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Global Preparatory Meeting for the
Regional Consultation on the Industrial
Utilization of Medicinal and Aromatic
Plants in Asia and the Pacific
Vienna, Austria, 18-20 November 1992

R E P O R T *

* This document has not been edited.

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Introduction

1. The System of Consultations is an instrument through which UNIDO serves as a forum for decision-makers, industrialists, technical specialists, industrial investors, representatives of workers and manufacturers associations, etc. from developed and developing countries in their contacts and consultations directed towards the industrialization of developing countries with the objective of raising the developing countries' share in world industrial output through increased international co-operation.

2. Benefits deriving from this activity include the identification of obstacles to industrial development in developing countries, monitoring of trends in world industry with a view to identifying action-oriented measures for increasing the industrial output of developing countries and the search for new forms of international industrial co-operation in North-South and South-South relations.

Background to the Workshop

3. UNIDO has convened three consultation meetings on the pharmaceutical industry. The last was the Third Consultation on the Pharmaceutical Industry, which was held in Madrid (Spain), from 5 to 9 October 1987. This meeting laid special emphasis on the industrial utilization of medicinal and aromatic plants. There was general recognition of the importance of herbal medicines and drugs derived from medicinal plants that play a vital role in health-care programmes of a large segment of the world population, especially in developing countries. It was recognized that aromatic plant-based products contribute towards the economies of developing countries.

4. In light of the importance of medicinal and aromatic plants to health care programmes, as well as to economies of developing countries, the Industrial Development Board of UNIDO authorized the convening of a Regional Consultation on the Industrial Utilization of Medicinal and Aromatic Plants in Asia and the Pacific during the biennium 1992-1993, with the objective of developing and strengthening capabilities and capacities in the areas of agrotechnology, process technology, research and development, and promotion of co-operation among developing countries and between developing and industrialized countries for the development of the medicinal and aromatic plant-based industrial subsector.

5. The Global Preparatory Meeting for the Regional Consultation was convened with the aim of discussing constraints to development and to identify major elements of the issue involved in the development of the subsector for further discussion at the Regional Consultation on the Industrial Utilization of Medicinal and Aromatic Plants in Asia and the Pacific.

I. ORGANIZATION OF THE GLOBAL PREPARATORY MEETING

6. The Global Preparatory Meeting for the Regional Consultation on the Industrial Utilization of Medicinal and Aromatic Plants in Asia and the Pacific was held at UNIDO Headquarters in Vienna, Austria, from 18 to 20 November 1992. It was attended by 10 participants from 9 countries,

as well as by a representative of the World Health Organization (WHO) and by a representative of the International Trade Centre (ITC) UNCTAD/GATT. The list of participants is given in Annex III.

Opening of the Global Preparatory Meeting

Statement by the Director of UNIDO's System of Consultations Division

7. The Director of UNIDO's System of Consultations Division welcomed the participants and briefly explained the activities of the System of Consultations Division. He highlighted the significance of the pharmaceutical industry as strategic area for development and stressed the importance of the medicinal and aromatic plants subsector in view of its contribution to health care programmes and economies of developing countries. He emphasized the need for a systematized development of the subsector. He called upon the participants to assist the UNIDO Secretariat in identifying the essential elements of the issue for an integrated development of the subsector for discussion at the Regional Consultation on the Industrial Utilization of Medicinal and Aromatic Plants in Asia and the Pacific scheduled to take place in March 1993. He wished the meeting every success in its deliberations.

Election of officers

8. The following were elected as officers of the Bureau for the meeting:

Chairman: Xiao Pei-Gen
Vice-Chairmen: Olayiwola Akerele
Daroon Pecharaply
Rapporteur: R.S. Thakur

Adoption of the agenda

9. The Global Preparatory Meeting adopted the agenda as per Annex I.

Documentation

10. The documents issued prior to the meeting are listed in Annex II.

Presentations

11. The UNIDO Secretariat made the following presentations:

- Issues in the development of industrial utilization of medicinal and aromatic plants in countries of Asia and the Pacific;
- UNIDO's activities in the medicinal and aromatic plant-based subsector;
- Role of polyvalent pilot plants in the development of processing technology;
- Design and software for a database on medicinal plants.

12. The WHO Secretariat representative made a presentation on Traditional Medicine - Scope of Co-operation between International Organizations in this Field, while a former Manager of the Traditional Medicine Programme, WHO, spoke on Medicinal Plants and Primary Health Care - An Expanded Partnership in Health.

13. The participants made brief presentations on topics detailed hereunder to facilitate discussions on various dimensions of the major aspects of the issue involved in the development of the subsector:

- Development of agrotechnology, cultivation and domestication aspects;
- Industrial-scale production of formulations and herbal preparations; standardization, quality control of raw materials and products;
- Role and need of research and development in the field of medicinal plant-based medicaments;
- The current situation and future prospects of herbal medicine in Europe and especially in Germany; Factors which could influence the opening of EEC markets for plant-based medicines from developing countries;
- Parameters for safety, toxicity of plant-based medicaments;
- Steps necessary to introduce traditional medicines in the health care system;
- Essential oils - Prospects for developing countries;
- Prospects for marketing of medicinal plants as raw and processed materials, and essential oils.

14. It was noted that despite the fact that a large proportion of the population, particularly in rural areas, depends on herbal medicine, little attention is given to the development of plant-based therapeutic resources. Hence, concrete steps were needed for recognition of the importance of the subsector and adoption of policy and strategy measures in developing plans for agricultural, industrial, research, medical, human resource, and marketing aspects.

15. The important role of national authorities and international organizations in streamlining the activities was emphasized. The need for co-operation amongst developing countries and between developing and developed countries was strongly felt and a series of steps recommended to be undertaken in this respects was highlighted.

16. The areas discussed at length related to industrial utilization of medicinal and aromatic plants and covered, besides policy measures, various dimensions of agrotechnology, process technology for industrial-scale production, standardization, quality and pharmacological assessment. In addition, topics of research and development, regulatory requirements, setting-up of information networks, training of manpower, development of entrepreneurship, marketing of raw and processed medicinal and aromatic materials at

national and international levels, co-operation in enhancing the capacities and capabilities of developing countries for the development of the subsector were discussed.

17. It was strongly felt that global prospects for the plant-based medicaments, aroma chemicals and essential oils, etc. were good, but needed action through systematized development, through policies and introduction of modern technologies, quality assurance and continued efforts in research and development activities.

Concluding statements

18. At the closing session, the Director of the System of Consultations Division expressed his thanks to the participants for their valuable contribution in making the meeting a success. He paid special tribute to the members of the Bureau for their efforts.

II. AGREED CONCLUSIONS AND RECOMMENDATIONS

19. The conclusions and recommendations of the meeting were adopted by consensus on 20 November 1992.

A. Conclusions

1. Medicinal and aromatic plants play an important role in health care programmes and economies of both developing and industrialized countries.

2. The health and economic needs of developing countries demand that attention be given to the introduction of safe, standardized plant-based medicines in their health care programmes. This will provide useful inputs for improving the quality of health as well as leading to the development of the plant-based pharmaceutical industry and rational conservation measures for medicinal and aromatic plants.

3. Policies, strategies and methodologies will need to be developed to ensure consistent quality, safety and acceptability of products in accordance with the recommendations of the World Health Organization (WHO), the United Nations Industrial Development Organization (UNIDO), and other bodies, by the medical profession and regulatory agencies as well as systematic approach towards the development of herbal preparations and phytochemical, phytopharmaceutical, aroma chemical and essential oils industries, as applicable.

4. In order to improve the economics of the subsector, there is a need to upgrade cultivation techniques and to develop good agricultural practices, improve production technologies, introduce good manufacturing practices, quality assurance, adoption of modern testing techniques, standardization of raw materials and finished products from the manufacturing and management points of view.

5. Bearing in mind the commercial interest and increased value added for phyto raw and processed materials and plant-based medicinal and aromatic products, there is a need to develop guidelines for good trading practices and setting-up of an information system for updating prices and other relevant commercial data.

6. Initiatives for exchange of information and strengthening of information networks covering technical, regulatory, commercial and other aspects, interaction between research institutions and industry, as well as all relevant organizations, will need to be encouraged.

7. The Global Preparatory Meeting concluded that, in order to attain sustained development of the subsector, the areas of thrust for action at national, regional and international levels, and also for consideration by the Regional Consultation, should include:

- (a) Policies - covering health, agricultural, industrial and trade aspects, etc.;
- (b) Agrotechnology and process technology for industrial-scale production of herbal preparations, phytopharmaceuticals, aroma chemicals and essential oils; quality assurance, pharmacological evaluation and regulatory requirements;
- (c) Need for and strengthening of research and development activities;
- (d) Human resource development for specialized technical and managerial skills, entrepreneurship and marketing;
- (e) Regional and international co-operation in all areas of activities essential for the development of the subsector.

B. Recommendations

20. As a result of the above conclusions, the participants recommended the following steps, which should be taken at national, regional and international levels to facilitate the systematized development of medicinal and aromatic plant-based industries, for further consideration by the Regional Consultation.

At the national level:

(i) Initiation of steps towards the establishment of a national policy and planning committee to draw up guidelines on aspects such as:

- (a) Introduction of the subjects of botany and medicinal plant-based medicaments into the curricula of schools of health professionals and related disciplines;
- (b) Promotion of the use of herbal medicine in the national health delivery system as well as organization of national health education and training schemes in all facets of human resource development;
- (c) Establishing regulatory and registration authorities;
- (d) Steps related to the in situ and ex situ conservation, such as establishment of medicinal botanic gardens and germ plasm banks, cultivation and collection of plants, crop improvement, and establishment of a distribution network to make available seeds or plants;

(e) Initiation of schemes to modernize the process of production of herbal medicines, phytopharmaceuticals, phytochemicals, aroma chemicals and essential oils on an industrial scale, taking into account the requirements of good manufacturing practices (GMP) and quality assurance;

(f) Establishment and strengthening of centres for exchange of information on scientific, technological, regulatory and marketing aspects, and carrying out R&D work, as well as harmonizing the activities of academia and industry;

(g) Initiation of steps towards facilitating the transfer of technology and exchange of experiences related to the agro-industrial production of herbal preparations and plant-derived pharmaceuticals, as well as aromatic products;

(h) Initiation of steps for strengthening capabilities in quality standards, safety, pharmacological and clinical trials;

(ii) National authorities may seek the collaboration of United Nations agencies like WHO, UNIDO, UNESCO, FAO, ITC, and other international organizations, such as WFPMA, etc. with regard to formulation of policies, technical assistance, development of manpower, etc., deemed necessary for the growth of the subsector.

(iii) At the regional and international level:

(a) Initiation of work on the setting-up of national/regional and interregional data centres on medicinal and aromatic plants and plant-derived products, and steps to foster and enhance the flow and dissemination of information, also taking due advantage of facilities, such as the NAPRALERT database, which has proved to be a useful information service for R&D on medicinal and aromatic plants, and the advice for setting up databases which United Nations agencies may be in a position to offer;

(b) Steps towards establishing national, regional and interregional centres to carry out R&D activities and harmonization of academic and technological institutes to facilitate development and absorption of technologies and introduction of cost-reducing methodologies;

(c) Strengthening of national capabilities and fostering of co-operation in all areas of the subsector at the regional and the international levels;

(d) Establishment of an engineering design and services centre to encourage local fabrication of pilot plants and equipment, etc.; with assistance by international organizations through the provision of technical and financial inputs;

(e) Establishment and strengthening of links with manufacturers and trade associations for products based on medicinal plants with a view to promoting the development of the subsector;

- (f) Establishment of a regional centre for the development of the subsector in technological fields as well as human resources to enhance technical and management skills; international organizations to assist in strengthening of training facilities at the regional and the interregional level through organization of special training programmes and allocation of financial resources for these activities;
- (g) WIPO and other international organizations should collaborate in developing guidelines on patents, intellectual property rights for adaptation by the co-operating countries in R&D activities associated with the drug development programme from indigenous resources;
- (h) Co-operation in development of entrepreneurship, joint endeavours, trade, finances, etc. for selected activities and setting-up of joint ventures; international organizations should facilitate work in this direction.
- (i) Work should be initiated by the relevant international organizations, such as ITC, to establish an information system relating to trade and marketing aspects of medicinal and aromatic plant-based raw materials and products.
- (j) Periodic meetings of the competent relevant international agencies, federations and associations active in the area, should be convened to facilitate the development of the subsector and co-ordination of related activities.

ANNEX I

AGENDA

18 November 1992

- 8.30 - 9.30 Registration
9.30 - 10.30 Opening of the Global Preparatory Meeting by
Mr. G.R. Latortue, Director, System of
Consultations Division
Election of officers
Adoption of the Agenda
- 11.00 - 12.30 The development of the medicinal and aromatic
plant-based subsector in developing countries
(M.A. Majid)
- 14.00 - 14.30 UNIDO's activities in the medicinal and aromatic
plant-based subsector (T. De Silva)
- 14.30 - 15.00 Medicinal plants and primary health care - An
expanded partnership in health; Regulatory
requirements, clinical protocols for plant-based
medicines (O. Akerele)
- 15.30 - 16.00 Development of agrotechnology, cultivation and
domestication aspects (Ch. Franz)
- 16.00 - 17.00 Policies/strategies for introduction of plant-
based medicines into the health care system and
development of entrepreneurship
General discussion on elements essential for the
development of the subsector

19 November 1992

- 9.00 - 9.30 Role of polyvalent pilot plant in the development
of process technology
(T. De Silva/M.A. Majid)
- 9.30 - 10.30 Industrial-scale production, process validation
and improvement of medicinal plant-based products,
GMP, standardization, quality assessment
(Xiao Pei Gen)
- 11.00 - 11.30 Parameters for safety, toxicity of plant-based
medicaments (Il-Moo Chang)
- 11.30 - 12.30 Research and development needs - strategies for
co-operation in the subsector (R.S. Thakur)
- 14.00 - 14.30 The current situation and future prospects of
herbal medicine in Europe, especially in Germany;
Factors which could influence the opening of EEC
markets for plant-based medicines from developing
countries (B. Eberwein)
- 14.30 - 15.00 Steps necessary to introduce traditional medicines
in the health care system
(Kamol Sawasdimongkol)
- 15.30 - 16.00 Essential oils - Prospects for developing
countries (H. can Baser)

16.00 - 16.30

Prospects for marketing of medicinal plants as raw
and processed materials, and essential oils

(P. Lindholm)

16.30 - 17.30

General discussion on development of the subsector
and, in particular, human resources and
entrepreneurship aspects, prospects for trade and
regional co-operation

20 November 1992

9.00 - 9.45

Development of design and software for a database
on medicinal plants (J. Pogany)

10.15 - 12.30

Finalization of conclusions and recommendations of
the Meeting

ANNEX II

List of documents

Development of Industrial Utilization of Medicinal and Aromatic Plants in Countries of Asia and the Pacific Region	ID/WG.531/1
Medicinal Plants and Primary Health Care - An Expanded Partnership in Health	ID/WG.531/2
Design Options for a Polyvalent Pilot Plant Unit for the Distillation and Extraction of Medicinal and Aromatic Plants	IPCT.143(SPEC.)

ANNEX III

List of Participants

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