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***STAFFING,
PROFESSIONAL
EDUCATION AND
TRAINING NEEDS
IN
ENVIRONMENTAL
HEALTH SERVICES
FOR THE CENTRAL
ASIAN REPUBLICS***

Report on a WHO Workshop

Bishkek, Kyrgyzstan
29 November–1 December 1995

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TARGET 18

POLICY ON ENVIRONMENT AND HEALTH

By the year 2000, all Member States should have developed, and be implementing, policies on the environment and health that ensure ecologically sustainable development, effective prevention and control of environmental health risks and equitable access to healthy environments.

TARGET 19

ENVIRONMENTAL HEALTH MANAGEMENT

By the year 2000, there should be effective management systems and resources in all Member States for putting policies on environment and health into practice.

ABSTRACT

A number of missions were carried by WHO during 1995 in the central Asian republics (CAR) to investigate the status of staffing and training in environmental health services in these countries. As a follow-up to these missions, a workshop on staffing, professional education and training needs in environmental health services for the CAR was held in Bishkek (29 November–1 December 1995). This workshop explored issues relating to the development of environmental health services on which the CAR could collaborate on professional education, research and common international issues. Participants made recommendations for future collaboration in developing the professional and institutional capacities of environmental health services in the CAR.

Keywords

ENVIRONMENT HEALTH – manpower
HEALTH SERVICES – organization and administration
HEALTH OCCUPATIONS – education
STAFF DEVELOPMENT
KAZAKHSTAN
KYRGYZSTAN
TAJKISTAN
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UZBEKISTAN

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SCOPE AND PURPOSE

One of the priority actions endorsed by the Second European Conference on Environment and Health, Helsinki (20–22 June 1994) is strengthening the professional capacities of environmental health services in Member States to deal effectively with environmental health hazards. Following the Consultation on Environmental Health Services in Vilnius (28–30 November 1994), Member States adopted a proposal to implement a project dealing specifically with staffing, professional education, and training in environmental health services.

Staff and consultants from the WHO Regional Office for Europe Environmental Health Planning/Ecology unit had carried out missions to Kyrgyzstan, Turkmenistan and Uzbekistan during the previous year. These missions included investigations of the scope of work carried out by environmental health services in these countries, as well as the skills and competences required to perform these duties.

The purpose of this workshop was to facilitate dialogue and exploration of these common environmental health issues among the five central Asian republics (CAR). Representatives were drawn from the health, environment and other ministries, university faculties teaching environmental health professionals, and other relevant research institutes in each of the republics. The workshop lasted three working days and had the following aims:

- to identify areas in which environmental health services require reform in order to facilitate progress by the CAR in the realization of the Helsinki process;
- to consider the adequacy of professional education and training of environmental health professionals in the CAR, and to formulate proposals for future training curricula;
- to discuss and formulate proposals for reforming environmental health services in relation to staffing structures and profiles which address current and future needs of the Member States in question, with particular emphasis on intersectoral cooperation within environmental health services;
- to consider issues relating to the development of environmental health services on which the CAR could act in a coordinated manner on professional education, research and common international issues.

OPENING OF WORKSHOP

The participants were welcomed to the workshop on behalf of the World Health Organization by Mr Xavier Bonnefoy, Regional Adviser for Environmental Health Planning/Ecology. In his opening address he thanked the government of Kyrgyzstan for their help in arranging the workshop. He outlined the developments that had taken place since the adoption of the Helsinki Declaration by Member States, and identified how this workshop fitted into the ongoing realization of the Helsinki process. The development of professional capacities was central to this process and their input into developing curricula that addressed professional capacity-building needs was required. It was hoped that the workshop would result in agreements being reached between various sectors and Member States as to how to proceed on these issues. This process would be based on consensus and partnership between all parties involved; it posed no threat to any one sector but had potential benefits for all.

The workshop was opened by Dr Victor Mikhailovich Glinenko, Deputy Minister of Health for the Republic of Kyrgyzstan. He stressed the importance of ensuring the quality of professionals employed in environmental health services throughout the region, and identified the links that exist between professional and institutional development and the role that this plays in the overall development of countries. In extending a special welcome to representatives from education and training institutions, Dr Glinenko observed that education is the concern of all sectors. He outlined the commitment of the Republic of Kyrgyzstan to intersectoral cooperation through the development of integrated action plans addressing environmental health needs, and extended an invitation to cooperate with neighbouring countries on common issues. Dr Glinenko described the particular challenges that Kyrgyzstan faces in reforming its health services, and concluded by warmly welcoming the participants to Kyrgyzstan and wishing them a successful outcome to their deliberations.

The Deputy Minister of Health for the Republic of Tajikistan outlined some of the problems being experienced in his country. In wishing the participants a successful outcome to their workshop, he reminded them of the urgent need for reform in the area of environmental health services, and looked forward to creative recommendations being formulated.

Dr Almaz Imanbaev, WHO Liaison Officer for Kyrgyzstan, thanked participants for making the effort to come to Bishkek and briefed them on the Regional Office's activities in the region.

A short presentation was then given by Mr Xavier Bonnefoy and Mr Martin Fitzpatrick (WHO Regional Office for Europe) on the Environmental Health Services project with particular reference to work in support of environmental health services staffing and training. The Regional Office started this project in 1993 following requests by a number of Member States for support to their reform process. The first step was to undertake a survey of 28 Member States to gain an overview of the existing situations. A summary of the findings was printed and a written analysis made of the policy options available to Member States for the development of environmental health services. These documents were reviewed during a large meeting involving representatives of all Member States, at which participants requested the Regional Office to:

- develop a sub-project to produce a support document on professional training and staffing of environmental health services;
- prepare technical documents on:
 - the evaluation of environmental health services
 - legal and regulatory instruments
 - economic instruments
 - ethics.

This workshop formed part of the first of these specific sub-projects.

PRESENTATIONS BY NATIONAL REPRESENTATIVES

Representatives of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan reported on the current situation regarding the training and education of environmental health professionals in their respective countries. The main points raised are summarized below.

Kazakhstan

There is an urgent need to train environmental health professionals to combat the many critical environmental health issues in Kazakhstan. Serious problems are being experienced due to the shortage of environmental health professionals and the loss of highly trained staff from environment and health institutions. This is due in part to poor professional status, low salaries and scarce resources. At present only 40–50 % of established posts are filled.

Training institutions had attempted to upgrade training programmes, but these efforts require intensive support. Results have suffered from a lack of specific competence in this area. Lack of coordination and duplication of the functions among intersectoral agencies had also been major problems. An over-emphasis on developing medically trained professionals has proved to be a serious constraint in the development of national environmental health services.

Kyrgyzstan

Developing a consistent understanding of the underlying concepts and principles of ecology, environment, and environmental health among environmental health professionals has been difficult. The shortfall in competence among hygiene professionals owing mainly to inadequate training systems was cited as a major area of concern. The development of cooperation between environmental, health, engineering and related intersectoral institutions requires support. There is also a need to support professional capacity-building for personnel in nonmedical fields in terms of knowledge on public health issues.

Other points raised included:

- inefficient utilization/sharing of available data and information within and between sectors;
- the need to amend current environmental health legislation in response to changing conditions within the country;
- the critical need to obtain relevant guidance documents on environmental health management and the training of environmental health professionals; training of trainers had been identified as an immediate priority, with follow-up action on professional capacity development required in the medium to long term;
- the need to develop curricula for environmental health related courses in universities and other institutions that promote appropriate environmental health concepts;
- the bias towards medically oriented subjects in the curricula of medical training institutes, to the detriment of capacity-building in other important skill areas.

The Kyrgyzstan authorities are willing to work with the Regional Office in the field of training and professional education of environmental health professionals. The training curricula developed by Moscow institutions during former Soviet times are still being used in the fields of sanitary, epidemiology and engineering education. There is no systematic approach to university training aimed at raising environmental health professional capacities. In particular, support is required in capacity-building at national and local levels in environmental health management. As in the other CAR, developing intersectoral cooperation between institutions and ministries is a priority area.

Turkmenistan

Health and environment problems are among the top priorities in Turkmenistan. There are considerable problems related to the lack of enforcement mechanisms despite the existence of an

extensive environmental health code. Although approximately 4700 professionals are working in sanitary and hygiene control, only 50% of the established positions are actually filled.

Uzbekistan

Environmental health training in Uzbekistan is a matter of deep concern. At present the emphasis in tackling health and environment related problems is primarily on environmental issues. It is important to initiate ongoing information exchange and training sessions for environmental health professionals with input from international experts. A State Committee on Environment Protection had recently been established. Over 3500 professionals are employed in the national SanEpid system, but the number of graduates from sanitary/epidemiology faculties is falling.

FUNDAMENTAL TASKS OF ENVIRONMENTAL HEALTH SERVICES

Mr Fitzpatrick presented a paper on the fundamental concepts underlying environmental health services. He discussed the range of tasks that might be undertaken by an environmental health service and identified a range of potential responsibilities lying outside the traditional sphere of services as they now exist.

The tasks of an environmental health service must address the basic concepts adopted by Member States through a range of international agreements and protocols, but it is not straightforward to produce a definitive list of fundamental environmental health services tasks, given the variation throughout the Region in the development of environmental health services and the underlying political, economic and social influences. There are however a number of reference points that can be used.

Equity in health and health for all principles

Target 1 of the WHO strategy for health for all by the year 2000 addresses the primary issue of equity in health. All too often disadvantaged groups within a society live in the worst housing conditions with only poor sanitation and water supplies. These groups often consist of people who work in the most hazardous occupations and have limited access to a well balanced, nutritious diet. A fundamental task of environmental health services must be to redress these inequities and develop strategies to help eliminate them for future generations. Environmental health services must address the links between social deprivation and disadvantaged environmental health status, and also the factors that give rise to transboundary or international inequity such as air and water pollution across national or regional frontiers.

General policy on environment and health is dealt with in Target 18 which states: "By the year 2000, all Member States shall have developed, and be implementing, policies on the environment and health that ensure ecologically sustainable development, effective prevention and control of environmental health risks, and equitable access to healthy environments".

Target 18 goes on to address policy development and mechanisms for involving people, and the adoption of regulations and practices in Member States. It recognizes that the tasks of environmental health services in this area are dictated by the policies adopted, that these tasks must go beyond the boundaries of pure inspection of the physical environment, and that governments, communities, industry and individuals must undertake these tasks. It highlights the

importance of collecting, analysing and assessing data on the environment, which constitutes a vital task of environmental health services.

Target 19 deals with environmental health management and states "By the year 2000, there should be effective management systems and resources in all Member States for putting policies on environment and health into practice".

Target 19 goes on to state that this can be achieved if Member States:

- establish systems for environmental monitoring and impact assessment, linking environment and health information;
- use country, regional and local mechanisms to involve government, industry, primary producers and community groups in environmental health action based on full sharing of information;
- consider the impact on environment and health of policies and strategies in sectors such as urban planning, energy, transport, industrial development and agriculture;
- mobilize adequate resources from all sectors to achieve environmental health targets;
- develop management systems, operational methods, appropriate technology, research and training to support environmental health management.

The achievement of this target calls for environmental health services that can develop activities, resources and support at different levels. The tasks involved include the development of health criteria and indicators for evaluation, the strengthening of services, and the creation of durable intersectoral links.

Democratic principles

The European Charter on Environment and Health addresses the principles for public policy to be adopted by Member States. The basic concept is that environmental health includes not only pollution control and environmental hygiene but all aspects of the physical environment and of socioeconomic development.

Implied in this concept is the acknowledgement that environmental health services must foster democratic principles in Member States. A major task of these services, therefore, is to facilitate the participation of all sections of society in working towards a healthy environment. This participation involves individuals being aware of both their rights and responsibilities, and all sectors of society recognizing health as an intersectoral matter involving many disciplines. To achieve this, environmental health services must adopt a proactive role in promoting environmental health and being receptive to the needs and desires of the communities they serve.

Sustainable development

Sustainable development is defined in the Bruntland Report as "Development which meets the needs of the present without compromising the ability of future generations to meet their own needs".

The Rio Declaration on Environment and Development developed this concept further, with several guiding principles in relation to sustainable development which are highly relevant to manner in which environmental health services are delivered. These are that:

- human beings are the central concern for sustainable development;
- in order to achieve sustainable development, environmental protection must remain an integral component of the development process;
- equity in the delivery of services is essential to sustainable development;
- the participation of concerned citizens at all levels is necessary in dealing with environmental issues;
- effective environmental health legislation is required;
- environmental impact assessment and the precautionary principle should be used as tools in competent decision-making.

These principles have considerable implications in relation to the tasks that environmental health services carry out. These services have traditionally, and with much justification, given greatest priority to matters posing the greatest risk or hazard to health. Priorities constantly change as particular hazards are controlled or eradicated on one hand and others are identified and dealt with on the other. In such situations, tasks relate initially to identifying, controlling and managing risks, and then monitoring them while other problems are addressed.

In some parts of the Region, environmental health services have developed from being mainly concerned with the control of environmentally related diseases to dealing more actively with lifestyle-related and quality of life issues.

Sustainable development not only encompasses such issues but also requires particular ways of managing them. Therefore, a central task of environmental health services in promoting sustainable development is to contribute towards policy-making processes that foster policy integration, partnership and subsidiarity.

Subsidiarity

The concept of subsidiarity involves entrusting decision-making powers to all levels of society, so that decisions can be made and implemented most effectively by those to whom the implications of such decisions directly apply.

Member States face a range of extremely diverse environmental health problems. There are also major economic and cultural differences between and within them. Policies and strategies developed at national level therefore need to take account of needs at local level. The Helsinki Declaration draws attention to the need to develop capabilities at local level for identifying and assigning priorities to environmental health problems, planning and implementing prevention and control measures, and monitoring compliance. In order to carry out these tasks it is essential that the principle of subsidiarity is applied. This cannot be done quickly as it requires the development of a range of infrastructural components necessitating the political commitment and financial support of central government.

Intersectorality

It is important that the intersectoral nature of the issues being tackled are borne in mind when the tasks of an environmental health service are determined. Potential hazards to health arise from many sources which affect humans in complex processes. Isolated decisions and actions cannot

usually solve environmental health problems. In many instances it is this very approach that gives rise to the environmental health problems.

Member States vary considerably in the way they delegate responsibility for environmental health issues and have developed intersectoral cooperation. It is clear from the principles adopted from a wide range of international agreements and protocols that environmental health services must be delivered in an integrated manner, and that a central task is to ensure the fostering and maintenance of intersectoral links.

Tasks of an environmental health service

A list of tasks for an environmental health service could consist of highly detailed duties down to the level of, for instance, taking samples of the water on premises where food is produced. While there is certainly value in producing such a list, it would be unwieldy in this paper. The following is therefore an attempt to identify the tasks of environmental health services in their broadest sense, without at this point defining each task.

Hazard identification

1. Determination of contamination in air, soil, water and exposed organisms.
2. Determination of contaminants in the food chain.
3. Determination of physical, chemical and biological hazards in the work environment.
4. Determination of socioeconomic factors related to environmental hazards.

Risk assessment

5. Evaluation of environmental hazards.
6. Evaluation of adverse effects of environmental pollution.
7. Evaluation of adverse effects of contaminants in the food chain.
8. Evaluation of notified and reported data.
9. Statistical analysis of experimental, epidemiological and chemical data.
10. Assessment of social effects of environmental hazards

Risk management

11. Formulation of recommendations for environmental improvement.
12. Formulation of standards and preparation of laws and regulations for control of environmental contamination.
13. Formulation of environmental health management policy.
14. Implementation and enforcement of control measures.
15. Control of health aspects of the workplace.
16. Control of food production throughout the food chain.
17. Control of production, marketing and use of chemicals.

Consultation

18. Recommendations for public safety precautions.
19. Provision of disaster and emergency response services.
20. Control of waste disposal.

Communications

21. Health promotion and education.
22. Dissemination of information to the public.
23. Networking and collaboration with intersectoral interests.

Training and management

24. Planning and directing environmental health research.
25. Training in environmental health management.

Clinical medicine and epidemiology

26. Health surveillance of high risk groups.
27. Health surveillance of the general population.
28. Diagnosis, management and investigation of environmental diseases.
29. Evaluation of environmental effects on health.

Responsibility, accountability and subsidiarity

One obvious question arises from the above list: to what extent are the tasks identified purely for environmental health services? The inclusion of such divergent tasks as clinical diagnosis, management training, the drafting of legislation and social evaluation indicate clearly that many areas of responsibility are shared with other sectors. It is equally obvious that the range of skills and workers required to carry out these tasks is considerable. In many Member States the people carrying out a number of these tasks would not consider themselves environmental health workers or describe the structure in which they operate as coming within the sphere of environmental health services.

Thus although some of the tasks identified are clearly those in which environmental health services must take a leading role, the responsibility for others can be deemed to be shared jointly between environmental health services and other sectors. Examples would include health education and control of food production throughout the food chain.

There is yet another group that might be considered as tasks in which environmental health services have a responsibility, such as disaster and emergency response services, albeit in a more subsidiary role to other sectors.

Another issue is the level within the national structures that these tasks should be carried out. A list of which environmental health services tasks should be carried out at national, subnational/regional or local level may be prescriptive in nature but would be useful in establishing some guiding principles on subsidiarity and accountability.

INTERSECTORAL WORKING GROUPS

Intersectoral working groups consisting of representatives from the health, environment and other sectors from each of the CAR were asked to discuss a number of issues related to the requirements and needs for education and training of environmental health professionals. The terms of reference for the groups were as follows:

- to make recommendations as to the tasks that environmental health services should carry out in the future;
- to make recommendations as to the new or improved skills required by environmental health professionals to carry out their tasks in the future;
- to identify the attributes (professional, ethical, personal, etc.) that future environmental health professionals must possess in order to carry out their tasks successfully.

It was unanimously agreed that adherence to the principles of equity, democracy, sustainability, subsidiarity and intersectorality must form the basis for future reforms of training and education systems in the CAR. While priorities vary from country to country according to the political, socioeconomic and geographic conditions, there is a need to identify clear criteria for priority-setting.

A wide range of the new or improved skills necessary for environmental health professionals were identified in the following areas:

- computer sciences
- information processing and retrieval systems
- environmental health management
- environmental and health sciences (environmental chemistry, environmental agriculture, environmental medicine, etc.)
- sociology, psychosocial studies
- foreign languages
- training of trainers
- foreign industrial technologies
- drafting of legislation.

The personal attributes needed for environmental health professionals was discussed in detail and amongst those considered most important were the following:

- professional competence
- willingness to take a principled stand on issues of public concern
- efficiency and enthusiasm
- open-mindedness
- integrity
- prudence
- to be a good communicator
- to be technically accomplished
- commitment to democratic principles
- respect for human rights
- to be a good team worker/leader
- to be a role model in espousing a healthy lifestyle.

In a follow-up session, participants were requested to elaborate on the ways and means of reforming and improving existing curricula in order to address the needs identified above.

All the CAR urgently need a stable supply of competent environmental health professionals at graduate and postgraduate level. There is a continuing problem of intellectual drainage from the state to private sector, which is exacerbated by the fact that in many instances the people concerned are moving to activities not directly related to environmental health.

Furthermore, the lack of coordination within and between training and education institutions results in environmental health professionals having little realistic possibility of improving their professional qualifications and/or skills in training institutions that concentrate on medical

training. The full human resource potential of teachers and students alike has not been fully realized owing to this lack intersectoral cooperation. Existing environmental health related curricula lack the broad scope of subjects in comparison to longer established general disciplines such as chemistry, history or biology.

A crucial area identified for support was training of trainers programmes, in conjunction with the development of curricula dealing with subjects in management, sociology, socioeconomics, legislation and other topics.

A number of specific target groups for these new initiatives in curricula were identified, including:

- secondary students,
- university and college students
- engineers
- teaching staff
- medical staff
- workers in transport, agriculture, energy and related sectors
- administrators and civil servants.

Terminology

Terminology that is understandable to all is essential to clear communication. Unfortunately this is sometimes more an aspiration than a reality. Where terminology has to be translated into several languages, the problems are even greater. In an effort to clarify some confusion that arose over terminology in the course of the workshop, the Regional Office representatives proposed the definitions listed below.

<i>Environmental health</i>	Those aspects of human health, including quality of life, that are determined by chemical, physical, biological, social and psychosocial factors in the environment. Also the theory and practice of assessing, correcting and preventing those factors in the environment that can have a potentially adversely effect on the health of present and future generations.
<i>Competence</i>	The combination of knowledge, skills and ethics professionals require to carry out their duties successfully.
<i>Knowledge</i>	Acquired and comprehended information and data.
<i>Skills</i>	The practical abilities required to carry out specific tasks.
<i>Ethics</i>	The personal and social attributes, values and attitudes that influence personal and social behaviour.
<i>Tasks</i>	Specific duties which are carried out through a series of integrated actions.
<i>Actions</i>	The specific work or activities undertaken in the carrying out of a task.
<i>Plan</i>	A stepwise approach to achieving a predetermined objective, which involves setting objectives, defining the necessary tasks, determining how these tasks will be carried out (who will carry them out, their timing and sequence), and the means, resources and conditions required to carry these actions to the predetermined conclusion.

Project The overall package that encompasses effecting the production of a product or outcome. It involves *identification* of a particular product or outcome, *planning* the means and resources to produce that product or outcome, *carrying out* the required tasks until the product or outcome is produced, and then *evaluating* the results.

IMPLICATIONS FOR FUTURE PROFESSIONAL EDUCATION AND TRAINING

Participants were asked to explore some of the implications for future professional education and training of environmental health professionals with colleagues from their respective sectors. To facilitate this, three groups were formed: medical professionals, nonmedical professionals and education professionals. The terms of reference for each group were as follows:

- to compile a list of professionals from each sector who would be the environmental health professionals of the future;
- to compile a list of the five main skills that these professionals should possess;
- to make recommendations as to how these professionals could collaborate with professionals in other sectors;
- to identify three priority actions required in each sector to improve collaboration with other sectors.

The working groups recognized that identifying the environmental health professionals of the future requires looking beyond the current structures and professional profiles. In addition to the range of professionals currently involved in environmental health services, other professionals such as lawyers, architects, urban planners, economists, agriculturists, administrators, trainers of trainers and food technologists were recognized as being important players.

The groups found that a willingness to open up the field of environmental health to new ideas and new inputs from other sectors was vital if these professionals were to become involved in reforming environmental health services.

They identified a wide range of skills which environmental health professionals will require in the future. While many of these could be described as traditional skills, a number of important new skills were explored and recommendations as to how to develop these were made.

Communications skills were identified as being particularly important. While this is generally accepted by all sectors, more detailed discussion addressed the specific issues of which type of communications skills need to be developed, who the target audiences for these improved communications should be, and the appropriate media for reaching these audiences.

The skills required for the collection, analysis and dissemination of information were also explored. Despite the existence of complex systems for the collection of data, the potential value of the information gathered is not fully realized. Improving the capacities of professionals to share and use information from other sources was identified as a key to promoting the desire for intersectoral cooperation.

The evaluation of environmental health services was also identified as an important skill area. So far the emphasis in the CAR has been on process evaluation, i.e. determining whether procedures have been followed, work completed and reports issued. It is also important to develop evaluation skills that facilitate the identification of fundamental activities and their prioritization, the development of appropriate indicators for monitoring progress, and the means for assessing outcomes.

The development of decision-making skills for environmental health professionals was also identified as a priority area for the future.

Emergency planning is by nature intersectoral, requiring professional input from a wide range of disciplines. Working together on emergency planning issues was seen as a possible way to facilitate improved cooperation between environmental health professionals from various sectors. This type of activity would provide a focus for the professionals involved and would help to overcome potential reservations about intersectoral cooperation between various sectors.

The following three areas of action are important for improving intersectoral cooperation:

- working with national governments to ensure that international agreements on intersectoral cooperation in environmental health result in concrete action at ministerial level;
- developing training programmes that address the needs of professionals working in environmental health services, particularly in relation to how they can collaborate with professionals in other sectors; and
- developing organizational structures to facilitate the movement of professionals across different sectors and organizations within the ambit of environmental health services.

NATIONAL WORKING GROUPS

Participants were asked to formulate priority actions for education and professional training of environmental health professionals in their respective countries through discussion in national working groups. The terms of reference for this discussion were as follows:

- to identify the obstacles to the development of professional training and education programmes in each country;
- to identify three priority actions required in each country to support the development of professional training and education programmes.

The main results of this discussion are presented below for Kyrgyzstan and Uzbekistan.

Kyrgyzstan

Obstacles to the reform of environmental health professional education and training system included:

- lack of adequate enabling legislation that provides a clear political mandate for reform
- shortage of financial resources
- weak institutional capacities
- difficulties in getting access to international information
- lack of opportunities for improving training and teaching skills of university staff in international centres.

The following priority actions at national level were identified:

- the establishment of an intersectoral national centre for the development of environmental health services;
- the elaboration of guidance documents on the standardization of education and training for environmental health professionals;
- the introduction of basic education in environmental health issues into secondary school curricula;
- the development of initiatives for the retraining of professionals currently working in environmental health services;
- the mobilization of internal and external resources in developing institutional capacities for environmental health education and training;
- the mutual recognition of professional and academic qualifications issued by different institutions;
- the involvement of professionals from both medical and nonmedical fields in environmental health training and education activities; the coordination of these activities would benefit from the establishment of a network for data and information exchange between environmental health professionals.

Uzbekistan

The following priority actions were necessary in the reform of education and training environmental health professionals:

- establishment of a permanent environmental health training and education committee to be responsible for coordination of activities at national level;
- identification of funding sources necessary for establishing such a committee;
- coordination of participation by a wide range of experts from other sectors in the education and training of environmental health professionals, which would involve the rationalization of environmental health education and training institutions in order to maximize the participation of leading experts at national level;
- revision of existing training curricula in environmental health-related fields and the development of specific training programmes to address the requirements and needs of environmental health services in Uzbekistan;
- development of institutional capacities and human resources in the field of education and training of environmental health professionals;
- development of training of trainers programmes in environmental health education, in conjunction with international organizations and partners
- improvement of professional status, pay and work-related conditions for staff in the state education, health and environment sectors.

INTERNATIONAL COOPERATION ON COMMON ISSUES

As the workshop progressed, it became clearer that some problems could be resolved more efficiently and effectively through international cooperation at a subregional level rather than individual countries duplicating their efforts in order to achieve the same result.

The participants recognized that fora such as this workshop gave them a valuable opportunity for sharing problems and exchanging experiences about both successes and failures. They noted that this was the first opportunity for representatives of the ministries of education, environment and health from the five CAR to meet.

The issues of common concern discussed and identified were:

- the need for guidance documents on the elaboration of appropriate training curricula, and the development of policy on training and staffing.
- the need to help environmental health professionals improve their language skills, especially in English, French or German, with the support of nongovernmental organizations or other relevant mechanisms;
- the need to ensure proper mechanisms at international level for the mutual recognition of professional and educational qualifications within the CAR;
- the desirability of producing a short glossary of definitions of the most commonly used environmental health terms (see above and the glossary provided for the Helsinki conference);
- the promotion of student and teaching staff exchanges among the CAR;
- the production of a compendium of existing training facilities in the CAR; since such a document would be most useful participants agreed to try to initiate its production, but the Regional Office would discuss the matter further with the aim of avoiding duplication of efforts between the several current initiatives in this regard.

Finally, to ensure that all the abovementioned actions are taken, the participants proposed that the Regional Office initiate the creation of a coordination structure at subregional level. Initially, this could be based in Kyrgyzstan, where the WHO regional information centre is already situated. The representatives of WHO agreed to support the creation of such a body, subject to its work being:

- coordinated with, and complementary to, the NEHAP (National Environment and Health Action Plan) process in the CAR; and
- linked with national health plans such as the Manas project in Kyrgyzstan or the Lukman project in Turkmenistan.

Such a structure could consist of national coordination committees to coordinate environmental health training and education activities at country level, strengthened by the formation of an international board to coordinate environmental health training and education activities among the CAR. Their terms of reference could include:

- to facilitate the harmonization of curricula for basic and specialized environmental health education and training;

- to design a mechanism for the harmonization of professional qualifications granted by environmental health training and education institutions in the CAR;
- to organize target group-specific training courses and workshops outside central institutions;
- to establish and maintain contacts and the exchange of information with international experts, including WHO, on the development of environmental health training and education curricula;
- to facilitate the training of trainers at internationally approved centres within the framework of international cooperation;
- to develop institutional capacities and human resources for environmental health training and professional education at national and subregional levels;
- to develop environmental health staffing and personnel management methodologies in cooperation with international organizations;
- to advise governments on measures necessary to initiate and support reforms in the field of environmental health education and training.

Participants agreed that these conditions were reasonable and undertook to initiate action to ensure a successful commencement to this coordination structure in their respective countries. The WHO representatives agreed to draft indicative terms of reference and a work plan for this body as soon as possible, as well as to endeavour to make some funds available for the initial costs of administering it.

RECOMMENDATIONS

1. WHO should work with the governments of the CAR to establish an intersectoral committee for the CAR for the purposes of developing guidance on the reform of environment and health services, especially the training and staff levels of environment and health professionals. WHO should explore with the CAR the political support for such a group and make proposals to their governments on the administrative procedures for the work of this committee, its terms of reference and a work plan for the next six months.
2. The CAR should coordinate their efforts in developing curricula for environmental health professionals and work together to promote the mutual recognition of professional and academic qualifications granted by their institutions. The terms of reference for the above mentioned committee should cover the coordination of these activities at national and international level.
3. The improvement of the professional capacities of environment and health professionals should be addressed through extensive, well planned reform of environmental health services, including the provision of legal and political frameworks to support these reforms.
4. The procedures, mechanisms and tools developed for the establishment of NEHAPs should be used in the reform of environmental health services and in the development of new proposals for training and staffing. In accordance with the Helsinki Declaration, all Member States have committed themselves to the development of a NEHAP. It is important that the CAR integrate the recommendations of this workshop into the NEHAP process.

5. Guidelines should be developed for the qualitative evaluation of training institutions. This should include an evaluation of whether graduates' competence matches the needs of the services in which they find employment, whether the best available training techniques are being used, and whether the best use is being made of available training resources in collaboration with other faculties, research institutes or established bodies.
6. The CAR and WHO should approach international NGOs specializing in providing foreign language teachers at acceptable cost. The need for improving linguistic skills in foreign languages was highlighted several times. Diplomatic missions and consulates might also be approached for support in training not only professionals at central government level, but those working in the field as well.
7. Bearing in mind the intersectoral nature of environmental health, each country should identify clearly all existing and potential partners who can play a role in the reform of environmental health services and training. Such an exercise could be undertaken under the terms of reference for the national representatives of the committee mentioned in the first recommendation.
8. Measures should be taken to establish intersectoral and interinstitutional data-sharing mechanisms at national and international level, with the aim of encouraging intersectoral cooperation. Such mechanisms would be evidence to politicians and policy-makers that technical institutions were endeavouring to improve consistency and avoid duplication in their work. They would also help make the best use of the scarce available resources, and assist in setting consistent criteria for the prioritization of activities.
9. The legislation necessary for reforming the staffing of environmental health services and the training and education of environmental health professionals should be enacted. Many of the workshop's recommendations required specific amendments and additions to existing legal codes. Health, environment and education ministries were urged to cooperate in formulating and enacting the statutory instruments necessary to assist these reforms.
10. Professional training and education programmes should take account not only of the need to produce new graduates, but also of the real needs of staff currently working in environmental health services. Competent young graduates are the lifeblood of any profession, but attention must also be paid to the ongoing training of professionals already employed if continuous professional development is to be fostered. This will help ensure that new graduates entering the services will work in an atmosphere conducive to innovation, and that current staff will not feel threatened by changes in their duties or in the skills they require to carry them out.
11. The formal mechanisms necessary for intersectoral cooperation should be developed. Intersectoral cooperation will not come about of its own accord. Formal mechanisms, including legislative and regulatory instruments, technical instruments (e.g. data exchange), managerial tools and economic incentives, are required in this process. Governments and ministerial departments should establish adequate formal mechanisms to ensure effective, sustainable intersectorality.

12. Reforms in environmental health services should take account of the structures that have formed the basis of environmental health services in the past, and work to support, improve and redefine their role. The SanEpid system, which has been the main vehicle for delivering environmental health services in the CAR, has in many respects worked well and could play an important role in the future. It should, however, be reformed and opened up to a new range of professional disciplines which include the social sciences as well as technical matters such as geology, geography and physics. This will assist in the development of intersectoral cooperation and understanding with ministerial departments, institutes and NGOs that are not traditionally part of the health sector.
13. Environmental health professionals should develop improved communications with politicians at national and local level, the general public, NGOs and other technical bodies. Development of communications skills and investment in developing new means of communication through the mass media are vitally important. The need to be able to communicate with the international scientific community was also recognized; the development of environmental health professionals' linguistic skills could assist in this.
14. Existing technical and scientific textbooks should be published in Russian. Much existing technical information is now becoming obsolete, especially in relation to management and economic issues. The pamphlets published by the Regional Office for local authorities are way of developing more up-to-date technical guidance.
15. Measures to counter the drain of environmental health professionals from the public to the private sector should be formulated, taking account of the reasons for these losses such as low salaries, professional status and lack of resources. In the SanEpid sector average salaries are very low, and each staff member lost seriously weakens the service.
16. The design of environmental health curricula should be developed through partnership between the ministries of health, environment, education, other related ministries, and representatives of the private sector, educational institutions and the various professions. There is a particular need to involve environmental health professionals more in training, for example through making them associate professors or lecturers in some disciplines, and they should be more extensively used for practical work and fellowships.

Annex 1

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