reviews of eucalyptus for planting, and Pinus elliottii; the Asia/Far East timber trends study. The new serial publication Forest Genetic Resources Information will continue, and Unasylva will return to publication on a regular basis.

(c) FAO Field Programmes

107. Mr. L. Huguet, Director of the FAO Forestry Department's Operations Service, outlined the field programme administered by the Forestry Department pointing out that it was about six times as large as the Regular Programme activities. The greatest proportion of the field programme consists of UN Development Programme projects, within the UNDP Country Programme, prepared by each developing nation within a five-year budget called the Indicative Planning Figure. A growing number and value of projects are being administered under Trust Fund agreements with bilateral national donors. Most of the experts provided through these programmes are from the developed countries, but there has been a very satisfying growth in numbers of experts in the field programme from developing countries.

108. The projects requested by countries in the developing world reflect their growing concern with protection of the environment. The number of projects administered by FAO in watershed management, wildlife management, national park administration and similar fields has been steadily increasing. Most major forestry development projects now require specific consideration of these aspects as part of the whole forestry sector.

109. On the economic development front, several large forest industry complexes are being established on the basis of work done by FAO forestry projects. Liaison with IBRD has been strengthened for rapid execution of pre-investment studies in forest industries. A new fund for Special Industrial Studies (SIS), established by UNDP, can also help with relatively small urgent studies.

(d) Second Session of FAO Committee of Forestry

110. Dr. Steinlin introduced the Provisional Agenda of the Second Session of COFO, to be held in Rome from 22-29 May 1974. Major technical items for discussion include forestry's

role in global environment conservation, the economic implications of rising wood prices and costs, and recent developments in forest fertilization as an economic forestry tool.

111. A major part of the Committee's discussions will of course be concerned with the Forestry Department's Programme of Work, including the 1974-75 Biennium, the medium-term objectives, multi- and bilateral assistance programmes. Special consideration will also be given to the role of the Regional Forestry Commissions, the principles, scope and procedure of the next World Forestry Congress, and the forestry-related activities of the FAO Consultative Group on International Agricultural Research.

112. Delegates expressed their interest and concern with the important work of COFO, and Dr. Steinlin expressed the hope that FAO could welcome some of the distinguished delegates to NAFC at the COFO Session in Rome this year.

VIII. OTHER BUSINESS

113. No other business was brought before the Commission.

IX. ELECTION OF OFFICERS

114. The following officers were elected by the Commission to hold office during the forthcoming biennium:

Chairman:	Dr. G.P. Thomas, Canada
First Vice-Chairman:	Mr. J. McGuire, USA
Second Vice-Chairman:	Ing. J. Vasquez Soto, Mexico

115. The new Chairman, Dr. Thomas, appointed Dr. D.R. Redmond, Director of Forestry Relations, Canadian Forestry Service, as his Alternate, and Chairman of the Committee of Alternates, during the coming biennium. The United States and Mexico would nominate their Alternate Delegates shortly, and notify Dr. Redmond, so that the COA can commence its functions for the biennium.

X. DATE AND PLACE OF THE NEXT SESSION

116. Dr. Thomas invited the Commission to meet in Canada for its Eighth Session in 1976, at a time approximately three months in advance of the Third Session of COFO. The location in Canada would be decided later.

XI. ADOPTION OF REPORT

117. The draft Final Report of the Seventh Session was then considered and was adopted as corrected and amended.

118. The Delegations of Canada and the USA expressed their deep appreciation to the Government of Mexico and to the Delegates of Mexico and their wives, for excellent arrangements and warm hospitality extended to the 7th Session of NAFC.

NORTH AMERICAN FORESTRY COMMISSION
Seventh Session

NO:KAW-74/Rep.
Appendix 1

LIST OF PARTICIPANTS

Officers

Chairman	: Jesus Vasquez Noto (Mexico)
First Vice-Chairman	: G. Phil Thomas (Canada)
Second Vice-Chairman	: John McQuire (USA)
Rapporteur	: Miguel Caballero Deloya (Mexico)
Secretary	: George S. Magle (FAO)

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A. DELEGATIONS

CANADA

Representative	: - G. Phil Thomas Director-General Canadian Forestry Service Department of the Environment Ottawa, Ontario
Alternate	: - Douglas E. Redmond Director of Forestry Relations Canadian Forestry Service
Advisers	: - Gaston Moishak Assistant Deputy Minister Fish and Game Branch Department of Tourism, Fish and Game Province of Quebec, Quebec City - Michael J. Romaine Chief, Land Evaluation and Classification Division Land Directorate, Department of the Environment Ottawa, Ontario - G. Ross Silversides Chief, Logging Development Programme Canadian Forestry Service - Elynn H. Doyle International Projects Officer Canadian Forestry Service - P.A. Holton Department of Industry, Trade and Commerce Embassy of Canada in Mexico

MEXICO

Representative : -- Jesus Vazquez Soto
Under-Secretary of Forestry and Wildlife
Department of Agriculture and Animal Husbandry (SAG)
Mexico, D.F.

Alternate : -- Jesus Veruette Fuentes
Director-General of
National Forest Inventory
Forestry and Wildlife, SAG

Advisers : -- Jaime Carrillo Sanchez
Director-General of Protection and Reforestation
Forestry and Wildlife, SAG

-- Leon Jorge Castanos
Director-General of Forestry Development
Forestry and Wildlife, SAG

-- Antonio Sierra Pineda
Director-General
Technical Supervision and Forest Vigilance
Forestry and Wildlife, SAG

-- Mario L. Cossio Gabucio
Director-General of Forest Wildlife
Forestry and Wildlife, SAG

-- Miguel Caballero Deloya
Associate Director
National Forest Inventory

-- Raul Villareal Canton
Associate Director
National Institute of Forestry Research
Forestry and Wildlife, SAG

-- Humberto Moreno Noriega
Head of the Forestry Quarantine Branch
Forestry and Wildlife, SAG

Assistants : -- Elacro Martinez Martinez
Director-General
National Forestry Research Institute

-- Adolfo Vargas Gutierrez
Directorate of Forestry Development

-- Luis Sangri Namur
Supervisor
Protection and Reforestation Directorate

-- Roberto Villalazar Angeles
Supervisor, Forestry and Wildlife, SAG

-- Juan M. Gonzalez Carrillo
Supervisor, Forestry and Wildlife, SAG

UNITED STATES OF AMERICA

Representative : -- John R. McGuire
Chief of the Forest Service
USDA, Washington D.C.

Alternate : -- M.B. Dickerman
Deputy Chief, Research
Forest Service, USDA
Washington D.C.

Advisers : -- Curt Berklund
Director of the Bureau of Land Management
Department of the Interior
Washington D.C.

-- Robert Cook
Regional Planner
Southwest Region, Forest Service, USDA
Albuquerque, New Mexico

-- John C. Barber
Director, Southern Forest Experiment Station
Forest Service, USDA
New Orleans
Louisiana

-- Robert C. Thatcher
Head of Forest Insect Research Project
Alexandria Forestry Centre
Forest Service, USDA
Alexandria, Louisiana

-- Estevan Romero
Cibola National Forest
Gallup Ranger District
Forest Service, USDA
Gallup, New Mexico

-- David M. Smith
Professor of Silviculture
Yale University School of Forestry
and Environmental Studies
New Haven, Connecticut

B. INTERNATIONAL ORGANIZATIONS

International Union of Forestry Research Organizations (IUFRO)

-- D.E. Redmond
Vice-President of IUFRO
(see under Canada)

G. FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

- Hans Steinlin
Director, Forest Resources Division
Forestry Department,
FAO, Rome, Italy
- Louis Huguet
Director, Operations Service,
Forestry Department
FAO, Rome, Italy
- Angelo A. De Tuddo
Senior Agricultural Adviser
and FAO Country Representative in Mexico
Apartado Postal M-10778
Mexico 1, D.F., Mexico
- George S. Nagle
Plans Unit, Forestry Department
FAO, Rome, Italy
- Enriqueta Villegas
Regional Information Officer
Apartado Postal M-10778
Mexico 1, D.F., Mexico

NORTH AMERICAN FORESTRY COMMISSION
Seventh Session

FO:NAFC-74/Rep.
Appendix 2

AGENDA

1. Adoption of Agenda
2. The State of Forestry in the Region
3. Review of activities of Study Groups
4. Report of the Third Session of the Committee of Alternates (COA)
5. Forestry development planning activities of FAO
6. Forestry in rural land use planning
7. Rural development in forest areas
8. Social effects of logging mechanization
9. Training programmes for the logging industry
10. Silvicultural systems for major forest types
11. Position report by the FAO Secretariat:
 - a) Follow-up of NAFC recommendations addressed to FAO;
 - b) Main features of the FAO Programme of Work 1974-75 for the forestry sector;
 - c) Second Session of the FAO Committee on Forestry: role of the Regional Forestry Commissions, 8th World Forestry Congress, etc.
12. Other Business
13. Adoption of Report
14. Recommendations of NAFC to the FAO Committee on Forestry
15. Election of Officers
16. Date and place of next Session.

NORTH AMERICAN FORESTRY COMMISSION
Seventh Session

FO:NAFC-74/Rep.
Appendix 3

LIST OF DOCUMENTS

<u>Item of Agenda</u>	<u>Code</u>	<u>Title</u>
1.	FO:NAFC/74/1	Provisional Agenda
2.	FO:NAFC/74/2(a)	The state of forestry in the region: statement by the Head of the Canadian delegation
	FO:NAFC/74/2(b)	The state of forestry in the region: statement by the Head of the Mexican delegation
	FO:NAFC/74/2(c)	The state of forestry in the region: statement by the Head of the USA delegation
3.	FO:NAFC/74/4(a)	Report of Study Group on Forest Insects and Diseases
	FO:NAFC/74/4(b)	Report of Study Group on Forest Fire Control
	FO:NAFC/74/4(c)	Report of Study Group on Wildlife and Outdoor Recreation
	FO:NAFC/74/4(d)	Report of Study Group on Forest Tree Improvement
	FO:NAFC/74/4(e)	Report of Study Group on Forest Engineering
4.	FO:NAFC/74/3	Report of the 3rd Session of the Committee of Alternates
	FO:NAFC/74/3(a)	Draft Terms of Reference for Study Group on Remote Sensing
5.	FO:NAFC/74/5	Forestry development planning activities of FAO Secretariat Note
6.	FO:NAFC/74/6	Forestry in rural land use planning - Statement by the USA delegation
7.	FO:NAFC/74/7	Rural development in forest areas - Statement by the Mexican delegation
8.	FO:NAFC/74/8	Social effects of logging mechanization - Statement by the Canadian delegation
9.	FO:NAFC/74/9	Training programmes for the logging industry - Statement by the Mexican delegation
10.	FO:NAFC/74/10	Silvicultural systems for major forest types - Statement by the USA delegation
11.	FO:NAFC/74/11	Follow-up of NAFC recommendations addressed to FAO - Secretariat Note

NORTH AMERICAN FORESTRY COMMISSION
Seventh Session

FO:NAFC-74/Rep.
Appendix 4

OPENING ADDRESS

by

H. Steinlin

Director, FAO Forest Resources Division

Mr. Chairman, Ladies and Gentlemen,

It is with a great deal of honour and pleasure that I appear here to-day in Mexico City as a representative of FAO. At the same time I wish to bring to you the personal regards of Dr. B.K. Steenberg, Head of the Forestry Department of FAO.

First, I would like to convey sincere appreciation, on behalf of FAO, for the excellent work which has been carried out by the North American Forestry Commission. The high quality and large output of work by the Commission, as well as its ability to grow in capacity, is an excellent example of how a regional forestry commission should function. It is therefore with both gratitude and apology that I recognize that the Commission has been able to achieve these accomplishments without much servicing on the part of FAO.

Over the years, the Commission has demonstrated a perfect understanding of the purposes of a regional forestry commission and, above all, has developed a great ability for using the limited means available to achieve these goals. What is the ideal pattern for a regional commission? Ideally, it should include a set of study groups, with clear instructions from the parent body as to the work expected. Furthermore, the Commission should identify the regional action which needs to be taken - in the light of the policy discussion carried out - and, of prime importance, should define the Commission's specific contribution to these regional actions. Finally, a Committee of Alternates should keep the activities of the Commission under control in non-session years. This is the desirable pattern for a regional forestry commission, and this is precisely the approach followed by the North American Forestry Commission, which is commendable.

In contrast to this brilliant performance by the Commission, I must admit to a rather poor record of accomplishment by the FAO Secretariat. A glance at our document FO:NACF/74/11, "Follow-up of the Commission's recommendation", suffices to verify that there are ideas and initiatives which we have failed to introduce into our Programme of Work, studies which we have been unable to translate, print and distribute, and other intentions which we have not carried out.

The reasons for these shortcomings are mainly financial ones. It is no secret that to-day all the international organizations find themselves in a difficult situation and FAO is no exception. Due to the cost increases resulting from world-wide inflation and the present instability of exchange rates, the Organization is at present facing serious problems. Budgets are being cut and personnel reduced. This happens also in the Forestry Department, where in the last biennium we lost three Professional and a number of General Service posts.

Our main reason for assembling here together and the principal purpose of regional forestry commissions, is to exchange information and views gained in the different countries, by carrying out these discussions and activities in the spirit of mutual co-operation in forestry in all its many aspects. Such an exchange of experience and ideas is one of the most valuable tools for enhancing the further development of forestry.

In a continually and rapidly changing world, the forestry profession cannot afford to stagnate. There are changing economic conditions, new technical developments and possibilities as well as new or changing needs of mankind and society -- all of which must be met by adequate adaptation of principle and methods in forestry operations.

But adaptation does not mean that old principles or proven methods must be abandoned simply because they are old. Our duty is to evaluate them objectively and rationally in the light of to-day's conditions, needs and means and then take decisions on what old approaches should be preserved, which ones modified and which ones replaced by better ideas. These decisions should be careful deliberations, without over-reacting to pressures or lobbying from narrow interest groups.

The last few years have revealed many new facts as well as a changing relative importance of facts, both in the highly industrialized countries and in the "third world". There are several salient features which might be highlighted.

First, we realize that there is a growing need for timber as a raw material as well as for building and the many other wood-based products. This increased demand for wood has been coupled with a dramatic rise of timber prices in many regions of the world, especially during the last two years. Along with this need for wood, there is a growing shortage of available woods labour, particularly in the highly industrialized countries. There has been a sharp rise of human labour costs, both for salaries and fringe benefits, in the forestry field.

Another point of importance is the growing awareness by a significant part of the population of the services which forests render, such as protection, water supplies, environmental amenities, outdoor recreation, wildlife and other values, and there is a growing concern that current wood-harvesting practices could endanger the capability of forest lands to provide these important services.

All of those factors -- economic, social, technical and environmental -- require the full attention of everyone responsible for forest policy and management, at every level.

The growing demand for wood and wood-based products is not a new fact. Timber trend studies on a regional and global basis have shown this tendency clearly and these forecasts were remarkably close to reality, but many people -- also many foresters -- did not really believe these prognostics, especially when some temporary stagnation in demand seemed to confirm their doubts.

We should emphasize that timber is the only important raw material which is both renewable and can be produced on a world-wide basis. Furthermore, the production of wood by photosynthesis uses the energy of the sun -- as opposed to scarce fuels -- and this production has a positive rather than a negative effect on the environment. This fact alone seems to guarantee the future of wood as a raw material in a world where the scarcity and the dangers of pollution are constantly placing greater restraints on the technology of raw material production and processing.

The relative market position of timber as a raw material also seems to have improved in comparison to its main competitors, like aluminium, plastics, steel and cement. The latter materials need large amounts of increasingly expensive electricity, oil or coal, and the required raw ores or minerals likewise have recently shown a sharp rise in price on the world market.

It therefore seems realistic to assume that the importance of wood as a raw material will continue to rise and that timber production will remain one of the major goals of management on a high proportion of our forest lands. This goal is in the best interests of growing populations and their expanding needs for housing, living and a better culture.

However, we need to recognize that these needs for increased quantities of timber for society are jeopardized by the shortage of labour and by disproportionate increases in the costs of harvesting. The increase of labour productivity through improved harvesting methods and mechanization is thus one of the most urgent and important tasks of forestry to-day, particularly in the highly industrialized parts of the world.

Significant progress has been achieved in the field of mechanized timber harvesting and to some extent also in stand establishment, reforestation and other silvicultural practices. North America, Scandinavia and the USSR have a leading position in mechanization and you are no doubt aware of newly designed, highly sophisticated machinery which can fell, limb, debark, cut and transport timber without a human hand touching the wood or without a human foot set on the forest soil.

On the other hand, these new developments in harvesting methods and machinery have also brought about new problems, with which we are now faced. One group of such problems concerns the effects on the men working with these machines and methods. There are other problems regarding the forest itself and the various services and functions it must perform.

In some cases working methods and machinery have been developed without due regard for the possible ill effects on the physical and psychological health of the operators, these developments having neglected the sound principles of ergonomics. It is our duty to attract the attention of machinery manufacturers and employers to such shortcomings and to point out that forest management has a responsibility not only for trees, soils, wildlife and other ecological factors but especially for the wellbeing and health of those employed in the forest.

New harvesting methods and big machinery can also have adverse effects on the forest itself, in terms of the land's protection and production capabilities, the regenerative capacity, the hydrological regime, the microclimate and amenity and recreational values. Some of the criticisms by biologists, silviculturalists and conservationists are certainly well founded, and some of the criticism against logging in general must be understood as a reaction to careless logging operations, where low costs and a high productivity were the only goals, pursued without regard for the resulting silvicultural and environmental disruptions.

The advance of techniques and technology has put new tools into our hands, which can lead to overall positive results. Our task is to use these new tools in the right way so as to benefit the forest and society, and not add to their detriment. There is no doubt that as forest managers we must learn the appropriate use of these tools, and this fact seems to me to be one of the tasks in to-day's forestry where we need to make a great effort.

The third salient feature of development in the last few years which I mentioned is the growing awareness on the part of a significant and politically powerful segment of society in recognizing the various service functions of forests in the light of their increasing concern for the environment. I believe that in principle foresters should be happy about the increasing interest of our society in forests and in forestry.

We foresters were the first to speak about multiple use, claiming to be able to accomplish much more than just produce timber. But perhaps multiple-use forestry is not as easy to carry out in practice as to talk about in theory. Naturally, multiple-use forestry can lead to conflicts in the setting of objectives as well as in the activities which are necessary to attain these objectives. This situation is true not only for forestry but for most political and economic activities of society. The more society is interested in a field and the more the field is regarded by people as important, then the more they may be expected to try to exert influence and be ready to criticize.

For a long time foresters worked in isolation - far from the general public - and were able to act "under cover". Nobody, or only a small number of people, took notice of the foresters' activities. In this situation they were isolated from critics, but also not particularly esteemed by the public. This situation was rather comfortable, but not very glorious. But that period is past.

There is no doubt that in some cases more recently the criticism of actual forestry practices has been exaggerated and often not based on sound knowledge of facts, but rather on intuition and assumptions. Many proposals and actions were extreme in the sense that they saw only one aspect or specific interest, while not viewing the problem as a whole. In some cases it must likewise be recognized that the criticism has been at least partly justified.

I think in the first instance we have to admit that there are differing viewpoints and even conflicts of opinion in respect to land use generally and particularly in regard to forest land management. These conflicts are not bad as such and it would be a mistake to ignore or to belittle them. But they cannot be realistically solved on the basis of feelings, lobbying or pressure; they must be solved rationally, on the basis of facts and unbiased interpretation of the facts, taking into account all the different interests which are involved for society as an entity.

It is my personal opinion that the forest manager is responsible for the entire forest complex and its best integrated use for the sake of society as a whole. His main responsibility is therefore to analyse the various needs which a given forest or forested area must fulfil, from the production aspect - wood, water and other supplies - as well as on the various services, such as the recreational benefits. In some areas a land use planning team has been found to be an excellent method to supply the needed data. The forest manager or planning team must therefore identify the possible options available for managing a given forest area in the light of the existing ecological, economic and social conditions and then seek out optimum solutions on the basis of analyses which are as scientific as possible.

Based on the total analysis of the given situation and the land use possibilities at hand, a decision-making body - either governmental or the private owner - will then need to decide what objectives are to be set and how those priorities are to be ordered. Once the decisions have been taken, it is then the forester's duty and responsibility, as a land manager, to take the appropriate measure on the ground to reach the goals which have been set.

Every generation of forest managers has had its special problems. Our big challenge at this time is to provide a high production of wood - as an extremely valuable raw material for mankind - while meeting the growing needs of society for an unspoiled environment, outdoor recreation and other amenities. At the same time we must turn to the utilization of new, highly productive working methods and machines, but without losing sight of the welfare of the man working with these machines. I am certain that your meeting here will make a significant contribution to this large and difficult task.

I would particularly like to offer our appreciation to Mr. de Tuddo, the FAO Country Representative in Mexico, to whom both this Commission and the FAO Forestry Department are very much indebted for his personal, voluntary assistance to forestry activities in the region. It would be extremely difficult for the Department to maintain liaison with the Commission without Mr. de Tuddo's efforts.

In closing, I would especially like to extend to the Mexican authorities most sincere thanks on behalf of Dr. Boerma, Director-General of FAO, and Dr. Steenberg, Head of the Forestry Department, for their generosity in undertaking all the efforts and expenditure involved in organizing this meeting.

Thank you very much.

NORTH AMERICAN FORESTRY COMMISSION
Seventh Session

FO:NAFC-74/Rep.
Appendix 5

Report of the Third Session of the Committee of Alternates

1. The Committee of Alternates (COA) of the North American Forestry Commission, composed of Messrs. H.B. Dickerman (U.S.A.), R. Redmond (Canada) and Jesús Veraette Fuentes (Mexico), met in Mexico City from 12 to 14 November 1973, together with the FAO representative, Mr. A. De Tuddo, to analyse the reports of the NAFC Study Groups and to prepare the programme for the Seventh Session of the North American Forestry Commission.

I. Reports of the Study Groups

2. COA reviewed the reports of the five Study Groups and adopted the following recommendations:

(i) Study Group on Forest Tree Improvement

3. COA accepted the report of the meeting held at Gulfport, Miss. U.S.A., in March 1973 and commended the Group on the progress made. It encouraged the Group to go forward with the additional tasks foreseen for the future in connection with forest tree improvement.

4. The Committee suggested approval of Recommendation No. 1 concerning the establishment in Mexico of a Regional Centre for Forest Germ-Plasm and Seeds. It noted the financial assistance already given by FAO to this project and recommended increased assistance in the future.

5. The Committee suggested adoption of Recommendation No. 2, concerning the possibility of the Mexican Government allocating increased assistance, in the form of personnel and financing, to research work in forest tree improvement connected with urban environment problems; and interpreted this recommendation as being applicable also to Canada and the United States.

(ii) Study Group on Forest Insects and Diseases

6. The Committee accepted the report of the meeting held at Uruapan, Mexico, in April 1973 and commended the Group on the report and on the progress achieved to date. It encouraged the Group to continue working on the tasks already under way.

7. The Committee noted progress on Recommendation No. 1 and therefore saw no need for further action in this connection.

8. The Committee suggested adoption of Recommendation No. 2 and suggested also that the Study Group prepare a list of responsibilities and objectives for the proposed new North American Plant Protection Organization.

9. The Committee noted with interest the emphasis laid in the report on the need for strengthened communication between the study groups of the North American Forestry Commission and the Latin American Forestry Commission. It therefore endorsed the suggestion made in the report for a joint meeting between expert groups of the two Commissions related to forest tree improvement and forest insects and diseases.

(iii) Study Group on Fire Management

10. COA recommended that prior to holding the Seminar for Forest Fire Workers, a detailed study of its organization and objectives be made at the next meeting of the Study Group.

11. The Committee recommended that NAFC discuss the possibility of adopting Smokey the Bear as an international forest fire prevention and control symbol.

12. The Committee suggested that NAFC congratulate the organizers of the International Forest Fire Symposium held at Denver, Colorado, U.S.A., in May 1972, on the success achieved.

(iv) Study Group on Wildlife and Outdoor Recreation

13. This Study Group met in Mexico City on 1 and 2 November 1973. A draft of the report of this meeting was made available to COA for analysis. This report contained no recommendations to NAFC, but the Study Group requests guidance from the Commission on how it can best carry out several of the tasks it has assigned itself and implement some of the action recommended at the Commission's Sixth Session.

14. COA commended the Study Group on the scope and content of its report.

(v) Study Group on Forest Engineering

15. This Study Group reported at the Sixth Session of NAFC that it had completed its first assignment. This report contained proposals for a project for possible inclusion in Mexico's UNDP Country Programme.

16. The Study Group is to meet in Florida, U.S.A., during the week of 26 November 1973.

II. New Study Groups

17. The Committee discussed the need for two additional study groups on: (a) remote sensing; and (b) land-use planning.

18. Canada, Mexico and the U.S.A. all strongly supported the establishment of a Study Group on Remote Sensing, and suggested that prior to its formation the terms of reference be worked out. In view of the experience possessed by the U.S.A. in this connection, the representative of this country was requested to prepare the terms of reference, which would be sent to the members of COA for consideration before being submitted to NAFC. The U.S.A. representative agreed to this request.

19. The Committee recommended to NAFC the formation of a Study Group on Remote Sensing.

20. The possibility of establishing a study group on land-use planning was discussed at length, given the scope and importance of the subject matter. It was noted that this topic was raised in one of the main items on the agenda for the 7th Session of the NAFC. It was concluded that the question of forming a study group on this matter should be discussed further; COA therefore made no recommendation in this respect, but considered that greater attention should be paid to the role of forestry in land-use planning.

III. Activities of the Committee of Alternates

21. The representatives of Canada, Mexico and the United States considered that COA should continue to function in the same way as hitherto.

Study Group on Remote Sensing

"Remote sensing" is the use of one or more of several modern techniques or systems for detecting objects and their features and characteristics from great distances. In forestry, remote sensing offers opportunities for obtaining information such as timber, range and water resources, geologic and soils characteristics, topography and land form, incidence of fire and insect and disease attacks, weather conditions and other features related to management of forest resources.

Within the area of concern of the North American Forestry Commission, Canada, Mexico and the United States, are problems of mutual concern which could and should be approached jointly and in a co-operative manner. "Sensing" or data collection technology is developing very rapidly, but solutions to problems of sampling and interpretation of data are not being achieved so rapidly and require considerable research and study of forestry and mutual exchange of information. A study group on remote sensing, as an informal body of the North American Forestry Commission (NAFC), could benefit FAO Forestry Department and the North American Region by doing some of the following things:

1. Each country should appoint not more than three persons to membership of the Study Group, perhaps including an engineer, a forest inventory specialist and an insects and diseases detection specialist. Chairmanship will be within the Study Group.
2. The Study Group should prepare a brief report on the State of Knowledge of remote sensing in forestry.
3. The Study Group should summarize the characteristics of the several remote sensing techniques such as multispectral imagery, infrared imagery, radar imagery, terrestrial photography, satellite imagery and radar altimetry and analyse the effectiveness of each in providing forestry information.
4. The Study Group should make up a programme of work for the Study Group including items of mutual concern and interest to the three countries of NAFC for review and approval of the Forestry Commission.
5. The Study Group should make contact with the American Society of Photogrammetry, Remote Sensing and Interpretation Division and the International Society of Photogrammetry as sources of information and guidance.
6. The Study Group should prepare reports to present to the biennial sessions of the Forestry Commission.
7. The Study Group should co-operate with other study groups of the NAFC as required.

