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WHO/DANIDA INTERCOUNTRY COURSE
ON THE APPROPRIATE METHODOLOGY FOR
THE SELECTION AND USE OF TRADITIONAL REMEDIES
IN
NATIONAL HEALTH CARE PROGRAMMES

Report of an Intercountry Course

held in

Kadoma, Zimbabwe

26 June - 6 July 1989



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TABLE OF CONTENTS

	<u>page</u>
1. INTRODUCTION	1
2. WHO'S INVOLVEMENT IN TRADITIONAL MEDICINE	2
3. THE REPORT OF THE COURSE	4
4. OPENING OF THE COURSE	4
5. COURSE DESIGN AND CONTENT	4
6. EVALUATION BY PARTICIPANTS	15
7. PROPOSALS FOR FUTURE ACTION	16
8. CONCLUSIONS	17
ANNEX 1. LIST OF PARTICIPANTS	18
ANNEX 2. PROGRAMME	20
ANNEX 3. REQUEST FOR DATA FROM NAPRALERT	22
ANNEX 4. CERTIFICATE OF ATTENDANCE	24

1. INTRODUCTION

The last decade has seen a considerable growth of popular, official, and commercial interest in the use of traditional remedies. For the majority of the world's population these have been and, in many instances, are still the only forms of treatment readily available. Now, with many Member States responding to the World Health Organization's (WHO) call in 1987 for them to give adequate importance to the utilization of their traditional systems of medicine,^{*} traditional practices and remedies are being brought increasingly under the purview of the health services. At the same time, commercial interests have not been slow to recognize and capitalize on the potential financial rewards inherent in this official recognition. This has led to a widespread misunderstanding of the Organization's clarion call in support of its Traditional Medicine Programme. WHO encourages and supports countries to identify and provide safe and effective remedies and practices for use in the formal and informal health system. This does not, however, amount to a blind endorsement of all forms of traditional medicines, as some critics would have us believe.

There is a common belief that remedies of natural origin are harmless and carry no risk to the consumer. Nothing could be further from the truth, for many of these remedies, often of plant origin, contain potent pharmacologically active agents. Even more important may be the use of highly toxic plants, erroneously identified as medicinal herbs. It is for these reasons that the organization of courses and meetings that address the issue of safety is crucial to the implementation of WHO's Health Assembly resolutions in support of traditional medicine.^{**}

Traditional medicine comprises therapeutic practices based on beliefs that have been in existence, often for hundreds of years, before the development and spread of modern scientific medicine, and which are still in use today. These practices vary widely, in keeping with the social and cultural heritages of different countries.

A resurgence of interest has developed over the last decade in the study and use of traditional systems of medicine in different cultural settings. This has led countries to seek the assistance of WHO with a view to identifying and using the safe and positive elements of traditional systems of medicine in the national health care delivery system.

Both WHO and many of its Member States have sought to foster a realistic and pragmatic approach to the subject and this has assured good progress in the primary objective of effecting a union between proven, useful traditional practices for use within the framework of the local health system.

* WHA40.33

** WHA22.54, WHA31.33, WHA40.33, WHA41.19, WHA42.43

2. WHO'S INVOLVEMENT IN TRADITIONAL MEDICINE

2.1 Main features of resolutions adopted by the World Health Assembly and WHO Regional Committees

These resolutions, concerned with the study and practice of traditional medicine, draw attention to the reality that the majority of the world's population depends on traditional medicine for primary health care needs, that the manpower represented by practitioners of traditional medicine is a potentially important resource for the delivery of health care, and that medicinal plants are of importance to the health care system of many countries.

These realities were also acknowledged in the Declaration of Alma-Ata (1978), which recommended, inter alia, the accommodation of proven traditional remedies in national drug policies and regulatory provisions.

WHO's Traditional Medicine Programme, initiated some eleven years ago, has focused on methods of evaluation of medicinal plants and on the training of traditional practitioners in the various aspects of primary health care. Perhaps the most important function of WHO in this connection is to ensure that traditional medicine is neither accepted outright nor blankly rejected, but rather examined critically and with an open mind.

2.2 Importance of plant-derived drugs

Many countries where traditional medicine is widely practised are undertaking multidisciplinary studies on the safety and efficacy of traditional remedies. This task is simpler where the policy and objectives of these systems are well documented than where practices are handed down only by word of mouth.

The use of medicinal plants in therapy is one of the most important components of traditional medicine and yet this use has remained virtually unexplored in scientific terms. Many valuable drugs have been derived from plants and information that a plant is utilized in traditional medicine still provides an indication that it is worth scientific study.

WHO has estimated that 80% of the more than four billion individuals in the world rely primarily on traditional medicine for primary health care needs and, particularly, on the use of plant extracts and/or their derived active principles.

Moreover, preparations derived from plants are used everywhere in self-medication. It has been estimated that over the period 1959 to 1980, 25% of all prescriptions dispensed by retail pharmacies in the United States of America alone contained one or more plant extracts and that in 1980 (the last year for which figures are available), consumers paid over \$8 billion for these prescriptions.

In spite of these figures, pharmaceutical firms in developed countries have little interest in exploring plants as sources of new drugs. Serious interest is concentrated mainly in China and Japan, and to a lesser extent in India and Pakistan. However, all countries where traditional medicine is widely practised should be encouraged to undertake multidisciplinary studies on the safety and efficacy of remedies on which these practices are based.

Medicinal plants are commonly available in abundance. They can provide safe, stable, standardized, and effective galenical products for use in primary health care, and they can lead to the discovery of new biologically active plant-derived principles that may have therapeutic potential for enriching the present medical armamentarium. Encouragement and support given now to local studies on traditional medicinal plants could well enable expenditure on imported drugs to be reduced, and thus promote economic self-reliance and cultural acceptability of the medicine(s) offered.

2.3 Secondary plant principles used in primary health care

WHO has attempted to list as many examples as possible of plant-derived drugs of known chemical composition that are used in primary health care or that are otherwise recognized as valuable non-prescription drugs. This list was compiled after studying selected contemporary national pharmacopoeias and the current global clinical literature, and with a background of knowledge of traditional drug use in various countries. A total of 119 distinct chemical substances has been identified. These embrace some 62 therapeutic categories and are obtained from only 90 species of plants.

2.4 Correlation between the use of plants in traditional medicine and the drugs obtained from them

An attempt has also been made to investigate these 119 substances by correlating the uses of the plants from which they are derived with the pharmacological activity of the isolated components. These studies are not simple and are still continuing, but already some interesting correlations have emerged. Thus far, only 31 of these substances could not be related in any way to the traditional uses of the plants from which they were obtained. It is possible, however, that more careful study of the older literature may establish correlations, even in some of these cases. Nonetheless, it is already possible to say that at least 75% of these substances may well have been discovered as a result of chemical and pharmacological studies of plants used in traditional medicine.

2.5 Future directions

Steps need to be taken to list the herbal remedies used in each country and their medical indications and properties. This needs to be done before the disappearance of indigenous people, who hold the key to identifying medicinal plants that may result in new drugs of inestimable benefit to the global community. The establishment of their safety and efficacy, based on published data and/or preclinical and clinical scientific studies, and effective quality control procedures, should precede the use of manufactured medicinal plants for both self-medication and use in national health services.

While these are not unrealizable goals, their attainment will require the establishment of an organizational structure that is coupled with dedication and rational analysis of the situation in each country.

Many African countries are focusing on actions at national level that seek to obtain maximum benefit from their natural plant resources. However, medicinal plants should not be valued solely because of the possibility that they offer for import substitution, but because traditional medicine is an avenue to greater self-reliance, based on appropriate technology in accordance with a country's cultural heritage and national resources. As African countries attempt to revitalize and rationalize this heritage, they can look to support from the World Health Organization in their endeavours.

3. THE REPORT OF THE COURSE

This document is the report of a WHO/DANIDA-supported course on appropriate methodology for the selection and use of traditional remedies in national health care programmes. The course, held in Kadoma, Zimbabwe, from 26 June to 6 July 1989, was hosted by the Ministry of Health of Zimbabwe. The participants were scientists, practitioners, and health officials from eight countries of East, Central, and Southern Africa: Botswana, Kenya, Lesotho, Malawi, Swaziland, Tanzania, Zambia, and Zimbabwe. In addition, there were observers from the Department of Physiology, University of Zimbabwe. Collaborating faculty came from the University of Illinois at Chicago, USA, and the WHO Traditional Medicine Programme. All the participants are involved in the planning and conducting of scientific and clinical studies of traditional remedies and natural products.

The report describes briefly the design and content of the course. It provides a brief summary of the rationale for the development of WHO's programme on traditional medicine (see 2.). It also gives an account of the situation in the countries represented, outlines the responses of a participant evaluation, and concludes with general comments on the course as well as the participants' proposals for future activities in traditional medicine and the use of medicinal plants.

At the conclusion of the course, the participants were given a certificate of attendance.

4. OPENING OF THE COURSE

On the first day of the course the participants were greeted by Mr S.K. Moyo, Deputy Secretary for Health of Zimbabwe. In his welcoming speech, he stressed the importance of traditional medicine in the African tradition. He urged the participants to find ways and means of introducing safe and useful practices into the health system and wished them a pleasant and fruitful stay in Zimbabwe.

In opening the course, Dr M. Dlamini, WHO Representative for Zimbabwe, also welcomed the participants and extended to them good wishes for the success of the activity on behalf of Dr G.L. Monekosso, Director of WHO's Regional Office for Africa.

Dr O. Akerele, Programme Manager of WHO's Traditional Medicine Programme, Geneva, thanked the distinguished speakers that had preceded him and stated that the course, the first of a series for the African Region, was intended to address issues hindering the introduction of traditional remedies into national health systems. Crucial issues included ensuring safety and efficacy of traditional remedies as well as associated issues of standards, stability, and dosage formulation.

5. COURSE DESIGN AND CONTENT

The course was designed to establish a logical thought process for decision-making related to the utilization of herbal preparations as drugs. The goals were accomplished through a series of lecture/discussion sessions. The course began with a presentation by each participating country summarizing herbal remedies registration and utilization practices. A series of formal lectures followed, addressing issues such as WHO's involvement in traditional medicine (see 2.); the development of a traditional medicine pharmacopoeia; types and sources of information available on medicinal plants and their

chemical constituents; and drug development stages for a traditional medicine. A proposed decision-making process was utilized by the participants in problem-solving sessions. They evaluated several model substances derived from traditional medicine. These substances were selected on the basis of three categories: "no problem", "need more work", and "rejection".

Towards the end of the course, a visit was made by the participants to the National Botanical Garden in Harare.

5.1 Country Reports: Herbal remedies registration and utilization practices in some countries of East, Central, and Southern Africa

It is widely believed that the use of medicinal plants in health care is increasing in the African Region, and that trade in these substances is on the rise. However, no valid data are currently available on utilization and trade patterns. Plant-derived remedies currently in use range from traditional preparations, such as decoctions, to locally manufactured modern formulations in the form of syrups, tablets, and capsules, as well as products imported from other continents. This increase in intercontinental trade in plant-derived substances has triggered concern for regulation in countries of East, Central, and Southern Africa. No regulations related to the use of plant-derived remedies currently exist in these countries. However, national drug legislation to cover manufacture of herbal remedies is being contemplated in all the countries. The necessary registration process should be contingent upon review of available sources of information, quality control of raw material, modern toxicology testing, and good manufacturing practices (GMP). In addition, one of the chief contributions that traditional medicine has made and continues to make to health is the discovery of plants of medicinal value. "Saving Lives by Saving Plants"* is a call to safeguard this heritage, and regulations should therefore cover conservation measures.

Country presentations at the course described the current regulatory status of traditional medicine and traditional health practitioners in some countries of East, Central, and Southern Africa. This information is summarized below.

Most countries in this region have few regulations related to the use and practice of traditional medicine. In Botswana, a provisional council has been appointed to decide on what should be done and will be drafting legislation on traditional medicine in the near future. In Kenya, the Ministry of Culture and Social Services issues certificates to traditional health practitioners, but they must also obtain the permission of the area chief to practise. Similarly, in Zambia, traditional health practitioners must be registered at their provincial level. However, the traditional health practitioners must adhere to laws governing the practice of modern medicine.

In Swaziland, the manufacture of traditional remedies is not addressed in drug regulations, only modern drugs. However, the traditional health practitioners have been registered since 1974. A Commission for Traditional Medicine, under the Minister of Health, is to recommend ways to organize the regulation of traditional health practitioners and their work. The Commission also acts as a public medium through which information is communicated to government and the general public. Lesotho is also in the process of

* Chiang Mai (Thailand) Declaration of 1988

formulating a national policy and legislation regarding traditional medicine. It has been proposed that the registration of traditional medicines for an initial period of eight to ten years be based, initially, solely on the single criterion of safety. Subsequently, registration of traditional remedies must give proof of efficacy as well as safety.

In Tanzania's Pharmaceutical and Poisons Act of 1978, there is an enabling clause for traditional practices to include substances used in local systems of therapeutics providing "they are not detrimental to the people's lives and health". In Zimbabwe, there is legislation (Traditional Medical Practitioners Act, 1981) that controls the practice of traditional medicine. This Act does not, however, address the issue of regulation of substances used by them. There is also an association for traditional health practitioners in Zimbabwe, which promotes professionalism and gives ethical directions to member practitioners. In Malawi, drug legislation (Pharmacy Medicines and Poisons Act of 1988) results in the exclusion of traditional health practitioners, as it allows only a registered pharmacist to prepare, mix, compound, or dispense any medicinal product.

In all of the participating countries the general feeling is that the future of traditional medicine is bright because it is widely used and respected, especially by the rural population, which constitute the majority. Although no specific studies have been made, costs are considered to be low. This is especially true when production and use of remedies are controlled by government.

However, legislation is needed in all of the countries to recognize and legitimize traditional health practitioners. Traditional health practitioners should group themselves into associations through which they could interface with the modern health system, whether or not they are formally part of it. An association of this nature could be a regulatory body with responsibility for ethical and professional matters. Without this formal structure, the confusion that exists now is likely to continue.

5.2 Requirements for a herbal/traditional formulary/pharmacopoeia

The basis for discussions on a pharmacopoeia was the "model" developed at a previous course on selecting and using traditional remedies in primary health care (Bangkok, 1985). The "model" for the formulary/pharmacopoeia developed at this meeting is summarized below and represents a further refinement of the earlier model. It is only a guide, from which a formal document could be prepared that would take into consideration regional or national requirements.

MODEL FOR A FORMULARY/PHARMACOPOEIA

(This model is divided into two volumes)

VOLUME I

MONOGRAPHS

The following types of information are required in order to establish formal standards for natural product-type drugs. This is to ensure that nationally used drugs will be correctly identified, that they are pure, and have a scientific basis for their use. The following information is only an outline and can be modified to conform to specific legal/ethical standards that should be established or that are already in existence in specific countries or regions. A separate monograph must be established for different parts of the same plant if the use for the parts is different.

1. A name must be assigned to the drug, e.g., Belladonna Leaf.
2. A formal definition must be established that provides the following information: Latin name of the plant (Genus, species, varieties, family, part used, and condition of the plant part, e.g., Belladonna Leaf is the dried leaf, without stems, of Atropa belladonna L. of the family Solanaceae.
3. Local common names must be provided.
4. Legitimate Latin binomial synonyms for the plant would be useful.
5. A brief description of the living plant can be useful.
6. Description of the drug must be provided.
 - 6.1 General appearance
 - 6.2 Organoleptic properties, e.g., colour, odour, taste, type of fragment, etc.
 - 6.3 Microscopic characteristics
 - 6.3.1 Powdered drug
 - 6.3.2 Tissue slices
7. Geographical distribution of the plant, e.g., cultivated, natural distribution in the country or region of origin, imported, etc.
8. General identity tests, e.g., for Belladonna Leaf, a water extract should give a precipitate following the addition of Mayer's Reagent (contains alkaloids).
9. Purity tests, e.g., state the limits of foreign organic matter, extraneous plant parts, moisture content, etc.
10. Assays
 - 10.1 Chemical assay, e.g., Belladonna Leaf must contain a defined percentage of: (a) total alkaloids and/or (b) a defined percentage of atropine based on a defined analytical system, e.g., HPLC.

- 10.2 Biological assay, e.g., some potent drugs must be biologically standardized, such as Digitalis Leaf, Rauwolfia Root, curare, etc.
11. A list of major chemical constituents should be included, especially those with pharmacological activity.
12. Biological activities for the crude drug extracts.
 - 12.1 Uses claimed in traditional medicine (major, minor, others)
 - 12.2 Crude extracts in vitro
 - 12.3 Crude extracts in vivo
 - 12.4 Human studies (experimental)
13. Galenical preparations (a separate monograph must be prepared for each galenical preparation of a given plant, e.g., tincture, tablets, syrup, fluid extract, etc.).
14. A general therapeutic category should be assigned to the Plant Drug Part, e.g., Belladonna Leaf - Anticholinergic Agent; Opium - Analgesic.
15. Uses
 - 15.1 Primary use, e.g., opium - for severe pain
 - 15.2 Secondary use, e.g., opium - cough suppressant
 - 15.3 Minor uses
16. Posology, e.g., minimum and maximum, as well as average dose levels, must be stated for the crude drug and its preparations.
17. Contraindications, e.g., "should not be used by pregnant women", "should not be used in people with high blood pressure", etc.
18. Potential side effects and/or toxicology as well as incompatibilities.
19. Storage conditions.
20. Labelling instructions.
21. References.

VOLUME II
METHODS

1. Methods of Analysis
 - 1.1 Physical methods
 - 1.2 Chemical methods
 - 1.3 Biological methods
 - 1.4 Organoleptic methods
 - 1.5 Microscopic methods
 - 1.6 Extractives
2. Abbreviations and symbols
3. Units of measurement
4. Definitions, specifications, and precision
5. Reagents, test solutions, and volumetric solutions
6. Equipment
7. Test organisms, animals, substrates
8. References

5.3 Types and sources of information available on medicinal plants and their chemical constituents

Various information sources were identified, such as literature abstract services, computerized literature databases and their cost-effectiveness, local journals/information sources, and current international journals. The NAPRALERT (natural products alert), a database developed by the College of Pharmacy of the University of Illinois at Chicago, USA, a WHO Collaborating Centre for Traditional Medicine, was described in some detail. (Scientists from developing countries are provided data free if reasonable requests are routed through WHO Representatives or WHO Regional Offices, using appropriate forms; see Annex 3.) The validity and usefulness of the various sources of information on medicinal plants were discussed and examples provided.

5.4 Assignment of compounds to risk categories based on chemical structure

Based on structural similarities to known toxins, some predictions can be made in relation to potential toxicity of chemical constituents of plant preparations. Some examples of chemical classifications presented at the course are found below.

Category A (Low probable toxicity)

Simple aliphatic, noncyclic hydrocarbons (no unsaturation, no aromaticity), monocyclic hydrocarbons (no unsaturation), fats, fatty acids, inorganic salts, normal human biochemical constituents.

Category B (Contains structures of intermediate or unknown toxicity)

Functional groups not listed in category A (Methylester, formates, Quaternary amines), nonconjugated olefins, multiple functional groups, amino acids, polypeptides, proteins.

Category C (Contains structures often associated with toxicity)

Organic halogens, three-membered rings of heterocycles (Epoxides), unsaturated lactones or four-membered ring, amines, N-nitroso groups, azo or diazo compounds, azides, hydrazines, anthraquinones, pyrroles, pyrazoles, indoles, safrole-like structures, polynuclear aromatics, thiazoles, thio-ethers.

5.5 Drug development stages

Several of the lectures held during the course were devoted to the presentation of the stages for developing a traditional medicine destined for use in the health system. The lectures were primarily the basis for discussion, providing the beginning of a thought process to identify problems specific to the development of traditional medicines. The areas presented and discussed are summarized below.

1. Discovery

2. Basic scientific characterization

Chemical - identify parent compound, pilot batch, scale-up; quality assurance

Biological - models; in vitro; in vivo; organ response; pharmacokinetics

3. Safety Evaluation (Animal Studies). Traditional medicines are assumed to be safe because of their long history of use in man. However, there is not a large information base on the animal toxicology of these preparations.

Some tests that should be performed are: acute toxicity; subchronic toxicity; chronic toxicity, including carcinogenicity; reproductive effects, including fertility; peri/post-natal effects and teratology; mutagenicity; and carcinogenicity.

4. Formulation Development. Some examples of the questions that must be addressed during formulation are:

- Use natural method?
- Make decoction (stability)?
- Make tablet (presentation)?
- Make lotion?
- Stability testing of formulation?
- Product safety?

5. Human pharmacology
6. Regulatory process
7. Marketing
8. Manufacture and supply
9. Post-registration phase
10. Expanded markets

5.6 Problem-solving exercises

The participants were divided into four small groups for problem-solving exercises. Each group was provided with pertinent literature on the chemistry and pharmacology of a particular plant product or products for the purpose of deciding whether the product(s) should be utilized in a national health care system. The individual groups then prepared a position paper to be presented to all of the participants in a discussion session.

The plants/plant products evaluated were Aloe vera, glycyrrhizin (for treatment of AIDS), stevioside (as sweetener), xanthotoxin (for treatment of vitiligo), berberine (for treatment of diarrhoea), and Artemisia annua (for treatment of malaria). One disease state (diabetes) was used as a problem area.

5.7 Discussion on areas of immediate interest

Discussion was stimulated among the group by having the participants of each country identify the five most common diseases and the plants/plant

The following is a summary (disease and plants) of the information provided by the participants. It should be noted that the information was developed from their experience and background. The participants did not have access to any medical information or scientific data in order to research their answers. Thus the following are their perceptions of the major disease problems and the plants they think would be most likely used to treat the disease. The list should NOT be interpreted as a list of effective or approved plants. A variety of plant parts are used and applied in a variety of dosage forms. What follows is an interesting list of a variety of diseases and the plants used in their treatment.

BOTSWANA

1. Respiratory tract infections
 - Artemisia afra and/or Lippia javanica or Lippia scaberrima
2. Diarrhoeal diseases in children
 - Terminalia sericea, Cassia italica
 - Ximenia caffra and Grewia flava or Grewia flavescens
3. Cardiovascular diseases, especially hypertension, with diabetes as a secondary disease or vice versa.
 - Harpagophytum procumbens
4. Sexually transmitted diseases.
 - Waltheria indica with Bergia decumbens + Euclea undulata/
E. natalensis
 - Mixture Cadaba aphylla + Colophospemum mopane + Jatropha zeyheri
 - Xysmalobium undulatum
5. Injuries
Fractures
 - Lippia javanica with Terminalia sericea + fat of snakes/or animals

Wounds

 - Jatropha zeyheri
 - Waltheria indica

KENYA

1. Amoebiasis
 - Warburgia ugandensis
2. Malaria
 - Azadirachta indica
3. Diarrhoea and vomiting
 - Ajuga remota
4. Sexually transmitted diseases
 - Cassia didymobotrya

LESOTHO

1. Tuberculosis is the number one cause of death; traditional treatments include:
 - Alepidea amatymbica
 - Helichrysum capitatum with Scabiosa columbaria
 - Casearia aspera - (which is reported to be as intoxicating as Cannabis sativa)
2. Most common diseases:
 - (i) Upper respiratory tract infections
 - (Lengana) Artemisia afra for common colds and coughs
 - (ii) Skin Infections
 - Dicoma anomala
Wounds and sores
 - Geranium caffrum for clean wounds

Note: for both skin infections and injuries, wounds, and sores, Dicoma anomala is used.
3. Diarrhoea and vomiting (in children)
 - Geranium caffrum and ORS
4. General body aches and pains; arthritis and rheumatism
 - Malva parviflora
5. Hypertension/diabetes
 - Sutherlandia frutescens
 - Trifolium burchelianum
 - Melolobium alpinum
 - Tephrosia semiglabra

MALAWI

1. Malaria
 - Aristolochia petersiana
 2. Anaemia
 - Alternative Eulophia species *
 3. Respiratory tract infection
 - Cassia petersiana Bolle, e.g., pneumonia
 4. Diarrhoea
 - Acalypha sinensis; and for other childhood diseases, such as measles, Ceratotheca sesamoides
 5. Sexually transmitted diseases (General)
 - Tamarindus indica

Syphillis

 - Cassia petersiana
- * Worm Infestation is a possible cause of anaemia
Albizia versicolor - Antithelmentic

SWAZILAND

1. Diabetes
 - Momordica stipulacea
2. Hypertension
 - Momordica stipulacea
3. Upper and lower respiratory tract infection
 - Eucalyptus sp. and Alepidea amatymbica
(For lower respiratory tract, Alepidea amatymbica is used.)
4. Diarrhoea and vomiting
 - Geranium cafferum
5. Sexually transmitted diseases
 - Traditional healers use Euclea species mixed with other plants to give a mixture that is taken orally.

TANZANIA

1. Malaria
 - Cinchona succirubra
 - Cinchona ledgeriana
 - Cinchona hybrid
 - Artemisa afra
 - Azadirachta indica
2. Diabetes mellitus
 - Centella asiatica
 - Rumex usambarensis
3. Epilepsy
 - Hyptis suaveolens
 - Vismianthus punctatus
 - Ficus bursei
4. Gonorrhoea
 - Ozoroa mucronata
 - Markhamia obtusifolia
5. Asthma
 - Grewia sulcata

ZAMBIA

1. Malaria
 - Dialiopsis africana
 - Pterocarpus angolensis
2. Upper respiratory tract infection (bronchitis)
 - Mangifera indica
3. Diarrhoea
 - Mangifera indica with Cassia abbreviata

4. Malnutrition
 - Pterocarpus angolensis is used to treat mouth ulcers in malnutrition
5. Sexually transmitted diseases (gonorrhoea)
 - Erythrina abyssinica

ZIMBABWE

1. Bilharzia
 - Warburgia sulcata
 - Ziziphus mucronata
 - Ximenia caffra
2. Diarrhoea
 - Warburgia sulcata
 - Ziziphus mucronata
 - Ximenia caffra
 - Vernonia amygdalina
3. Malaria
 - Warburgia sulcata
 - Ziziphus mucronata
4. Hypertension
 - Warburgia sulcata
 - Ziziphus mucronata
5. Sexually transmitted diseases
 - Warburgia sulcata
 - Ziziphus mucronata
 - Ximenia caffra

6. EVALUATION BY PARTICIPANTS

Generally speaking, the results of the evaluation were very positive. With the exception of two participants, who were not satisfied with the information received in advance of the course, and two others who did not find the field visit useful, all other responses were positive. Since many of the participants took the time to provide written comments, these are summarized below.

6.1 Pre-course information

One participant noted that the information received concerning the course did not clarify the important role of pharmacology (as well as the link with primary health care). This ties in with another observation made, that the selection of the participants was too biased in favour of those working in traditional medicine, as opposed to chemists and botanists, who would be the ones actually carrying out the studies being promoted by the course.

6.2 Country reports

The majority of the participants found the country reports to be very informative. Several would have liked to have had more time to discuss the individual presentations. Suggestions on contents for future reporting included: how cooperation with traditional health practitioners is achieved; what plants are actually being used; how does traditional medicine link with

6.3 Lecture presentations

The overwhelming majority of responders indicated that they were satisfied with the lectures; however, it is very clear from some of the comments that a number of participants found some of the lectures too "technical" and difficult to follow, while others felt that some of the lectures merely presented information that could be found in standard text books. This problem clearly arose from the heterogeneity of the group. Several participants expressed the need for more hand outs, which could have been used to overcome some of these problems. There was also the expressed need for more time to discuss the presentations.

6.4 Lecture content

There were very few comments regarding the content of the lectures. One participant expressed the thought that other approaches rather than lectures per se could have been used. Another indicated that the lecturers should take into consideration that clinical trials could be undertaken differently, given that remedies could be used as "crude drugs" and that traditional remedies are already in use.

6.5 Materials distributed

All the participants found the materials that were distributed to be of value.

6.6 Problem-solving approach

All participants found the problem-solving approach used to be appropriate; a large number judging this aspect of the course as being very appropriate. Several pointed out the desirability of extending the scope of the problems addressed to touch more on the implementation of traditional medicine in primary health care. One participant noted that the scope of the expertise required for implementation was greater than what may be available in a particular country. One noted that the exercises were useful and challenging.

6.7 Usefulness of the field trip

As already noted, two participants doubted the usefulness of the field trip.

7. PROPOSALS FOR FUTURE ACTION

Various suggestions were given regarding additional topics for future courses. These included:

1. Problems encountered in the implementation of a traditional medicine product, following the aims of the course, for example:
 - cooperation with traditional health practitioners
 - collection of information
 - availability of funds, etc.
2. Guidelines on legal aspects related to the registration and use of traditional medicines.
3. Personal experiences with traditional medicines, including research

4. Use of traditional medicine in the promotion of primary health care.
5. More lectures based on actual laboratory methods used: phytochemical instrumental methods of analysis.
6. How to convince modern trained doctors of the value of traditional remedies.
7. Standardization of crude extracts, especially as related to dose specification.
8. The role of traditional health practitioners in the selection and use of traditional remedies in primary health care.
9. More on primary health care.
10. How to establish a "twinning" relationship between research institutions in developing countries and those of developed countries.
11. Reports of actual research carried out on traditional plants that participants could advocate upon their return home.

A number of participants provided examples of ideas or concepts that they would promote upon return to their countries. These included:

1. The establishment of a botanical garden(s).
2. The importation and adaptation of different medicinal plant species from different countries.
3. The recognition and acceptance of traditional medicine.
4. Critical evaluation of data on safety/toxicity/efficacy.
5. Methods of carrying out clinical trials.
6. Methodology of carrying out pharmacological screening.
7. Clinical studies of plant-derived drugs.
8. Evaluation of clinical trials.

8. CONCLUSION

It is very clear from the comments made that the course served a valuable purpose but that future courses would need to address additional issues, specifically those related to the actual incorporation of traditional remedies in the delivery of primary health care and the development of working relations between traditional health practitioners and the health system. Furthermore, the technical and methodological nature of the course will need to be communicated more clearly to country officials to ensure that only the most suitable participants are chosen from invited countries.

LIST OF PARTICIPANTS

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PROGRAMME

Sunday, 25 June

Arrival in Harare

Monday, 26 June

Morning

Opening Ceremony

Welcome Address by Zimbabwean Authorities

Opening Remarks by WHO Representative

Briefing on Course

Country Presentations:

Botswana

Kenya

Afternoon

Country Presentations:

Lesotho

Swaziland

United Republic of Tanzania

Zambia

Zimbabwe

Tuesday, 27 June

Morning

Lecture/Discussions:

Global Status of Herbal Drugs

Requirements for a Herbal Formulary

Afternoon

Information Sources for Traditional Medicine Products and Components

Botanical Aspects of Traditional Medicine Products

Phytochemical Aspects of Traditional Medicine Products

Wednesday, 28 June

All day

Working Groups (Botanical and Phytochemical Information)
Groups 1, 2, 3, 4

Thursday, 29 June

Morning

Pharmacological Aspects

Group Work (Pharmacological Information)

Afternoon

Group Work (Pharmacological Information)

Friday, 30 June

All day

Group Discussions:

Safety Evaluation of a Traditional Remedy

Identification of Potential Problems

Saturday, 1 July

Visit to the National Botanical Garden, Harare

Sunday, 2 July

Monday, 3 July

All day

Group Discussions:

Estimation of the Magnitude of Potential Problems in
Implementing the Example Traditional Medicine Product

Evaluation of Product Potential

Management and Minimizing Adverse Drug Effects

Tuesday, 4 July

All day

Working Groups - Interactions/Preparation of
Presentations by Participants

Wednesday, 5 July

All day

Working Groups - Presentations/Discussions

Friday, 6 July

All day

Course Evaluation
Open discussion of course

Closing remarks

- - - -

REQUEST FORM FOR NAPRALERT DATA ON PLANTS

Request from: (Name, institution, and mailing address)

WHO Region:

Request for information profile on:

	(Genus)	(Species)	(Authority)	(Family)
1)	<hr/>	<hr/>	<hr/>	<hr/>
2)	<hr/>	<hr/>	<hr/>	<hr/>
3)	<hr/>	<hr/>	<hr/>	<hr/>
4)	<hr/>	<hr/>	<hr/>	<hr/>
5)	<hr/>	<hr/>	<hr/>	<hr/>

Date of request received in Chicago

Date NAPRALERT output mailed to REQUESTOR

Pharmacological profile on:

1a) _____
(Name of chemical substance)

1b) _____
(Systematic name)

1c) Give structure clearly in space below:

2a) _____
(Name of chemical substance)

2b) _____
(Systemic name)

2c) Give structure clearly in space below:

Date of request received in Chicago:

Data NAPRALERT output mailed in REQUESTOR



WORLD HEALTH ORGANIZATION
AND
DANISH INTERNATIONAL DEVELOPMENT AGENCY
CERTIFICATE

THIS IS TO CERTIFY THAT

HAS ATTENDED THE WORLD HEALTH ORGANIZATION/DANIDA INTERCOUNTRY
COURSE ON APPROPRIATE METHODOLOGY FOR THE SELECTION
AND USE OF TRADITIONAL REMEDIES IN NATIONAL PRIMARY
HEALTH CARE PROGRAMMES
KADOMA, ZIMBABWE
26 JUNE TO 6 JULY 1989
UNDER THE AUSPICES OF THE MINISTRY OF HEALTH, ZIMBABWE.

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