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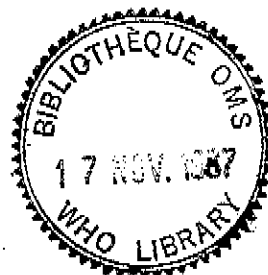
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# DRUG ABUSE

GUIDELINES FOR NATIONAL POLICY FORMULATION  
IMPLEMENTATION AND EVALUATION

by

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## INTRODUCTION

The World Health Organization (WHO) is the specialized agency within the United Nations system primarily concerned with the physical and mental health and well-being of men, women and children the world over.

The prevention of drug abuse is an important area of concern to WHO. On the one hand, the Organization has to promote the rational use of drugs; on the other, the Organization has to be concerned with the millions of people who have become dependent on the non-medical use of drugs. Along with other concerned UN agencies and intergovernmental and nongovernmental organizations, WHO has been involved, over a period of several years, in assisting Member States to respond more effectively to the problems associated with the medical and non-medical use of drugs, and other substances such as solvents.

In furtherance of efforts to assist Member States to prevent or minimize the incidence of drug abuse, this document provides an insight into the complex web of factors which need to be taken into consideration in the formulation and implementation of drug abuse policies and programmes. Many Member States do have a long record of translating such policies and programmes into action. However, what is lacking is a proper perception of the need to evaluate such policies and programmes in relation to specific goals and objectives. This document offers a much needed introduction to the considerations relevant to the evaluation of drug abuse policies and programmes and offers several suggestions as to how Member States may wish to proceed to have a better understanding of how relevant policies and programmes contribute to the overall goal of enriching human life, both at the micro-level of the family unit, and at the macro-level of the community or nation, to a high degree of excellence.

This document is specifically addressed to policy makers and programme managers. It is hoped that the material contained in it will provide useful insights into the policy-making, implementation and evaluation process.

Any publication of this nature is the result of the experience of several persons and institutions associated with drug abuse activities in a variety of different contexts. The authors would wish to gratefully acknowledge the following for the invaluable comments and suggestions offered to them on the first draft of the manuscript: Dr T.A. Asuni, Dr J.M.N. Ch'ien, Mr G. di Gennaro, Dr L.R.H. Drew, Dr G. Edwards, Dr A. Haworth, Dr J.-C. Negrete, Mr F. Ramos-Galino, Dr B. Rexed, Mr M. Supnet, Dr V. Varma, Dr R. Wells, Dr J. Westermeyer, the Director of the Central Narcotics Bureau of Singapore, and WHO Regional Offices.

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PART I

SOME CONSIDERATIONS RELEVANT TO THE FORMULATION OF A  
NATIONAL DRUG ABUSE CONTROL POLICY

BACKGROUND

Drug abuse is increasingly becoming a problem in many countries which were hitherto spared the damaging effects which it brings in its wake. There are also a number of countries where the problem of drug abuse is now escalating, despite control measures which might have been adequate when the problem was of a lesser magnitude. At present, there are, thus, many countries, in all parts of the world, where the formulation of drug abuse policies is being accorded serious attention.<sup>1</sup> Drug abuse policies address the problems created by both legal as well as illegal drugs.

At the time the International Opium Commission met in Shanghai in 1909 the major drug of abuse was opium. The international community which was then beginning to be sensitized to the need for international cooperation to combat the drug problem was primarily concerned with this substance. However, over the last six or seven decades, several substances have emerged as major drugs of abuse. Besides opium, some of the other major drugs of abuse now are heroin, cocaine, cannabis and psychotropic substances such as tranquilizers, and other substances such as solvents.

National efforts to combat drug abuse have a much longer history than international efforts in this area.<sup>2</sup> When national controls are effective, drugs of abuse have limited possibility of infiltrating into the international market. It is only when they become the subject of illegal traffic that international controls are necessary to supplement national controls.

The drug problem has now reached serious global dimensions that both national controls as well as international controls are necessary. The controls exercised at the international level are laid down in two treaties - the Single Convention on Narcotic Drugs, 1961, as amended by the Protocol of 1972, and the Convention on Psychotropic Substances, 1971. The framework of the treaties<sup>3</sup> and the nature of the international controls<sup>4</sup> have been dealt with in several publications and for that reason no attempt is made in this document to describe them except when necessary to explain the significance of any national controls or national policies. In contrast to the studies on international controls, there is a paucity of studies on national controls. This is due to a variety of reasons. Firstly, controls in many countries are still at an early stage in the evolutionary process and it is therefore difficult to document the developments. Secondly, controls that are being exercised in many countries have come to be exercised more as a response to ad hoc needs and realities rather than as part of a well-conceptualized and developed policy. Consequently it is difficult to explain, from a policy evolutionary perspective, the genesis of the controls and their functional significance. Thirdly, national controls tend to be exercised by a multitude of institutional mechanisms and functionaries and any comprehensive state-of-the-art of national controls will have to be based on data and information collected from a plethora of sources. It is not always easy to collect comparable data and information when several sources have to be tapped for such purpose. Moreover, not all drug control mechanisms and functionaries have highly developed and reliable data collection and retrieval systems. This makes it difficult to have a full understanding of what happens at the national level. Based on published reports, articles and unpublished WHO documents, this document provides an overview of major components of national drug abuse control policies in selected WHO Member States. The selection of countries was made having regard to the availability of material at WHO Headquarters in Geneva.

A national drug abuse control policy, as is the case with a national policy in any other sector, is tailor-made to local problems, needs and expectations. Inevitably, therefore, there is a wide variation in the nature and scope of drug policies and the policy of any one country is not necessarily comparable with that of another. An overview of national drug abuse control policies has the advantage of offering useful insights into how the drug problem has been perceived by different countries and how different approaches and modalities have been devised to cope with the problem. Insofar as there is no standard or model policy, there is a need for comparative studies which shed light on the innumerable permutations and

combinations available to policy-makers and administrators when new policies are devised or existing policies are revised. Policies adopted by developing countries with similar problems and perhaps also with similar resources to be deployed are often suggestive of what is reasonably practicable in a given scenario. Based on the source materials referred to in the preceding paragraph, this document reviews major components of national drug abuse control policies with illustrations from one or more countries. The illustrations are meant to exemplify national approaches and experiences and the reference to a particular country by way of example does not necessarily mean that the approach or experience described is thus peculiar or confined to only that country. In a review of this nature which is based on primary and secondary sources prepared at various times for various purposes, it is obviously not possible to provide comprehensive coverage of the numerous aspects considered here.

A word of explanation is necessary as to what is meant by the expression "drug" as used in this document. For the purposes of this review, substances covered by the Single Convention on Narcotic Drugs and by the Convention on Psychotropic Substances are considered as "drugs". In other words, narcotic substances and certain psychotropic substances, as against pharmaceuticals in general, are covered by this review, though under certain national classifications there is no such neat demarcation. At the national level narcotic and psychotropic substances are sometimes subsumed under the generic term "pharmaceuticals".

Some of the countries covered in this review show close similarities in the genesis of drug abuse problems. In Burma<sup>5</sup> and Sri Lanka,<sup>6</sup> for instance, until the 1970s opium and cannabis were the only principal drugs of abuse. Heroin addiction is now causing great concern in both countries.

Policies in the field of drug abuse generally tend to change all the time. This is due to three principal reasons. Firstly, different drugs or combinations of drugs emerge as "problem drugs" at different times. As mentioned in the preceding paragraph, new "problem drugs" suddenly emerge displacing drugs which have been a problem for centuries. New policies are then formulated or existing policies adapted to cope with the problems generated by the new problem drugs. The dynamics underlying the emergence of new problem drugs need to be unravelled. Countries such as Burma, Sri Lanka and Thailand, for instance, exemplify the hypothesis that anti-opium laws tend to have a pro-heroin effect<sup>7</sup>. In the Philippines, heroin was replaced by psychotropic substances; cannabis still continues to be a problem. It is difficult for policy-makers and law enforcement agencies to prognosticate with any degree of certainty as to what new drugs will create problems. It is also not clear whether the enforcement of prohibition laws banning the use of alcoholic drinks in a country such as Pakistan has given rise to the abuse of heroin, in addition to the abuse of opium. Policies tailor-made to cope with the problems generated by opium, for instance, may not necessarily be appropriate to control the abuse of psychotropic substances. Policies, therefore, are in a state of flux undergoing changes and modifications all the time. Policies tend to vary depending on the source of drugs. Some drugs are of local origin, whilst others are of foreign origin. To combat the traffic in smuggled drugs, for instance, the strategies which are required are different from those needed to eradicate local cultivation or local manufacture. Secondly, there is little empirical evidence on which strategies work and which do not work. Experiences of countries showing both positive as well as negative results are, therefore, of value from a comparative perspective, though such results need to be used with a certain degree of caution. Due to the lack of adequate data and information on the success of policies, policy-makers generally tend to "experiment" with models and strategies which are generally considered to have yielded good and successful results elsewhere. Consequently, certain policies tend to be implemented in the first instance only on an ad-hoc or short-term experimental basis. Thirdly, with the trend towards the adoption of a multisectoral approach to resolving social and health problems, drug abuse strategies have often been integrated with policies in other sectors. For instance, a national health policy might well include as one of its components the treatment of drug-dependent persons. A national policy on agriculture, for instance, might provide for crop substitution programmes in areas where the cultivation of opium or cannabis is endemic. Examples such as these of horizontal or vertical integration of policies can be multiplied to illustrate how policies which would otherwise have been treated as part of a national drug abuse control policy are subsumed under other sectoral policies.

Experience at the national level with the formulation and implementation of policies in the health sector is often suggestive of what may reasonably be attempted in drawing up of a

national drug abuse control policy. Inasmuch as the drug abuse problems of no two countries are identical, it is inevitable, therefore, that different countries will have recourse to a variety of different approaches in formulating policies. The perspective from which one country may perceive its drug abuse problems and the policy options available may not necessarily be of much relevance to another. Whilst recognizing that there is bound to be great diversity in formulating drug abuse control policies, this document focusses on some general considerations which countries might wish to take into account when they formulate policies for the first time or revise existing policies.

There are essentially three phases in the policy-making process. These phases are discussed below.

#### THE PROBLEM ASSESSMENT PHASE

This phase involves the nature and magnitude of the problem of drug abuse being understood. Three questions have to be answered before the goals and the goal-directed strategies of a drug abuse control policy can be determined:

- What is the nature of the problem?
- What is the magnitude of the problem?
- What are the ongoing changes and trends?

#### The nature of the problem

Problem definition and its consequences for the control policy vary depending on whether drugs of abuse should not be used at all, if their use should be restricted (e.g. for health purposes, or for defined age groups, etc.), or if the harmful consequences of use should be prevented or limited (e.g. health consequences in terms of increased morbidity and mortality drug-related delinquency, loss of productivity, impact on community functioning, etc.).

In considering the nature and magnitude of the problem of drug abuse an assessment has to be made of:

- (a) the drugs, substances and patterns of their abuse;
- (b) the target groups dependent on the drugs; and
- (c) the public health, medical, cultural, social, economic, national security, political and other implications of the problem.

Each of these will now be considered.

(a) The drugs which are abused and their patterns of abuse need to be identified. This is necessary because strategies to resolve the drug abuse problem have to be tailor-made to meet the particular drugs which are generating problems. The mode of use (smoked, oral ingestion, injected, sniffing, etc.) needs to be identified. Some drugs of abuse - both narcotic as well as psychotropic - are of local origin, whereas others are imported into the country through licit or illicit channels, or both, as the case may be. Strategies to be deployed with regard to drugs which are of local origin will not necessarily be the same as with regard to imported drugs. If drug abuse is due to the illegal diversion of drugs legally imported into the country, the strategies that need to be deployed will be different from those which address drugs illegally imported into the country. If drug abuse is due to misuse of legally available drugs, then different strategies are required.

Drug abuse is complex in its causation. This is so with regard to individual substances, individual users, as well as the social circumstances and the cultural environment of their use. A large majority of drugs can be safely used in moderate quantities with beneficial therapeutic results, whilst some have little or no therapeutic advantage. Many drugs can cause problems if consumed in quantities more than what has been recommended or if taken contrary to medical instruction. A therapeutically useful drug can become a drug of abuse, and therefore a problem drug, by being taken in larger doses than recommended or by being diverted into the illicit market. In this case, a strategy needs to be devised which would address the issue of overuse or over prescription. Such a strategy will be different from that required with respect to a drug which, for instance, is of marginal therapeutic use and which is illicitly imported into the country.

In summary, the assessment phase with regard to drugs of abuse must result in the collection of information on the identity of the drugs; the sources from or through which they are available; and the nature and scope of abuse (misuse or overuse, or both).

Drug abuse is often imperceptible in its evolution. It is difficult to monitor the use of drugs and identify when the process of abuse sets in motion. A drug of legitimate use in normal or acceptable quantities today, can become a drug of abuse within a matter of a few years, if not months, without the conscious knowledge of health and law enforcement authorities. In the competition for the allocation of scarce health resources, drug monitoring schemes and epidemiological studies are two areas which are competing hard to gain priority. Ironical as it may seem, it is precisely the information collected through these schemes and studies, together with the information which is available with law enforcement agencies which forms the basis for the assessment of the drug abuse situation. Countries without ongoing drug monitoring schemes and epidemiological studies will have to collect information - whether it be published or unpublished, or even anecdotal - from a variety of sources to identify which drugs give rise to a problem. The quality of the information and data forthcoming might vary quite significantly, from source to source, but at the initial preparatory phase it is best that all available information and data are collected and analysed.

(b) The population groups dependent on drugs or experiencing problems consequent to drug use need to be identified. Control strategies can be devised only with some perception of the profile or characteristics of drug dependent persons. It is necessary to know not only whether they are young or old, male or female, but also the type of drugs which they misuse and the probable reason or reasons for doing so. The individual, social and environmental factors which create the demand for drugs must be identified - such factors are many and varied.

(c) Drug abuse is not merely an individual predicament. The problems which are associated with drug abuse affect a much wider class of people, indeed society as a whole. The problems manifest themselves in different spheres of life. It is not merely a matter of more 'sick' people. The crime rate and accidents might increase, together with a higher incidence of smuggling. Absenteeism from school, university, or work place will set in motion organizational problems disrupting the daily routine and ongoing programmes or activities. Drug abuse tends to attract victims at short notice. One drug dependent person in a subculture is more than sufficient to induce others in the same subculture to 'experiment' with something 'new'. Drug abuse problems need to be viewed in their proper socio-economic and cultural background.

The problems and trends associated with drug abuse will be observed by a variety of people in different sectors. In the health and social sectors, institutions and personnel will be able to assemble information and data on mortality and morbidity associated with drug-dependent persons. In the law enforcement sector, police, excise and customs authorities will be able to gather information and data on the incidence of crimes associated with drug abuse or the number of crimes perpetrated by drug dependent persons. Furthermore, information and data on seizures of illegal drugs will shed some light on the magnitude of the volume of drugs in the illicit market. Educational authorities can provide information on whether drug dependent persons have been found in schools or universities and if so the drugs they use.

The 'problem assessment' phase merely touches the tip of the iceberg. Even in countries with well developed policies over a period of time full information is not yet available with regard to all the dimensions of the problem of abuse. However, whatever information and data available must be utilized to draw a picture of what seems to be the current drug abuse scenario. Some understanding of the problem is a sine qua non to proceed further on the road to policy-making.

A valid assessment of the national parameters and extent of drug abuse problems is essential for effective policy formulation and programme planning. Problem assessment includes epidemiological estimations of the size and nature of the problems; exchange of information; development of mechanisms and instruments capable of monitoring changes and trends in the drug abuse situation in the country; utilization of information generated by agencies and institutions outside the health sector; and collaboration with decision-makers in sectors other than health.

The responsibility for data collection and assessing the problem can be entrusted to one or more mechanisms such as a commission or committee, professional group or association, academic institution, coordinating agencies, etc. What is essential is to ensure adequate representation of a wide range of interests and sectors. Such representation can be by way of membership or by an opportunity for written or oral testimony. In many situations, the initiative for highlighting the problem and sensitizing the authorities will be on the part of an individual or group of individuals who should naturally be the first or one of the first to be consulted with a view to obtaining relevant facts and figures. A broad mandate for data collection and problem assessment will help to develop a perspective which looks beyond the immediate sources of information and involve as many individuals, groups, agencies and institutions as possible.

Efforts to identify the problem can lead to a greater awareness of the nature and magnitude of the problem. The creation of such an awareness will help to mobilize the political will necessary to initiate further action and sustain the initial momentum generated by fact-finding and problem identification.

The magnitude of the problem has to be assessed by using quantification methods and by interpretation of their results. Two main sets of quantification methods are to be distinguished, namely indirect indicators and surveys.

#### Indirect indicators

The sources of information listed below are labelled "indirect indicators" because they shed some light without measuring the extent of drug use and abuse; at the same time they also reflect the activities, resources and competence of the agencies involved. The most important examples are:

- police and custom statistics on seizures and arrest statistics on drug abuse related health problems (diagnoses) in hospitals, emergency rooms, out-patient clinics;
- mortality and morbidity rates and mortality statistics concerning drug abuse;
- insurance statistics concerning drug abuse related accidents, health expenditures, etc.;
- court statistics on drug-related convictions;
- prison statistics concerning the number of drug abusers in the prison system;
- statistics on drug prescriptions and usage;
- statistics on drugs legally manufactured, imported and sold;
- epidemiological surveys.

Surveys are made in order to measure directly the quantifiable aspects of drug use and abuse. The main aspects covered by surveys are:

- ever use of identified drugs (lifetime prevalence);
- actual use of identified drugs (e.g. 1 month, 3 month, 12 month prevalence);
- route of administration of drugs;
- frequency and quantity of drug use;
- money spent for drug use;
- demographic and personal characteristics of drug users as compared to non-users;
- geographical and time-sequential distribution of drug use in a given population, etc.;

Surveys must be carefully prepared with respect to the questions which should be answered by the results, to the adequacy of methods and resources available and to the pitfalls and limitations of methods to be used.

If resources for epidemiological surveys are limited, one has to take into consideration the merits and limitation of surveys in large samples of the population in general, as opposed to small representative samples in selected segments of the population (e.g. students, conscripts, defined age groups, prison inmates, etc.).

The assessment of ongoing changes and trends asks for continuous or repeated collection of comparable data. This is especially important since drug abuse, its patterns, the

characteristics of users, the motivation for use, etc., are subject to change over time. On assessment methodology, much work has been done by UN agencies. WHO collaborates with countries and other UN agencies in identifying specific needs in terms of technology development. Much of this technology has already been developed and published by WHO, including methodology for data collection and instruments for assessment of drug problems and the nature of the problem. The initial study was the development of core data items<sup>8</sup>, the second developed methodology for conducting student drug use surveys<sup>9</sup>, the third study concerned non-student drug use surveys<sup>10</sup>, the fourth developed methodologies for implementing drug abuse reporting systems<sup>11</sup>, the fifth covered a general population survey.<sup>12</sup> The sixth study was of drug problems in the sociocultural context.<sup>13</sup> The last study was an international review of the extent of drug abuse problems.<sup>14</sup> These studies were conducted through collaborating centres, which provided expertise and facilities in order to complete these studies.

#### STRATEGY IDENTIFICATION PHASE

The assessment of the nation's drug abuse problems have led to an understanding of the nature of the drugs of abuse, the characteristics of the groups of the population dependent on or misusing such drugs, and the public health as well as social and economic damage created by drug abuse. It is in the backdrop of this assessment that the intervention strategies which best suit the existing nature of the drug abuse problems and the manpower and financial resources available for their control must be formulated.

The ultimate goal for a national strategy is often said to be the creation of a drug-free society. While this may be a long-term ambition, short and medium-term goals can be more realistic to contain the drug abuse problem and to continually decrease its extent, and at the same time to minimize its damage to individuals and society.

It is generally recognized that the national drug abuse control strategy should be broad since no single activity in isolation can be effective. The strategy should thus include both supply reduction and demand reduction activities, complementing each other in a good balance. Conflicting sectoral interests must be resolved. The strategy should foresee continuing efforts, where short term and medium term activities are implemented in a harmonious succession.

Finally the strategy should expressly foresee long term implementation, since instant dramatic results cannot be expected in the fight against drug abuse. In this way, pessimism caused by the lack of quick results can be firmly countered.

The strategy for national drug abuse control has as a main objective the goal to minimize and prevent public health damage. Thus it is a part of the overall national health and social strategy and should be in congruence with the nation's general health goals. More detailed elements of the national drug abuse strategy can be identified from the objectives of the international strategy formulated by the UN Commission on Narcotic Drugs in 1981. The latter strategy has the following objectives:

- (a) improvement of drug control systems;
- (b) achievement of a balance between the demand for, and the supply of, narcotic drugs and psychotropic substances for legitimate purposes;
- (c) eradication of the supply of drugs from illicit sources;
- (d) reduction of illicit traffic;
- (e) reduction of the demand for illicit drugs and the prevention of inappropriate or illicit use of licit drugs; and
- (f) treatment, rehabilitation and social reintegration of drug abusers.

The national strategy for drug abuse control should include actions to reduce the supply of the dependence producing drugs as well as activities to reduce the demand for them in the population. A range of drug control and law enforcement actions against illicit drug traffic to achieve such a reduction in the supply are laid down in the Single Convention on Narcotic Drugs 1961, as amended by the Protocol of 1972, and the Convention on Psychotropic Substances, 1971. The treaty and legal obligations which need to be fulfilled have been dealt with in other publications<sup>15</sup> to which reference may be made. Furthermore, a new Convention "against illicit traffic and narcotic (and psychotropic) drugs" has been drawn up in a draft

form and is to be presented to the UN General Assembly in 1987. This draft Convention deals in detail with further national and international actions necessary to curtail illicit drug traffic and reduce the supply of drugs of abuse.

The national strategy for drug abuse control must also include actions to reduce the demand in the population for such drugs. The non-medical use of both licit and illicit psychoactive drugs must be minimized and at best eliminated. Demand reduction must strive to achieve the following goals:

- (a) better awareness of the reasons for drug-taking;
- (b) better awareness of healthy life-styles, including alternatives to drug-taking;
- (c) more effective education on the ill effects of non-medical drug-taking;
- (d) treatment for those dependent on drugs; and
- (e) more effective prevention of non-medical drug use.

In the identification of activities, attention needs to be accorded to what is already being done in the context of the infrastructure and the resources which are available. If the objectives of the international strategy set out above are considered, it would appear that among the measures, infrastructure and resources needed are the following:

Objective	Measures, Infrastructure/Resources Needed
(a) Improvement of drug control system	Inventory of drugs currently on the market; registration system for drugs <sup>16</sup> ; licensing system for manufacturers, distributors, importers, exporters; prescription and special storage systems for selected drugs; monitoring and record-keeping system.
(b) Achievement of a balance between the demand for, and the supply of, narcotic drugs and psychotropic substances for legitimate purposes	Elimination of unnecessary drugs; system for monitoring and recording of the incidence of mortality and morbidity and for monitoring the use of drugs; prescription requirements for selected drugs; regulation of manufacture, importation, exportation and use.
(c) Eradication of the supply of drugs from illicit sources	Strengthening of legal controls and law enforcement efforts; phased eradication of sources of domestic supply; registration system covering all licit drugs and licensing systems to regulate manufacture, importation, exportation and use.
(d) Reduction of illicit traffic	Strengthening of legal controls and law enforcement efforts; bilateral and multilateral arrangements for extradition and for the exchange of information; registration system covering all licit drugs and licensing systems to regulate manufacture, importation, exportation and use; strengthening of law enforcement efforts.
(e) Reduction of the demand for illicit drugs and the prevention of inappropriate or illicit use of licit drugs	Epidemiological and other research studies; improvement of the overall quality of life, incl. the creation of an appropriate family, religious, social, cultural and recreational environment; utilization of community resources/ nongovernmental organizations and drug education programmes for demand reduction; better prescribing practices; restriction of the availability of certain drugs except on medical prescription; public participation in demand reduction activities.

(f) Treatment, rehabilitation and social reintegration of drug abusers	Establishment of appropriate facilities for treatment, rehabilitation and after-care; training of appropriate personnel to carry out such activities; establishment of a data bank or monitoring system; establishment of primary health care and community based resources for self-help.
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The precise nature of the strategies to be devised will obviously vary from country to country depending on the nature of the problem and the availability of resources. The experiences of various countries with different resources will be suggestive of what is reasonably possible or feasible, given the ubiquitous problem of scarcity of trained manpower and limited access to the health-care system.

#### POLICY FORMULATION PHASE

Having understood the nature and magnitude of the problem and the wide array of measures or activities or programmes which may be deployed, the policy formulation phase can be initiated under the aegis of the government or similar authority.

The national policy on drug abuse must synchronize with the overall national health policy, social policy and national security policy. Attention must be paid to possible interactions between such policies. Appropriate consultations must be had with relevant public sector and private sector agencies, institutions and personnel with a view to allocating specific tasks and responsibilities set out in the proposed policy.

In formulating a policy, cognizance must be taken of the overall attempts to rationalize the availability and use of all drugs, whether they be psychoactive substances or not. During the past few years, attention has been focussed on issues such as registration of drugs, good prescribing habits, information dissemination, etc., all of which help to minimize the problems which have now led to a situation of over-supply, mal-distribution, injudicious self-medication and lack of awareness of the therapeutic qualities of drugs which are being prescribed.

One issue of importance in this context is the appropriate mechanism for the task of policy formulation. Different countries have adopted different mechanisms for this purpose. Royal Commissions, inter-departmental advisory committees, etc. are some of the mechanisms which have been used. A mechanism with the mandate for fact finding and for proposing appropriate recommendations is in a better position to formulate a policy rather than a mechanism with a limited mandate to do only the latter. In the course of preparing a report on the drug abuse situation, it is possible to obtain the testimony of a cross-section of the public and thus gain insight into matters which may not necessarily be in the public domain. High level representation on the policy-formulation body has the advantage of mobilizing the political will necessary to translate the policy into action. Representation of all key sectors and interest groups is useful to ensure that all relevant considerations are brought to bear on the formulation of the policy.

Once the policy has been tentatively formulated, it is useful to publish it in the form of a white paper or discussion paper, for instance, invite comments from the public and then finalize it on the basis of the feedback received. Seminars and symposia on the proposed policy are useful fora to generate discussion and sensitize the public.

#### SUMMARY

The preceding sections discussed, very briefly, the step-by-step approach necessary for the formulation of a national drug abuse control policy which is tailor-made to local problems and realities as perceived through the epidemiological<sup>17</sup> and other data collected,<sup>16</sup> assessment of the problem and the resources and strategies available for deployment. No country facing the threat of drug abuse can afford to wait until the best possible information and data are collected and an inventory taken of the available resources. There has to be a continuous and ongoing effort at developing, refining and sharpening the knowledge and data base necessary for the proper formulation of policies. Part III dealing with "Evaluation" highlights the need for monitoring and assessment to be made an integral part of the policy from the inception.

## PART II

### REVIEW OF MAJOR COMPONENTS OF NATIONAL DRUG ABUSE CONTROL POLICIES WHICH HAVE BEEN IMPLEMENTED IN SELECTED COUNTRIES

#### EVOLUTION OF POLICIES

In most countries the evolution of national policies has taken place in a piece-meal fashion, more often than not as an ad hoc response to new problems and crisis situations. In countries with legislation banning the use of certain substances, enforcement of the legal provisions constitutes the first official act in furtherance of the "policy" to regulate drug abuse. One of the traditional functions of law enforcement agencies has been to enforce penal laws and to apprehend and prosecute those who have transgressed the law. During early years, enforcement of drug legislation was viewed as a general law enforcement function. It was only at a much later stage when the drug problem was assuming more serious dimensions with traffickers resorting to a variety of new methods to escape detection that more and more countries established special task forces, bureaus, departments, task forces, cells and units within the law enforcement agency to deal exclusively with the enforcement of such legislation. The very establishment of special task forces, cells and units constitutes a second phase in the evolution of policies. The third phase is the institutionalization of these by specific legislation. Institutionalization has been in respect of functionaries or boards and similar mechanisms, or both.

Sri Lanka and Thailand provide two of the earliest examples of a law enforcement measure designed to curb drug abuse. In Thailand the use of opium was the subject-matter of the Criminal Code of 1350. In Sri Lanka by a Proclamation issued in 1675 traffic in opium was prohibited. In terms of the Proclamation government servants who were convicted were liable to be dismissed from service, whilst foreigners who were convicted were to be banished from the country. In the event any foreigner who was banished returned to the country he was liable to be imprisoned for a period of five years. The provision of treatment for drug dependent persons is another measure which marks the beginning of the evolution of the national policy of some countries. The Chinese experience<sup>18</sup> has often been cited as exemplifying a success story of both treatment and prevention primarily by reducing demand by treating drug dependent persons. In 1906 it was estimated that the country had 15 million persons dependent on opium - by the 1950s the problem seems to have disappeared altogether. The success of the national treatment programme has probably been facilitated by the use of ideological and social pressures, and by land reform and similar measures, but what is clear, however, is that the main thrust of the policy was to treat as many drug dependent persons as possible<sup>19</sup>.

In contrast to national policies in certain other sectors, there are few official documents on national drug policies. Comprehensive statements are available, mostly in the form of documents submitted to international agencies and conferences. Such statements, where they do exist, provide more of a synthesis of ongoing programmes rather than a goal oriented plan of action. This is a limitation in reviewing the major components of national drug policies. For the purposes of this review, policies of a very broad nature are considered in order to reflect the wide range of approaches used by different countries. A policy measure in any one country may not necessarily be viewed with favour as a possible policy option in another country.

#### INSTITUTIONAL MECHANISMS

The Single Convention on Narcotic Drugs requires parties to the Convention to establish a "special administration" for implementing the Convention obligations<sup>20</sup>. There is a similar requirement in the Convention on Psychotropic Substances, though it does recognize the possibility of a joint administration, where feasible<sup>21</sup>.

In any country there is one or more focal points for policy formulation, implementation, monitoring and evaluation. The general trend is to establish advisory and coordinating bodies to provide guidance on or to coordinate national drug abuse control activities. These bodies frequently take the form of commissions or control boards or interministerial committees.

Some countries have a section or unit in the Ministry of Health or in another Ministry dealing with the control of licit medical use of the drugs under international control. Besides providing guidance and advice for national policy or for coordinating the activities of relevant agencies, some bodies even supervise programme implementation.<sup>22</sup>

Institutional mechanisms, where they exist, show remarkable differences with regard to their constitution, nature and scope. In most countries mechanisms have a statutory basis. During initial years they might have only an administrative basis as is the case with Sri Lanka, where from 1973 there was a National Narcotics Advisory Board established through administrative measures. It was only in 1984 that legislation was introduced to institutionalize it with wide powers. Most countries provide for high level representation on the mechanism. In Thailand, for example, the Chairman of the Narcotics Control Board is the Prime Minister. In Sri Lanka the Deputy Minister of Defence was the Chairman of the National Narcotics Advisory Board but with the institutionalization of the Board by legislation provision was made for a full-time chairman.

Table 1 below provides some examples of the types of mechanism entrusted with drug abuse control activities in selected countries.

Table 1	
<u>Coordinating and implementing mechanisms for drug control activities</u>	
Country	Institution/Agency
Argentina	Comision Nacional de Toxicomanias y Narcotics (CONATON) Ministerio de Salud Publica y Medio Ambiente
Burma	Central Committee for Drug Abuse Control
China	Ministry of Public Health
Egypt	Ministry of Health Ministry of Interior Ministry of Social Welfare (Supreme Committee for Social Defence)
Hong Kong	The Action Committee Against Narcotics Control
Jordan	Ministry of Health The Public Security
Kuwait	Ministry of Public Health Ministry of Interior
Madagascar	Ministère de l'Interieur Ministère de la Santé
Malaysia	National Anti Narcotics Committee Anti Narcotics Task Force National Security Council Prime Minister's Department Anti narcotics Branch of the Criminal Investigation Department, Police Department Customs and Excise Department Pharmacy Department, Ministry of Health Treatment and Rehabilitation Division, Ministry of Home Affairs
Morocco	Service Central de la Pharmacie (Bureau des stupéfiants) Ministère de la Santé Publique

Table 1 cont'd

<u>Coordinating and implementing mechanisms for drug control activities</u>	
<u>Country</u>	<u>Institution/agency</u>
Nigeria	Narcotics and Drug Abuse Control Unit, Directorate of Pharmaceutical Services, Federal Ministry of Health
Pakistan	Pakistan Narcotics Control Board Federal Ministry of Health Provincial Excise and Health Departments
Philippines	Dangerous Drugs Board Food and Drug Administration
Singapore	Central Narcotics Bureau
Sri Lanka	National Dangerous Drugs Control Board Department of Health Police Customs
Sweden	Ministry of Social Affairs (Inter-Departmental Coordinating Committee)
Switzerland	Federal Ministry of the Interior Federal Commission on Narcotics
Thailand	Office of the Narcotics Control Board Food and Drugs Administration Police Department Excise Department Customs Department

Where there is a multiplicity of functionaries and mechanisms, allocation of responsibilities and coordination of activities assumes importance. The Masterplan approach of the United Nations Fund for Drug Abuse Control seeks to coordinate the planning of drug control work within a given country or region, by providing for an input from all the relevant sectors. In relation to responsibilities for various sectoral activities, the role of local or provincial authorities or governments needs to be underlined. Whether it be in respect of law enforcement, drug abuse preventive education, treatment or rehabilitation, they have an important role to play.

Instruments which create mechanisms provide for representation of all the key agencies and organizations involved with drug abuse activities. A national policy for drug abuse control<sup>23</sup> encompasses the objectives and instruments, inter alia, for:

- (a) controlling the licit production and movement of drugs;
- (b) controlling and eradicating the illicit cultivation of plants containing psychoactive substances;
- (c) prohibiting the illicit manufacture and diversion of psychoactive substances;
- (d) combatting illicit traffic - national or international - in drugs;
- (e) data collection;
- (f) reporting on the nature, extent and seriousness of drug abuse;
- (g) treatment, rehabilitation and social reintegration of drug abusers;
- (h) information and education;
- (i) enforcement and penal law; and
- (j) cooperation at the national and international level.

Depending on the specific mandate of the mechanism, representation is decided having regard to the relative importance which is attached to the different functions. Mechanisms in certain countries have a larger representation than in others.

The constitution of small committees and task forces is a modality tried out in many countries to provide for adequate representation when special matters are considered.

The structure of mechanisms in federal states is somewhat different from those in other countries. In Argentina, for instance, the National Commission on Drug Dependence and Narcotics coordinates the activities of both national and provincial bodies. The enforcement of the narcotics legislation at the provincial level is a responsibility which devolves on provincial or local bodies. A coordinating body at the national level ensures harmonization of enforcement policies. In Switzerland, as another example, the Provincial Coordinating Commissions are independent from the Federal Commission on Narcotics, and important drug control policy differences have to be negotiated as far as they are not subject to federal legislation.)

## TREATMENT PROGRAMMES

### Treatment

In order to contribute to the reduction in the demand for drugs, treatment programmes must take into consideration the evidenced specific needs for treatment in a given country. Programmes should respond to the needs and characteristics of the dependent populations, according to age, gender, level of education and aspects of psychological and health sequelae of substance abuse. In most countries drug dependent persons belong to different segments of the population and are far from having similar personality characteristics. It is therefore unlikely that any single treatment modality will respond adequately to the diverse treatment needs.

Treatment of substance dependence is a re-orientation process starting with detoxification and continuing with residential or out-patient re-education and after-care rehabilitation. It depends on the type of substance abused and on the characteristics of the dependent persons coming for treatment as to which phase will have to be especially considered. Also, the resources available determine the treatment priorities. Whenever possible, existing structures for health care, social assistance and education should be made use of for the treatment and reintegration of substance dependent persons; specialized separate programmes may be needed, such as detoxification centres, therapeutic communities and re-education programmes; professional assistance may be needed where programmes are run by non-professionals, e.g. self-help groups.

Some countries have provision in their legislation for treatment.<sup>24</sup> Legal provisions on treatment may be found in various types of legislation (e.g. mental health legislation, public health laws; penal laws, or special treatment laws).

Among countries which have enacted legislation on the treatment of drug dependent persons are Argentina, Burma, Hong Kong, Madagascar, Malaysia, Philippines, Singapore and Thailand. In order to overcome the difficulties in attracting drug dependent persons to seek treatment on a voluntary basis, some countries such as Malaysia, the Philippines and Singapore, provide for the compulsory treatment of such persons. Legislative strategies in this field are two-fold, namely civil commitment (an order by a court of law or a functionary on the basis of an application made by a parent, employer, a law enforcement officer, etc.) and diversion from the criminal justice system (in addition to or in lieu of a sentence, e.g. imprisonment, an order is made for treatment). In Egypt drug takers who volunteer for treatment are not prosecuted.

Different countries adopt different methods for the identification of persons in need of treatment. Treatment modalities also differ within a country as well as from country to country.

Treatment on a voluntary basis is available in most countries in large public hospitals, both on an in-patient as well as out-patient basis. Some countries, such as Malaysia and Thailand, have special hospitals and wards for this purpose. In Sri Lanka treatment is generally provided in mental hospitals, the shortage of specialists as well as of physical space being the reason for the non-availability of special treatment facilities in public hospitals. In most countries detoxification is made with variable methods; medication for symptomatic relief of withdrawal syndrome may be administered, or psychological assistance or meditation may be used instead. The compulsory treatment programme in Singapore entails six to thirty months of institutional treatment and rehabilitation, followed by six months of work in a half-way house. Dischargees are monitored and counselled over a two year period. Acupuncture is used in countries such as Hong Kong and Pakistan. Psychiatrists and physicians with specialized training are generally deployed for treatment purposes. In the Philippines, provision exists for doctors to be accredited for treatment purposes. In Malaysia traditional healers also provide treatment. In Thailand, Buddhist monasteries provide treatment for both opium and heroin addicts. In many countries primary health care workers are increasingly becoming responsible for treatment.

Rehabilitation and after-care have been accorded priority in countries such as Malaysia and the Philippines. Reintegration into society requires supportive measures and voluntary organizations are in a unique position to provide such measures. In Hong Kong the policy is to provide multi-modality treatment (in and out-patient, voluntary and compulsory, drug free and maintenance) which is followed by intensive psychosocial rehabilitation and community after-care. A community based self-help organization, known as the Alumni Association of SARDA, has five district chapters with a total membership of 1800 drug free men and women, and provides mutual support to a productive life style and operates six halfway houses to facilitate the reintegration of newly rehabilitated address. In Malaysia, where the focus of the institutional rehabilitation programme is on physical restoration, moral guidance and religious instruction, vocational and recreational therapy and psychological services, a network of treatment and rehabilitation officers provide psychological and moral support to the dischargees.

In the context of treatment programmes, especially for "maintenance" treatment programmes, certain drugs need to be made available in adequate quantities. Availability presupposes the existence of appropriate record-keeping and security procedures to prevent the diversion of drugs to illicit channels.

The merits and demerits of each type of treatment programme must be determined by having regard to the availability of qualified manpower and the acceptability - medical, social, cultural and cost-benefit - of any particular type of programme. There is no single treatment modality which could apply universally and the experiences of both health care providers and those who have been treated, are relevant in determining the type or types of treatment programme best suited to each country. In countries where there are regional differentials in the pattern of drug dependence and in the availability of health care facilities, different treatment approaches may be preferred to one single national approach.

In the context of primary health care and Health-For-All Strategy, both treatment as well as the social rehabilitation process assume importance. Health care targets should include those for persons dependent on drugs.

#### LAW ENFORCEMENT

Law enforcement is perhaps the oldest and most commonly deployed strategy to curb drug abuse. Effective law enforcement reduces the supply of illicit drugs and requires drug abusers to seek treatment, hence indirectly help reduce the demand for drugs.

The seriousness with which the drug problem is perceived by various countries is exemplified by the imposition of the death penalty for serious drug offences in countries such as Burma, Malaysia, Nigeria, Philippines, Singapore, Sri Lanka and Thailand. The cancellation of passports is a penalty under the laws of Singapore. Under the heading 'Treatment' reference (see p. 20) was made to examples of countries which provide for compulsory treatment.

Law enforcement efforts have been facilitated by training programmes under the aegis of the United Nations, Colombo Plan and through bilateral arrangements. Cooperation in this

area has resulted in a country like Kuwait being able to establish formal law enforcement links with other Gulf states facilitating the transmittal and retrieval of information on a 24-hour basis. A non-Kuwaiti who is sentenced and deported immediately becomes a persona non grata in every Gulf State.<sup>25</sup>

#### DRUG PREVENTION EDUCATION

Information is essential not only to have an enlightened view of the use of drugs but also to warn against the dangers inherent in the indiscriminate use of drugs or abuse.

With a view to highlighting the hazards associated with the indiscriminate use of drugs, a number of countries have developed drug information activities and drug abuse preventive education programmes. National experiences show a remarkable degree of variance in the methodology used and the scope and content of relevant activities and programmes.

Young people and parents are the principal target groups for drug information programmes in Morocco.<sup>26</sup> Among the programmes which have been undertaken are conferences in cities, television and radio programmes and the distribution of printed material. In Argentina<sup>27</sup> the National Centre for Social Rehabilitation provides training courses for a wide array of personnel associated with information activities including professionals in the behavioural sciences, teachers and students in secondary level schools, parents and law enforcement officials. In Pakistan<sup>28</sup> material on drug abuse prevention has been integrated into the curricula of schools, colleges and universities. Families and religious organizations have been associated with informal adult education activities. Several workshops, seminars and the like for professionals have been held under the aegis of the Pakistan Narcotics Control Board.

#### OTHER PREVENTION MEASURES

Besides information and education programmes, other long term and ongoing prevention measures include anti drug abuse campaigns involving the community at risk and the participation of the target groups in social-cultural activities focussed on healthy living without the need for "chemical crutches". Leadership training, camping, sports and organized recreation programmes all help young people build self-confidence and develop their potential talents. For high risk youth, who have dropped out of school or alienated themselves from homes and normal social groups, out-reaching social service is required for counselling and guidance. Former addicts who have been rehabilitated and selected to receive special training in small group dynamics and counselling are helpful to professional workers in establishing contact and for serving as role models for the alienated youth. Nongovernmental organizations have much to contribute to motivate the public to support demand reduction and encourage drug users to come forward for treatment. Treatment facilities must be available before launching mass campaigns against drug abuse.

#### FACILITIES FOR THE ANALYSIS OF DRUGS

The management and utilization of drug analysis in demand reduction interventions and supply reduction interventions are commonly under separate jurisdiction of implementing agencies. Methods of analysis, interpretation and utilization of results are also different according to the objectives of the agencies concerned. For example, most countries have designated laboratories which carry out drug analysis for legal purposes while drug dependence treatment clinics have their own facilities for specific clinical objectives.

Drug analysis is an important tool for drug abuse interventions. It provides definite evidence on the qualitative and quantitative presence of the substance or substances in either drug sample or body fluid. Drug analysis has been applied in drug dependence treatment and epidemiological survey as an objective diagnosis of drug use. Constituents in licit and illicit drugs of abuse can be identified. The identification and prosecution of offenders depend to a great extent on the reports of analysis of laboratories which identify substances. It is based on the reports of analysts that decisions are made by law enforcement officials and by the judiciary as to whether the substance concerned is one which falls within the scope of the controlled or regulated substances.

Recognizing the value of drug analysis in demand reduction interventions, the World Health Organization has convened meetings to define the methods and applications of detection of dependence producing drugs in body fluids.<sup>29</sup>

In the drug abuse control domain narcotics laboratories<sup>30</sup> have three principal functions, namely:

- (a) to identify drugs for abuse and their accompanying substances in seized samples;
- (b) to determine the degree of purity and possible origin of production of illicit drugs; and
- (c) to provide supportive expertise on drug trafficking cases to courts of law.

The establishment, maintenance and expansion of national narcotics laboratories have received an impetus from the activities of the Narcotics Laboratory Section of the Division of Narcotic Drugs of the United Nations Secretariat.<sup>31</sup> Since its establishment in 1954, this section has provided a wide spectrum of services and functions. These include the following:

- (a) the training of national scientists with a view to upgrading their skills in identifying and analysing psychoactive substances;
- (b) the strengthening of national narcotics laboratories by supplying laboratory equipment, reference books and reference samples needed for analytical and research purposes;
- (c) the supplying of portable kits to facilitate the on-the-spot identification of commonly abused drugs; and
- (d) the provision of technical information and publications including the Multilingual Dictionary of Narcotic Drugs and Psychotropic Substances Under International Control.

In the national effort to control the drug dependence problem Singapore provides a good example of the analysis of urine to identify the presence of drugs. Legislation specifies that any person whose urine specimen is found to contain a controlled drug be sent for compulsory treatment and rehabilitation. After completing treatment the person is subjected to a period of supervision during which he has to report to government agencies for periodic urine testing.

Some developing countries have established programmes designed to train personnel attached to laboratories and those engaged in law enforcement activities. The training programme at the laboratory of the Department of Toxicology and Forensic Chemistry of the Faculty of Biochemistry and Pharmacy, University of Buenos Aires, is illustrative of the training facilities which can be organized by developing countries with modest resources.<sup>32</sup> The laboratory provides a two year course to postgraduate students in toxicology. A further year's training is provided to those who are expected to be in charge of laboratory units. What is of special significance is that these postgraduate students provide basic first level training for personnel from the people, gendarmerie, prefecture, customs and other agencies who deal with drug problems, but who have no previous skills. The laboratory prepares drug identification kits and training is given in the use of these kits which are designed to facilitate the rapid identification of drugs of abuse in the field. Thailand in collaboration with the DND Narcotics Laboratory has provided training for law enforcement officers from countries in the region. There are plans to expand the programme in the near future.

#### DRUG ABUSE INFORMATION SYSTEMS

Drug abuse reporting systems provide important data and information to a number of personnel and agencies concerned with the problems generated by psychoactive drugs.<sup>33</sup> Policy makers, law enforcement agencies and those handling treatment and rehabilitation facilities are all guided by the trends which are indicated by the data and information collected. Depending on the emerging trends, the direction of policies may have to be changed, law enforcement efforts intensified and new treatment centres established. In essence, information systems can serve as data sources for the assessment, monitoring and evaluation of drug abuse problems. Lack of sufficient data prevents the formulation of the most appropriate policies, enforcement strategies and treatment modalities. But unfortunately in most countries monitoring systems and data banks on drug abuse are still of a rudimentary nature.

It may be noted that information on persons who use psychoactive drugs can also be obtained through other schemes and approaches.

On account of the recent trends in the increase in deaths due to psychoactive drugs, especially overdoses, it is useful for reporting systems to obtain information from routine pathological tests done by coroners. Body fluids, on analysis, may indicate the presence of drugs, thus highlighting one possible cause of death. Though such information comes too late to save the life of an individual, the information can nevertheless be used for other purposes, such as to implement educational programmes for health professionals and the general public regarding the hazards of drug abuse.

In Malaysia there is a legal requirement that every medical practitioner should notify the Director-General, Treatment and Rehabilitation Division, Ministry of Home Affairs, of persons who are being treated or rehabilitated by him as drug dependents.

Drug abuse information systems currently in operation in various countries may be distinguished into three types:

(A) The nation-wide, integrated, central registry which receives and compiles reports on drug cases from various public and private agencies, such as treatment, law enforcement, and welfare agencies. Hong Kong, Malaysia and Singapore maintain such registers.

(B) Reporting systems which are based on a country's treatment agencies. Very often, patients with problems of drug abuse are treated in mental hospitals or other specialized mental health treatment facilities. Psychiatric wards in general hospitals, or special drug abuse treatment facilities may supplement the network of health services, dealing with such patients. This does not exclude the possibility that other non-health agencies collect information on drug abuse as well, but such reporting systems are not integrated i.e. they operate independently from each other and, in general, it is very difficult, if not impossible, to link or even compare the data generated by the different reporting systems. This may be due to the fact that they cover different groups of drug abuser, operate at different levels of sensitivity and specificity, fulfil different criteria of reliability etc. Data or indicators derived from different, non-integrated, systems may be compared at a high level of aggregation only and in general, qualitative terms. For example, it may be appropriate to compare trends of changing patterns of drug abuse, provided that, during the reporting period, the coverage did not change, nor did reliability, sensitivity and specificity. Otherwise any reported changes may be a result of changes in the reporting instruments and methods rather than results of real changes in drug abuse patterns.

A great number of countries maintain drug abuse reporting systems which are based on treatment facilities. Such systems may have been established for drug abuse reporting only or they may include drug abuse as one group of conditions among others. For example, the Client Oriented Data Acquisition Process (CODAP) in USA covers all drug abuse treatment and rehabilitation services which receive pertinent government funds. On the other hand, the National Mental Health Reporting Programme in Indonesia includes all public and private mental hospitals of the country and hence covers drug abuse as one group of conditions treated in those hospital. Similarly the Psychiatric Patients Register in the State of Victoria, Australia.

(C) A third group of countries rely on data reported from law enforcement agencies. In 1962, Statistics Canada, the national central statistical agency, collaborated with the Canadian police forces to establish a Uniform Crime Reporting System. Monthly police reports provide information - in standardized format - on offences, including violations of federal drug statutes. Levels of reliability of police reporting and hospital reporting tend to vary considerably. It has been said of the Canadian programme that:

"The police in Canada have considerable discretion in the action they may take (i.e., which charge(s) to lay, and the number of charges actually laid) in drug incidents, and they also have considerable discretion in how they classify their actions for statistical purposes. The published statistics are therefore not a 'pure' measure of the drug offence phenomenon, but are instead a mixed measure of 'occurring' activity, 'defining' activity, and 'enforcing' activity. It is impos-

sible to separate these components without very careful evaluation and audit studies. This means that the validity and reliability of the published figures on drug (as well as other) offences are to some extent unknown".<sup>34</sup>

The above classification of drug abuse data reporting systems in integrated, comprehensive drug abuse registers, health service reporting and reporting through law enforcement agencies is convenient for the purpose of this chapter, i.e. for looking for and defining practical indicators suitable for drug abuse reporting and programme monitoring. It is not the only one. Some researchers have distinguished event reporting systems, case reporting systems, and case registers.<sup>35</sup> The differences between these systems are neatly summarized as follows:

"Although all reporting systems are based on reports of "events" such as the transfer of a patient to hospital, a death, or the prescription of a drug, these reports can be handled in various ways. For example, they can be received, analysed, and presented as single events. Some systems are capable of describing only the number of drug-related hospitalizations, arrests, seizures, deaths, prescriptions, or serum hepatitis cases occurring during a given period. The total number of these reported events (with the exception of deaths) does not necessarily equal the number of individuals in contact with the reporting agencies during that time, because the same individual may be treated more than once for the same problem and may be in contact with more than one agency. Thus one individual may account for several event reports during the period concerned. Event-reporting systems, then, report only events and do not necessarily reveal the total number of individuals involved.

Alternatively, systems may be capable of linking different events for the same individual in the same reporting institution. For example, two hospitalizations of the same individual within a given reporting agency represent only one case. If the same individual were reported by two reporting institutions, he would be considered as two cases. Systems enabling multiple events for the same individual in the same institution to be identified as a single case are called case-reporting systems.

Finally, systems may be capable of linking events that occur in different settings for the same individual. Thus reports on a person who is arrested, is hospitalized, and visits a clinic may be brought together and analysed as the related experiences of one individual with different reporting institutions. An individual who is reported separately by several institutions can be identified as one case rather than several cases. Systems capable of doing this are called case registers<sup>36</sup>.

A recent survey<sup>37</sup> carried out in ten countries by the WHO Collaborating Centre for Research and Training in Drug Dependence, Penang, Malaysia, revealed that all the countries involved (Australia, Hong Kong, Indonesia, Malaysia, Philippines, Singapore, Sri Lanka, Thailand, United Kingdom, United States of America) maintain systems which permit case reporting. It also showed that all these countries/areas generated data on drug abuse from their treatment agencies, i.e. from their health service information systems. As mentioned before Hong Kong, Malaysia and Singapore maintain integrated and comprehensive drug abuse reporting systems which means that apart from treatment services other agencies report cases of drug abuse as well. Some countries, such as Sri Lanka, Thailand, United Kingdom and the United States of America, also collect data from law enforcement agencies. However, contrary to the systems in Hong Kong, Malaysia and Singapore their law enforcement and the health service data systems are not integrated.

Although conceptually different, the classifications of drug abuse reporting systems mentioned above coincide or overlap considerably. Systems based on reports from law enforcement agencies are almost exclusively event reporting systems. An individual recorded by the police, custom authorities or similar agencies because of a real or suspected drug offence will be identified by name, sex, address and similar characteristics. However it will usually not be possible to link two or more reports filed at different points in time pertaining to the same person unless reported to a central office equipped with highly trained personnel and sophisticated machinery capable of performing record linkage exercises.

Drug abuse reporting which is part of health service reporting may be case or event reporting. Many hospitals or other health services, when filling in case admission forms are able to recognize patients who were treated in the same facility before. It is then possible

to distinguish initial admissions from re-admissions and hence tabulate data accordingly. The aggregation of such reports from different treatment facilities, however, causes considerable problems. If a patient was treated at two different hospitals within a given time period (of one year, for instance), independent reports are usually filed in each of those hospitals and no efforts are made to link those records which relate to the same patient. In some countries such cross-references would be quite feasible, in others practically impossible. In countries where an identification number or code is assigned to each citizen (e.g., Denmark or Malaysia) or to large population subgroups (e.g. the social security number in Peru or the United States of America) it is - at least conceptually - easy to establish record linkage provided a central office for health statistics (at provincial or national level) collects individual recording sheets. In countries without individual identification systems, particularly institutions where a person's name or the spelling of the name or the address are not unambiguously defined, it is not possible to carry out record linkage routinely.

Integrated registers at national (or at provincial level) represent the most sophisticated forms of data recording systems. They may cover the whole population ever in contact with public or private agencies because of problems of drug abuse (like in Hong Kong, Malaysia and Singapore) or well defined subgroups (like in Victoria, Australia, where records of all those in contact with the mental health services are entered in the psychiatric case register). Case reporting is the strength of such systems and the pathway of patients through the services may be monitored.

#### MONITORING OF DRUG UTILIZATION AND ADVERSE REACTIONS

Drug utilization studies are important for several reasons. They provide a wealth of information as to who prescribes drugs, who uses them, how they are obtained and used, etc. This information helps to develop better organizational arrangements for the availability of drugs, for better prescribing patterns and indeed to adopt a better approach towards treatment. Drug utilization studies have been done on a systematic basis only in a few countries in the world. "Ad hoc" surveys, however, have been done in some others providing useful insights into the complex interplay of factors in the use of drugs.

The Chiangmai Medical College in Thailand has done some research on the availability of drugs in households. Most houses have in stock analgesics such as aspirin and paracetamol, in addition to various traditional herbal remedies. The survey revealed that some pharmacies have for sale packets of mixed drugs (commonly referred to as "Yachud") for certain conditions.

The Department of Pharmacy, Chulalongkorn University, has done a study to ascertain the response of modern and traditional pharmacists in drug stores in the community to a written prescription from a physician, to a request for a specific drug for specific symptoms and to a request for a drug for a specific ailment. The study revealed that there was much flexibility in both the handling of prescriptions as well as in the selection of drugs, thus underscoring the need for pharmacists to have a better knowledge of the interaction of drugs and a more judicious approach towards medication.

A study done in Nigeria found that chlordiazepoxide and diazepam, through their trade names librium and valium, have become "household names" in the country and that the use "is sometimes linked to medical prescriptions".<sup>38</sup> Several studies have been done in Nigeria on drug prescriptions and prescribing habits of medical practitioners. One study showed that "the general pattern of psychotropic drug prescribing in Nigeria is similar to that reported for Western countries."<sup>39</sup> Other salient findings of this study were high frequency of polypharmacy, routine use of antiparkinsonian agents and daily multiple dose administration. Another study highlighted that almost all the patients were on combinations of antidepressants and neuroleptics suggesting that due to the limited time available for individual attention "these diagnoses were not made with confidence".<sup>40</sup> In Nigeria, as elsewhere, there is an acute shortage of psychiatrists and not surprisingly "prescription practices rely heavily on patients' diagnoses".<sup>41</sup>

Due to the high cost of imported drugs and the need to ensure that at least everyone has access to essential drugs, countries are now moving in the direction of taking stock of what is available on the market with a view to rationalizing drug imports. In many countries, the market is flooded with drugs, several of which are hardly used by the majority of practi-

tioners. A recent study<sup>42</sup> done in Nigeria on psychotropic drug prescription patterns showed that only a few of the available drugs are prescribed by more than 50% of psychiatrists. Imports can, therefore, be confined to the most commonly used drugs with appropriate arrangements being to have adequate stocks of less commonly used but therapeutically useful drugs. Drug utilization studies can help administrators by identifying the drugs which are commonly used and as to how they are being used.

In respect to certain drugs, some countries require special prescription forms. With the strict control of anorexigenic drugs and tranquilizers in Argentina, physicians are required to use a special form (official prescription) in triplicate. One copy is retained by the physician himself and the other two by the pharmacist and the health authorities. The rationale underlying this system is to discourage certain physicians from prescribing such drugs unless they are found to be absolutely essential. Through drug utilization surveys information can be generated on the impact of regulating drugs on the practice of medicine.<sup>43</sup>

Kuwait has an adverse drug reactions project directed by a committee consisting of representatives of the departments of medicine, pharmacology and community medicine of the University and of the Ministry of Health. The project is designed to cover the whole population - a target which is within reach on account of the country's limited population. Attempts are being made to ensure that the data generated can be used for comparative purposes.

Current national developments on drug monitoring are of interest from a comparative perspective. The Chinese authorities are now establishing drug abuse monitoring systems in the different provinces. In June 1984 the International College of Neuro-Psycho-Pharmacology organized a symposium in Florence, Italy, on the need to monitor drugs used in psychiatry. In August 1984, at the ninth International Congress of Pharmacology a satellite symposium on cannabis highlighted the need to monitor drugs of dependence. It augurs well for the future that drug monitoring is gaining currency as an important denominator to measure the efficacy as well as the abuse potential of drugs.

#### CROP SUBSTITUTION PROGRAMMES

Following the successful experience in China in the early fifties to control the illicit cultivation of opium poppy, later attempts have tended to adopt the concept of crop substitution, crop replacement or even income replacement. It is conceivable, however, that this concept is too limited and has to be replaced with a more holistic view. Experience suggests that it is necessary to address the totality of development needs in the village communities which cultivate narcotic plants. Development assistance should support not only agriculture but also health, education, communication, marketing and law enforcement, if more permanent and sustained results are to be achieved. Enforcement of existing laws should ideally be an integral part of the development programmes. They should only be introduced if voluntary measures have failed. However, coordinated action is often difficult to arrange. Law enforcement to suppress illicit cultivation should also be viewed in the broader context of a totality of measures aimed at prevention of the illicit cultivation rather than only eradication.

The United Nations Fund for Drug Abuse Control (UNFDAC) has been supporting programmes in Asia for the substitution of opium poppy and in Latin America for the substitution of cocoa. Early pilot programmes have been replaced with "Masterplans" which aim at establishing a conceptual and operational framework for the formulation and implementation of multisectoral projects directed at the phased elimination of narcotics cultivation. Attempts to measure the effects of these efforts meet with several difficulties. It is obvious that a simple accounting of the reduction of acreage under cultivation will provide only a distorted picture of the situation. The often lengthy but also successful process of elimination of illicit cultivation is very complex and can be affected by several and most often political influences external to the activities of the programmes.

Thailand and Pakistan have reduced their opium production. There is little doubt that the growing commitment by the Thai Government to eradicating its illicit cultivation was strongly influenced by the positive results of the development activities. In Pakistan opium production was reduced by a combination of factors of which the results of the integrated development project was only one. In this context it is also important to mention that the attitude and response by the international community to the illicit cultivation exerts a

definite influence on the decision of national governments to commit themselves to take determined actions against the problem.

#### ROLE OF NONGOVERNMENTAL ORGANIZATIONS (NGOs)

Even though in almost all countries the primary responsibility for drug abuse control activities devolves on the government or state sector, in many countries there are nongovernmental or private agencies and organizations which provide a partnership and supporting role. In some countries nongovernmental organizations have pioneered treatment and other intervention programmes.

Nongovernmental organizations concerned with drug abuse are of different types. There are some organizations which concentrate only on drug abuse; others have combined drug abuse and alcohol prevention activities. There are also some organizations which focus on general social, personal and moral problems and drug abuse is considered as one of the activities to be undertaken.

There are important and significant differences in the constitutional structure and financial base of nongovernmental organizations. Some are created by statute or royal charter or by similar instrument. There are others which are registered under a general statute enabling the registration and recognition of voluntary organizations. Some have independent means of financial support. Governmental contributions are the principal sources of funding of others. Such contributions are sometimes subject to various conditions relating to membership, functions and operations and finally, monitoring and reporting systems. Some organizations levy charges for their services, others provide free services. Among the latter are self-help, therapeutic communities, parental and peer groups, etc.

Nongovernmental agencies and organizations have some degree of autonomy and flexibility on account of their independent character. Where there is a proliferation of such agencies and organizations, in order to prevent wastage of resources attempts have been made to synchronize their activities and to prevent any overlap. Harmonization with the overall national policy and goals is facilitated by such coordination. One of the functions of coordinating mechanisms, where they exist, is to establish a clear demarcation in roles and functions.

In most of the countries covered in this review one or more nongovernmental organizations have been established. In some there are organizations which deal exclusively with the subject of drug abuse; in others they also cover related issues such as alcoholism. The importance of nongovernmental organizations in this field and the need to share on a regional or global basis the experiences of different organizations was recognized not long ago in 1979 when an international conference on the "Role of NGOs in Drug Abuse Prevention and Control" was held in Jakarta.<sup>44</sup> This conference led to similar conferences being convened on a regular basis. The first inter-regional UN-NGO Conference, held in 1986 in Stockholm, was an important event in the role of NGOs.

The Philippines experience is illustrative of the potentiality of nongovernmental organizations in anti-drug abuse activities. In 1972 the Dangerous Drugs Board was established. With a view to "generating multiagency coordination and multidisciplinary cooperation as well as community participation for drug demand-reduction programmes"<sup>45</sup> the Board set up an Inter-Agency Committee on Drug Abuse Prevention Education and an Inter-Agency Committee on Treatment and Rehabilitation. In 1980 the Philippines hosted the second international conference on the role of nongovernmental organizations in drug abuse prevention and control. A direct outcome of this conference was the establishment of the Philippine Council of Nongovernmental Organizations. Activities of nongovernmental organizations in the Philippines fall into three functional categories, namely treatment and rehabilitation; social, cultural and religious services; and finally educational and information dissemination services. In the field of treatment and rehabilitation there are several lead agencies such as the Drug Abuse Research Foundation (Inc.) and the Narcotics Foundation of the Philippines, Inc. They provide residential as well as out-patient treatment and rehabilitation facilities. The Prevent and Rehabilitate Drug Abuses Organization uses family, recreational, spiritual and occupational therapy modalities to reintegrate drug dependent persons into society. The Philippine National Red Cross, Boy Scouts of the Philippines, Kiwanis International and Teen Challenge Philippines are some of the

organizations active in the social, cultural and religious fields, which seek to improve the quality of life by discouraging socially undesirable roles and activities. In the area of educational and information services, the Youth and Student Travel Association of the Philippines, the La Salle University, etc. arrange study tours, field trips, seminars and the like with a view to fostering a better understanding of the dynamics of inter-personal relationships. The Philippine Christian University sponsors a radio programme called the 'Home Enrichment Life Programme' which deals, *inter alia*, with drug problems. The Anti-Drug Abuse Media Guild is a network of representatives of the newspapers, radio and television. The Guild is committed to following the guidelines which have been formulated from time to time on the reporting of drug problems and the use of the media for preventive purposes. Responsible journalism which avoids sensationalism can be an important instrument in drug abuse prevention activities.

#### MOBILIZATION OF COMMUNITY RESOURCES AND COMMUNITY PARTICIPATION

A new trend, with much potential, is that of mobilizing community resources for demand reduction programmes. Every community is rich in its manpower resources - there are men, women and youth who, as community leaders, could wield a considerable degree of influence with a view to changing life styles, facilitating the operational tasks of law enforcement agencies and in channeling drug dependent persons for treatment.

The "family" is the basic fabric around which social life is structured. Thus, members of the immediate family as well as others who closely associate themselves with the family may have an influence on the attitudinal and behavioural responses of those who are dependent on drugs. If family and social bonds are strengthened, a stronger influence can be expected to discourage the use of drugs of abuse. As important as family and social ties is the role of recreation and other group activities of a participatory nature.

Community resources can be utilized in a multitude of ways for a variety of purposes. National projects and programmes deploying community resources have, therefore, taken a different form in different countries, as exemplified by the regional workshops on national pilot projects for the utilization of community resources for the prevention and reduction of drug abuse held under the aegis of the United Nations Division of Narcotic Drugs. By way of example of the type of community based and community supported projects possible in this area, reference may be made to the "Green December Movement" project in Peshawar in the North West Frontier Province<sup>46</sup>. In December 1983 a group of journalists, religious leaders, doctors, teachers, students and community social workers were instrumental in starting a community based clinic for the detoxification of drug dependent persons. With an estimated target group of 130,000 drug dependent persons, the Government had an onerous responsibility in hand; realizing the magnitude of this responsibility, the community decided to undertake this initiative. Other supplementary programmes include the deployment of religious leaders for preventive education and the establishment of small enforcement teams to liaise with the police. As a result of the latter, some 200 traffickers have been prosecuted and the operators of two heroin manufacturing laboratories have been persuaded to close down their laboratories. In the local university students have been encouraged to pursue research into the dynamics of drug abuse. In Egypt workshops have been held in different provinces to generate community involvement.

#### UNITED NATIONS MULTILATERAL AND BILATERAL ASSISTANCE PROGRAMMES

The drug problem in some countries has assumed such alarming dimensions that these countries have found themselves short of the requisite manpower and financial resources to apply appropriate intervention measures. Assistance therefore has been sought from agencies in the United Nations system and from other countries in a position to extend cooperation. In respect of some problem areas, especially between neighbouring countries, constant interaction and assistance can be mutually beneficial. Bilateral relations are important to ensure that appropriate action - by way of legal or administrative changes or even intensified law enforcement efforts - is taken by other countries in relation to problems of common concern. No country faced with the drug problem can any longer afford to remain in a state of isolation.

One of the largest and ambitious projects ever to be financed by the United Nations in the area of drug abuse in the countries covered in the survey is the crop substitution and

drug dependence treatment and prevention programme in Thailand. The programme is multidisciplinary in nature, involving several United Nations agencies such as the World Health Organization, International Labour Organization, etc., and foreign countries and coordinated by the United Nations Fund for Drug Abuse Control (UNFDAC). UNFDAC is the major funding agency within the United Nations system and operates on an annual budget of some US\$30 million contributed by 92 countries of which the major donors are Canada, the Federal Republic of Germany, Italy, Japan, Norway, Sweden and the United States of America.

Several countries such as Australia, Canada, the Federal Republic of Germany, France, Holland, Italy, New Zealand, Sweden, the United Kingdom (Hong Kong) and the United States of America have law enforcement liaison officers stationed in Thailand. They work closely with the national authorities and the constant interaction has been found to be mutually beneficial. Besides these countries, Interpol, too, has an officer stationed in Bangkok. For several years the United Nations Division on Narcotic Drugs maintained an office in Bangkok. Besides the exchange of information with the liaison officers, the Thai Government has received substantial technical and manpower assistance from these and other countries. The Government of the United States of America, for instance, has assisted Thailand in the area of suppression of illicit traffic; preventive education; treatment and rehabilitation; and crop substitution. The Australian Government has assisted in computer support and the Government of the Netherlands in connection with the suppression of traffic.

Malaysia has a bilateral agreement with the Government of the United States of America for technical assistance and advisory services. The skills of law enforcement officials have been upgraded through in-service training and observation study tours. Equipment has been made available to facilitate detections.

The World Health Organization has designated the Center for Research in Drug and Psychotropic Substances, University of Science in Penang, Malaysia, and the Institute of Health, Chulalongkorn University in Bangkok, Thailand, as WHO Collaborating Centres for Research and Training in Drug Dependence. These institutions are to serve as centres of excellence, pioneering research and training in the area of drug abuse. The World Health Organization is the executing agency for several national projects funded by the United Nations Fund for Drug Abuse Control (UNFDAC). The People's Republic of China, for instance, received assistance from UNFDAC in 1985 to upgrade laboratory and clinical facilities and for the training of researchers with WHO as the executing agency. The interagency visits to China in 1981 and 1982 under the aegis of WHO resulted in close links being forged with a view to enhancing the technical capabilities of Chinese scientists in the area of drug abuse.

The eradication of plantations, crop substitution programmes and intensified law enforcement efforts are areas which have attracted assistance from developed countries. In 1983 the United States of America, for instance, spent some US\$ 28 250 000 on crop eradication programmes in different parts of the world.<sup>47</sup> According to tentative estimates nearly 90% of the illicit drugs consumed in the United States of America are of foreign origin.<sup>48</sup> Efforts to eradicate sources are accorded priority by the Government of the United States of America as well as by other governments affected by drugs of foreign origin. Bilateral assistance of this nature is mutually beneficial and endeavours are constantly made to identify areas which lend themselves to bilateral cooperation.

Inasmuch as the drug problem transcends national geographical frontiers and has global implications, any national enforcement agency must have the support of other agencies. Information of relevance must be rapidly transmitted to enable appropriate action to be taken.

At the United Nations Conference for the adoption of the Single Convention on Narcotic Drugs, a resolution was adopted recommending that the technical reports on international traffickers maintained by the International Criminal Police Organization be completed as far as possible by all Parties and widely used for the circulation of the description of traffickers by that Organization.

In each of the 142 Member Countries of the International Criminal Police Organization there is an Interpol National Central Bureau. All the National Central Bureaux are able to communicate with each other and with the General Secretariat of the Organization in France. Some countries use radio-telecommunication systems.<sup>49</sup>

NATIONAL ACTION IN THE CONTEXT OF INTERNATIONAL TREATIES FOR DRUG ABUSE

With the exception of a few drugs most other drugs have a therapeutically useful role to play. The two Conventions thus seek to strike a delicate balance between the need to permit legitimate use on the one hand and the need to prevent abuse on the other. This is achieved through a mix of legal and administrative measures which Parties to the Conventions are obliged to adopt. Over and above these measures, some countries have devised other policies and programmes with a view to achieving the same objective. This review provided some insights into how different countries have sought to achieve this objective. Countries have applied a range of approaches, impressive in their scope, content and originality. There is thus a vast reservoir of knowledge of what is being tried out by countries and the greatest challenge now is to identify the best "mix" of policies and programmes suitable for each country.

### PART III

## GUIDELINES FOR EVALUATING DRUG ABUSE CONTROL POLICIES, PROGRAMMES AND ACTIVITIES WITH SPECIAL REFERENCE TO INDICATORS OF CHANGING PATTERNS OF DRUG ABUSE AND FOR MONITORING DRUG ABUSE CONTROL PROGRAMMES

### EVALUATION

Evaluation may sound threatening to some planners engaged in supply and demand reduction programmes. Yet well designed and built-in systems of programme evaluation will help the programme administrator in making timely adjustment in programme plans and thus facilitate the achievement of programme goals. On going evaluation schemes will also enhance the programme's accountability to its funding authorities and improve its credibility in the eyes of the public. Therefore this Chapter aims to equip the policy makers and programme planners with the basic understanding of why what and how to conduct programme and policy evaluation and to enable them to make self-evaluation on the formulation of policies and strategies and to assess their cost-benefit or cost-effectiveness.

### TERMINOLOGY AND RATIONALE

A distinction needs to be drawn between different forms of evaluation. There are many such forms but for the present purposes it is sufficient to concentrate on four of them.

(a) Process evaluation: To evaluate a programme it is necessary to begin with the review of the appropriateness of its short-term, mid-term and long-term goals. Are the goals set realistically in line with the national drug abuse control policy and are they achievable and measurable? If we are satisfied that the goals are set reasonably, it is necessary to look at the programmed activities and to see how the activities carried out to achieve the goals step by step. Are the resources and manpower, expertise, time, logistics and finance allocated for the programme execution adequate? Are the different components of the programme working concertedly to achieve the common goals? Are the managers at different levels (e.g. administrative, supervisory, advisory) fulfilling their roles and responsibilities? Most importantly, is the continuous progress of planning, execution and evaluation functioning reasonably well so that any human errors or deviation from the agreed course of action may be detected promptly and corrected timely?

(b) Outcome evaluation: Here we look at the results of programme implementation and the outcome of interventions. For instance, how many drug users have been treated, how many man-days have been provided by our treatment and rehabilitation service? Are we achieving the programme goals within the available time frame and to what extent are the objectives met? If the goals are not achieved and progress towards the goals is behind schedule, the evaluator (i.e. the administrator, a research staff or a temporary consultant) should try to analyse the causes of the failure or the lack of expected progress and recommend corrective or remedial measures (e.g. improving the quantity or quality of resources assigned or resetting the goals more realistically). Process and outcome evaluations are naturally linked to complement each other.

(c) Cost-benefit/cost-effectiveness evaluation: The programme evaluator, having assessed the outcome of the products of the intervention should seek the collaboration of the accountant or an internal auditor and calculate the unit cost. For instance, how much are the average costs to maintain an outpatient on methadone per day or per week or to keep an inpatient in a treatment centre? In addition to the benefit received by individual patients through service delivery, an assessment must be made of the benefits accorded to the community. How much of the social costs of their addiction have been reduced through interventions? For instance, the social benefit of keeping a patient in a drug free therapeutic community should take into account the reduced criminal activities on the street and the estimated saving of expenses of the criminal justice system or emergency health care. The following simplified formula illustrates the principle of cost-benefit evaluation:

Estimated social benefit occurred - the unit costs = net benefit

$$\frac{\text{or Social benefit}}{\text{Unit cost}} = \text{benefit/cost ratio}$$

(d) Impact and acceptability evaluation. All intervention or service programmes generate certain impact on its target groups and the community, which differs in intensity and in duration. Preventive education which is carried out through one way teaching or lecture may produce a short-lived impact as compared with seminar styled two way communication. Information retention is usually higher if the audience is allowed or encouraged to participate in discussion, debate on a rewarding quiz test. Manufacturing industry is advised nowadays to conduct an environmental impact study before opening a new plant or launching a new production process. A drug demand reduction programmes likewise should assess its impact on the community and anticipate certain reactions towards the establishment of a new clinic or halfway house. A good programme in terms of process and for outcome evaluation may not be popular. The acceptability of a programme depends on its public image, positive community relations and perhaps prior effort in educating the neighbourhood and in overcoming social bias and prejudice.

On the other hand, a cost-effective programme like a computerized case register may not be socially acceptable on moral or ethical grounds (violation of confidentiality). Therefore policy makers and the programme planners need to evaluate the programme impact and its social acceptability.

## FIELDS OF EVALUATION

### Evaluation of prevention programmes

(1) For process evaluation, we first look at the goals of the prevention programmes and its target groups. Has the intended message reached its target? What are the qualities of the preventive message and how are they conveyed? What proportion of the target population has received the message? Is there any feed back? If the message is to be repeated, what improvement can be made?

(2) As to outcome evaluation, ideally a community or target group survey should be conducted on the opinions, attitudes, knowledge and experience on drugs and substance abuse before the launching of any preventive information or education programme. The baseline data collected may be compared with that of a post-hoc survey to facilitate the measurement of change of any variables which the programme aims to induce. A post-hoc survey alone with well designed instruments may still collect useful data on the respondents subjective self assessment of any knowledge gained or attitude modified following their attendance at or participation in a prevention programme. In a given community, if the availability of drugs and other social conditions remain stable, a reliable indicator on the effectiveness of prevention measures is the incidence density of new cases of drug abuse detected within a given period before and after the introduction of such activities. A declining incidence density should indicate a positive outcome of our prevention measures.

### Treatment evaluation

Evaluation is made with respect to individual programmes, and with respect to the treatment system as a whole which is available in a given country. Different indicators are used in these two types of treatment evaluation.

### Evaluation of individual programmes

- (a) Process evaluation is concerned with the adequacy of treatment implementation and processes within the programme. Indicators are:
- implementation of programme according to rules and conditions (e.g. for subsidized programmes)
  - staff turnover and staff qualification
  - flexibility in response to changing client characteristics
- (b) Outcome evaluation is concerned with the intended changes in the life-styles of individual clients and client population as a whole. Changes are measured in relation to goals and objectives of treatment and in comparison to baseline data on behaviour before entering treatment. Control measures are made after definite intervals.

Programmes and treatment methods with different goals and objectives are not comparable in evaluation. Detoxification centres intend to safely detoxify drug dependent persons; changing psychological dependence is not an explicit goal. Therapeutic communities intend to alter the value orientation and life-style of their clients on the basis of drug abstinence. Maintenance programmes such as methadone maintenance intend much the same but without requiring opiate abstinence as a prerequisite, rather as a mid- to long-term final step. Indicators needed to evaluate treatment modalities will differ or overlap accordingly. The same indicators will eventually be interpreted in a different way according to treatment goals, e.g. length of stay in treatment is in general a positive indicator in therapeutic communities on maintenance programmes, but not so in detoxification programmes. Voluntary treatment and enforced treatment have mostly the same goals and are therefore evaluated along the same lines and by use of the same indicators. Indicators are:

- extent and patterns of drug use
- working capacity
- contact with drug scene and drug using friends
- involvement in delinquent behaviour
- health status
- sources of income.

(c) Cost-effectiveness and cost-benefit evaluation measures the relation between resources needed for running a given programme and its effectiveness in terms of outcome or its benefits. Indicators for costs are:

- staff/client ratio
- costs per client day or per man year
- average duration of stay in programme.

Indicators for effectiveness are more or less the same as indicators for outcome.

Indicators for benefit are:

- gains in expected productivity
- gains in reduction of health and law enforcement costs
- gains in reduced expenditure for drug purchase

(d) Impact/acceptability evaluation is concerned with the acceptability of programmes to clients in need of treatment, the acceptability of programmes in the professional world and in the population at large, and the compliance of clients with programme goals and methods. These criteria are quantifiable in a limited way only but nonetheless relevant for adequate functioning and for the survival of programmes.

#### Evaluation of the treatment system

The treatment system is more than merely the sum of established programmes. Its extent reflects the political will to reduce the number of drug dependent persons by way of treatment, and the efforts and resources given to this segment of drug abuse control in proportion to other segments. Evaluation of the treatment system as a whole has therefore to be dealt with separately.

Process evaluation concerns the implementation of treatment planning and treatment availability on a national level. It deals as well with the compatibility of programmes, with the collaboration between programmes, with the exchange of experience and information, with coordinated programme evaluation, etc.

Outcome evaluation concerns the number of those in treatment and proportion to those refusing treatment or preferring imprisonment. It analyses also the recycling process of treated individuals into the drug scene. Indicators are:

- overall number of empty slots in treatment programmes
- number of persons in treatment as compared to identified drug abusers outside the treatment system (e.g., on the basis of registers)
- number of drug-related deaths in a given population

- changes in other indirect indicators in a given population
- changes in other indirect indicators in formerly treated persons
- proportion of those leaving the drug scene due to treatment, to the number of identified newcomers in the drug scene.

Cost-effectiveness and cost-benefit evaluation analyses the relationship between total expenditure for treatment purposes and outcome, of total expenditure for treatment and total amount of calculated benefits due to reduced loss of productivity, reduced health and law enforcement costs, reduced expenditure for drug purchase.

Impact and acceptability evaluation analyses mainly the support of treatment for drug dependent persons in the population at large and throughout the administration, but also the impact on treatment motivation not only in drug abusers themselves, but as well in all those concerned, not the least in the relatives and friends of abusers. Again, this is not viable in a strictly quantifiable way, and few indicators can be mentioned here, such as the number of persons in treatment with family support.

#### Evaluation of law enforcement programmes

Law enforcement aims at both supply and demand reduction. If the process of law enforcement is conducted vigorously and honestly without corrupt practices, its impact will be apparent and the public will respond with their collaborative support. If law enforcement is effective in supply reduction, it will increase the price of the illicit drugs and induce more users to give it up or to reduce their intake or to seek proper treatment and rehabilitation, thereby contributing to demand reduction. On the other hand, corruption will not only make law enforcement ineffective but will also cast doubts on the government credibility or sincerity in controlling drug abuse.

Crime statistics may be used as indicators if extraneous factors can be controlled. For instance, the number and quantity of seizures of illicit supply may reflect the outcome of successful law enforcement if there is little or no change in the external source of growth and production. On the other hand, the number of arrests and prosecutions may indicate the intensity or seriousness of law enforcement or it may reflect a change in the modus operandi of the trafficking syndicates. Therefore crime statistics should be viewed together with other social and economic indicators. In drug abuse control, statistics on seizures, arrests and prosecutions need to be viewed along with the prevalence rate as well as the number of admissions to or applications for treatment. When law enforcement outcome improvement is considered along with the statistics showing the increase in number of drug users under treatment and the reduction in the prevalence rate of known users in the country, the success or achievement of the long term reduction goal can be discerned.

#### Evaluation of an overall drug abuse control policy

The policy as a whole is more than the sum of its components. Apart from being comprehensive, the policy has to be consistent and compatible in its priorities with the socio-cultural context, with the political system, with the infrastructure for health and social assistance, with the law enforcement and judicial system, and with legislation in general. Any policy which is inconsistent, poorly balanced and not compatible is bound to fail or to produce more unintended than intended effects, mostly negative. This may be the case at all levels of process, outcome, cost-effectiveness and cost-benefit, impact and acceptability. Indicators which may be applied to assess the overall policy include the following:

- implementation of planned activities and their results (both quantitative and qualitative)
- reduction in availability and consumption of illicit drugs
- reduced abuse and misuse of prescription drugs
- reduced abuse and misuse of other legally available dependence producing substances
- optimal use of existing facilities for treatment, social reintegration, etc.
- optimal balance between intended and unintended negative effects of policy.

#### Procedural aspects of evaluation

The principles and techniques of evaluation have been developed. By using existing knowledge and experience many methodological pitfalls and unnecessary costs can be avoided.

Methodology: Each evaluation project needs an elaborate design to start with. The design must deal with the following aspects:

- Formulation of research questions and hypotheses
- sampling methods and research instruments to be used
- comparability of data and results with other evaluative projects
- detailed research plan, including timing
- resources needed and resources available
- methods of data analysis and interpretation
- accessibility of evaluation results
- accessibility of persons and agencies for data collection.

Indicators to be used for purposes of evaluation are briefly discussed in the next section.

#### INDICATORS

In formulating indicators, certain specific groups of subject or activity or concern domains need to be identified and in relation to each such domain indicators need to be formulated. In order to ensure that the indicators are sufficiently specific and relevant, different stages in each subject, activity or concern domain need to be identified. An example is offered below of a set of indicators which may be used to evaluate a programme in relation to political will or political commitment. For the purposes of evaluation, political will or commitment was taken to mean "the capacity and inclination of decision-makers to follow through on rhetorical statements of support, to maintain programme resources in the face of competing demands, and to defend a programme from its critics."<sup>50</sup>

Indicators are formulated in relation to three different stages: policy formation, programme development stage and programme implementation.

#### Indicators of political will/commitment at different stages

Stage	Indicator(s)
Policy formation	Extent to which rhetorical support for a policy is translated into an operation programme (measured by staffing quotas, office space, funds, etc.)
Programme development stage	Specific scope and nature of the programmes established (e.g. limited technical approaches versus ambitious social equity-oriented programmes)
Programme implementation	Extent to which programmes are maintained over time

The above example is suggestive of the step by step approach in formulating a set of indicators. The different subject, activity or concern domains in relation to which indicators are to be formulated would naturally depend on the type of national drug abuse programmes, policies and activities envisaged or in operation, or both. Some countries with developed or advanced programmes, policies and activities and information data systems, might wish to have a set of more comprehensive and detailed indicators than others. Since countries have different drug abuse problems and have responded to them in different ways, it is difficult to formulate a comprehensive set of indicators in a monograph of this nature. Having regard to the objectives of the international strategy for drug control formulated by the United Nations Commission on Narcotic Drugs in 1981 and referred to in Part I of this monograph, an attempt is made here to identify certain domains of indicators which are capable of application by a wide variety of countries, including many from the developing world. The domains listed below are merely suggestive of what is possible in this field and the list makes no pretensions to comprehensiveness:

Subject/concern/activity	Domains of Indicator(s)
(a) Improvement of drug control system	National policy Measures taken for policy implementation (appointment of functionaries, allocation of resources) Inventory of drugs currently on the market Licensing system covering importation, exportation, manufacture and distribution Prescription system for selected drugs Inspection of storage and record-keeping systems
(b) Achievement of a balance between the demand for, and the supply of narcotic drugs and psychotropic drugs for legitimate purposes	Registered drugs as compared with those on the market Compliance with prescription and record-keeping systems Violations of the law relating to illegal use detected in given years
(c) Eradication of supply of drugs from illicit sources	Availability of illicit drugs on the market Persons apprehended for offences involving illicit drugs Complaints received from other countries regarding illegal exportation or importation Price fluctuations Increase in the number of persons seeking treatment
(d) Reduction of illicit traffic	Decrease in the number of persons apprehended for offences involving illicit drugs Decrease in availability as reflected by price fluctuations, closure of sales outlets Changes in number of requests for extradition Decrease in traffic and other accidents involving the use of illicit drugs
(e) Reduction of the demand for illicit drugs and the prevention of inappropriate or illicit use of licit drugs	Decrease in the number of persons apprehended for offences involving illicit drugs Decrease in availability as reflected by price fluctuations, closure of sales outlets Number of requests for extradition Decrease in traffic and other accidents involving the use of illicit drugs Increase in the number of persons seeking treatment New recreational and other social activities New drug abuse preventive education programmes for different target groups Adoption of better prescribing habits
(f) Treatment, rehabilitation and social reintegration of drug abusers	Availability of services Accessibility of services (social, geographical, etc.) Characteristics of services (staffing etc) Patterns of drug abuse Treatment (types of treatment, outcome, relapse rate)

It would exceed by far the scope of the present document to give detailed indicators for each of the domain listed under (a)-(f). It should suffice to choose one of those - the health sector - and to elaborate further on pertinent individual indicators. Similar approaches - mutadis mutandis - apply to all other domains. As a general rule the type and scope of indicators to be formulated for monitoring drug abuse and drug abuse intervention programmes depend on the quantitative and qualitative nature of the data and information available in the country.

#### Core Indicators for National Drug Abuse Monitoring

The basis for defining core indicators is the number of contacts with health services (or/and law enforcement agencies etc) because of drug abuse. If the data recording systems permit, cases and even new cases may be reported. Since the emphasis of this section is on health related indicators of drug abuse, the terminology of "admission", "re-admission" and "first admission" is used. These terms are defined as follows:

- An admission is where a person is formally accepted by a health service for diagnosis and/or treatment of drug abuse.
- First admission refers to cases of drug abusers who were admitted the first time ever. In other words, these cases do not have any records or previous registration/admissions into any formal drug abuse treatment programme.
- The term re-admission refers to admissions of persons who have a history of previous admissions.

Similarly, "contact", "first contact" and "repeated contact" can be defined.

- A contact refers to the event of contacting or reporting to an agency by/about a drug abuser. Hence, an individual drug abuser may have several reports, e.g., if (s)he contacts more than one agency or an agency more than once.
- A first contact refers to a drug abuser who has not been registered before with any agency, be it treatment, law enforcement, welfare or any other reporting agency which registers drug abusers.
- Repeated contacts are contacts which are not first contacts.

Based on these definitions, it is important to derive meaningful indicators. For example, if the terms "first admission" or "first contact" are not clearly defined, they may be interpreted by some as first admission or contact within a calendar year, by others within an administrative year, or even during life-time, with the result that pertinent indicators would create confusion rather than contribute to clarification. Similarly, different people may have different opinions on the notion of a re-admission: should it refer to a given time-period (e.g., one year, five years, life-time), or refer to a given diagnosis or be counted irrespective of the reasons for contact.

It may be useful to study the absolute number of new admissions, re-admissions and total admissions, either in terms of events or as cases. Usually however, it is more instructive to look at rates, i.e. the number of events or cases per 1000 000 population. In doing this, geographical areas with different population sizes may be compared meaningfully. If the incidence of drug abuse is identical in two geographical areas whose population differ by a factor 2, the absolute number of cases (or events) are expected to also differ by a factor 2. Rates per 100 000 population, however, will show no difference.

Furthermore, it is important to make such rates specific by age, sex and other demographic characteristics. It is well known that patterns of drug abuse vary according to age and sex. When computing statistical indicators on the frequency of drug abuse adjustments need to be made to cater for possible age and sex differences in the populations to be compared. Otherwise apparent differences regarding drug abuse patterns in different population groups may be just artefacts due to differences in the socio-demographic composition of such groups.

Apart from age and sex the rates should also be made specific to certain other socio-demographic variables, like educational level, occupation, ethnic group and level of income.

Certain groups of core indicators which may be used are listed below by way of illustration of the range of matters in respect of which information may be collected and analysed:

- I.1 Number and rates (per 100 000 population) of first admissions, re-admissions and total admissions by current age.
- I.2 Number and rates (per 100 000 population) of first admissions, re-admissions and total admissions by sex;
- I.3 Number and rates (per 100 000 population) of first admissions, re-admissions and total admissions by education;
- I.4 Number and rates (per 100 000 population) of first admissions, re-admissions and total admissions by occupation;
- I.5 Number and rates (per 100 000 population) of first admissions, re-admissions and total admissions by ethnic group;
- I.6 Number and rates (per 100 000 population) of first admissions, re-admissions and total admissions by level of income;

Depending on the availability of data, re-admissions and total admissions may be expressed in terms of events or cases.

It is important to note that rates can only be computed if pertinent socio-demographic data are available both for the group of drug abusers and the general population. Furthermore, the definitions and groupings of the socio-demographic variables for the patient group and the general population must be identical or at least compatible. Compatibility in this context is supposed to mean that a simple regrouping of the categories makes them identical. For example, if the national census bureau provides the age distribution of the population in a certain geographical area using age groups 0-4, 5-9, 10-14, 15-19, 20-24, 25-29 etc., while data on the drug abusers are presented at intervals of 10 years, i.e. 0-9, 10-19, 20-29, etc., it is easy to make those two groupings identical by changing the 5 year intervals into 10-year groups. However, if the data for the drug population is in relation to age groups of the kind 0-12, 13-18, 19-25, 26-40 years, rates cannot be calculated due to the incompatibility of the age intervals.

A second core group of indicators deals with patterns of drug abuse:

- II.1.1 Number and rates (per 100 000 population) of first admissions by type of primary drug used and by current age.
- II.1.2 Number and rates of total admissions by type of primary drug used and by current age.
- II.2.1 Number and rates of first admissions by type of current drugs used and by current age.
- II.2.2 Number and rates of total admissions by type of current drugs used and by current age.
- II.2.3 Number and rates of total admissions by type of secondary drug used and by current age.
- II.4.1 Number of first admission by type of current drugs used and by predominant route of use.
- II.4.2 Number of total admissions by type of current drug and by predominant route of use.

- II.5.1 Number and rates of first admissions by age of first drug used and by current age.
- II.5.2 Number and rates of total admissions by age of first drug used and by current age.
- II.6.1 Number and rates of first admissions by reason for first drug use and by current age.
- II.6.2 Number and rates of total admissions by reason for first drug use and by current age.
- II.7.1 Number and rates of first admissions by duration of drug use and by current age.
- II.7.2 Number and rates of total admissions by duration of drug use and by current age.

The purpose of these indicators is to provide insight into problems related to the types of drugs used, the predominant route of use, the age of first use, the reasons for initial use and the duration of use.

The information collected needs to be analysed in relation to different variables. Some of the variables are listed below, again by way of illustration of the range of matters which need to be taken into account:

Types of drugs used: Cannabis; hallucinogens; barbiturates and other sedatives and tranquillizers; opiates; cocaine; amphetamines and other psychostimulants; antidepressants; other mixed or unspecific substances.

Predominant route for use: Oral, smoking, injecting, sniffing and other ways.

Age for first use: The individual recording form should allow for coding the age in years. For tabulation purposes suitable age groups may be used. It will be useful to identify age groups which correspond to those commonly used in census and statistical documents.

Reason for initial drug use: Curiosity; religious or social customs; sociability or fun; to enhance sexual pleasure; treatment of health disorders; relief of psychological stress; relief of hunger, fatigue or cold; for stamina and to improve performance; influence of friends, other reasons.

Duration of use: The individual recording form should allow to code year and - if possible - months of first drug use. It should also allow for recording the date of admission. For tabulation purposes suitable time intervals may be defined.

A third group of core indicators deals with treatment and intervention programmes. Such programmes vary considerably among countries. It is hence important that a list of treatment modalities be established, a decision made on a reasonable grouping, and some basic indicators be compiled. By way of illustration certain indicators are listed below:

- III.1.1 Number and percentage of first admission by treatment programme and by current age
- III.1.2 Number and percentage of re-admissions by treatment programme and by current age.
- III.1.3 Number and percentage of total admissions by treatment programme and by current age.
- III.2 Number and percentage of re-admissions by number of previous completed treatment programmes and by current age.
- III.3 Number and percentage of re-admissions since last treatment contact and by current age.

## CONCLUSIONS

The indicators set out in this document are suggestive of what national drug administrators might consider using in monitoring and evaluating their policies, programmes and activities. Emphasis is laid on routine monitoring. Detailed examples are given of indicators to be derived in relation to the health services. Similar indicators may be based on reports provided by other agencies such as police, customs etc. The terms "first admission", "re-admissions", and "total admission" will have to be replaced by appropriate terminology depending on the source of information. However, only few countries maintain integrated drug abuse reporting systems and it is likely that data may be obtained only through the health services. As explained in the introduction of this part, a distinction should be made between case and event reporting. Indicators based on case reporting provide a better picture of reality, even though the data recording infrastructure for event reporting is less complicated. Where case reporting is not feasible event reporting should be chosen.

There is a host of potential indicators which were not mentioned in the preceding discussion. The three main categories proposed shed light on the problem of risk factors, drug abuse patterns and treatment evaluation. But even here, only a "core set" has been selected. It is easy to criticize the proposed set because of its incompleteness and no drug abuse administrator should feel discouraged to add any number of indicators deemed important for monitoring or evaluating the national programme. Few experts, however, would propose that any of the suggested indicators be deleted from the list. Experience shows that most countries are facing severe problems in compiling information even in respect of this proposed minimum set. Experience further tells that the quality of indicators increases in the hands of a skillful programme manager, and that even the best set of indicators is of limited value unless there is a mechanism to use the results and take appropriate action.

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