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## The first years of implementation of the Swiss National Environment and Health Action Plan (NEHAP): lessons for environmental health promotion

### Summary

The National Environment and Health Action Plans (NEHAPs) are a novel attempt to integrate environmental protection and health promotion in political programmes. Throughout Europe, about 40 NEHAPs have been developed so far. The Swiss NEHAP was among the first to be developed in an industrialised country. We discuss strength and weaknesses of the Swiss NEHAP and draw first conclusions on the development and implementation process of such programmes, illustrated by examples of other European NEHAPs. The strengths of the Swiss NEHAP lie in the formulation of specific targets in selected areas, its approach as an environmental health promotion programme, and its comprehensive evaluation. Weaknesses in most NEHAPs are the lack of involvement of the general public and of the economic sector, and the absence of an implementation strategy along with adequate financing.

**Keywords:** Health promotion – Environment – Sustainable development – Evaluation – Policy – European programmes.

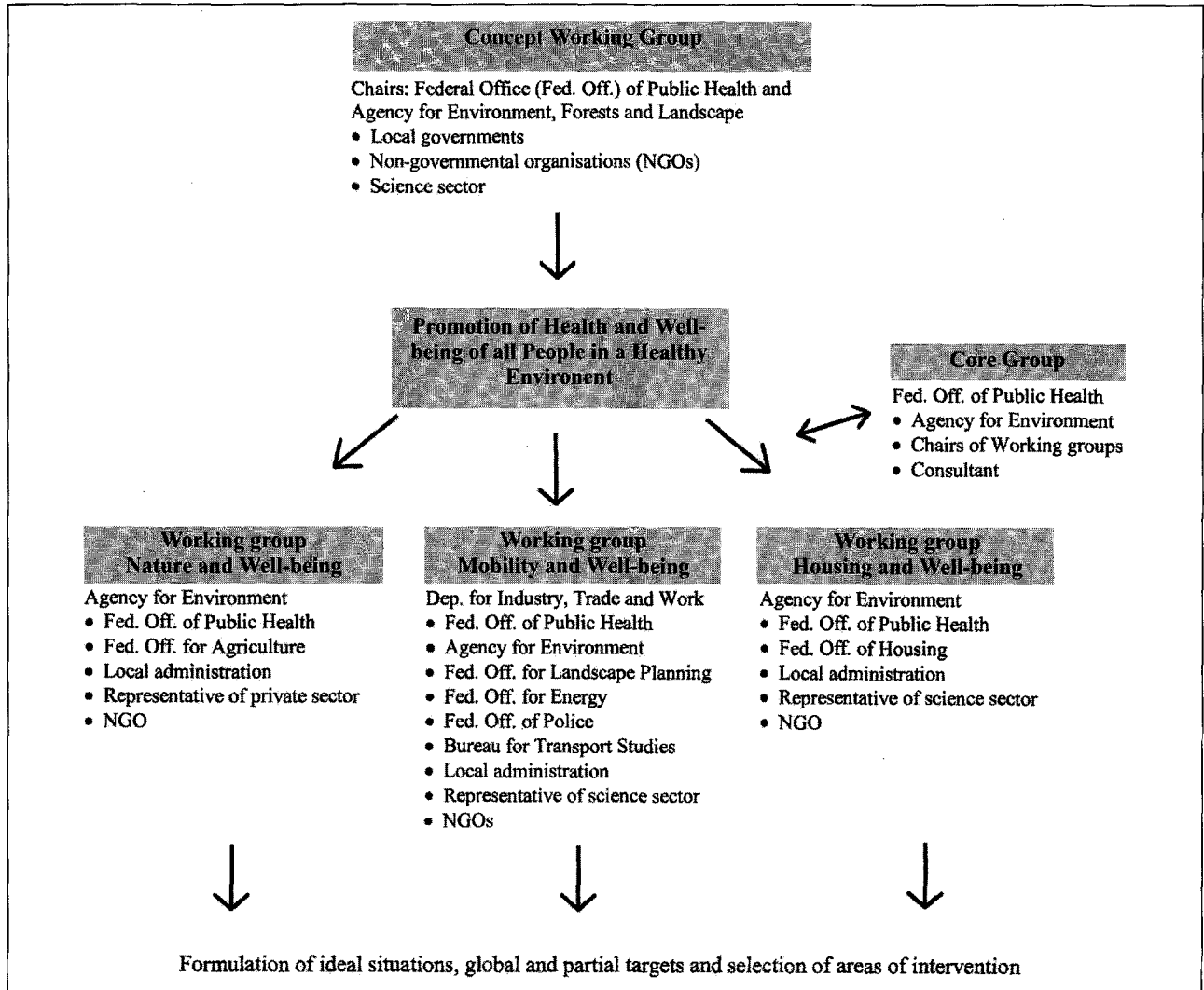
### Environmental health promotion

Almost 150 years ago the link between environment and health was formally recognised after a cholera outbreak in London (Cameron & Jones 1983). In the course of time, environmental health developed from a synonym for “sanitation” at the beginning of the century to a public health issue. The environmental movement in the middle of the 20<sup>th</sup> century supported this development with its concern for environmental pollution (Cassell 1969). The recognition of the importance of the subject for public health which followed later on was also enhanced by major environmental

health disasters (Gochfeld & Goldstein 1999). In Switzerland, the Schweizerhalle accident had a major impact on public attitude towards environmental pollution and health (Ackermann-Liebrich et al. 1992). The promotion of environmental health in a more integrated way developed by the end of the 20<sup>th</sup> century. Based on the WHO report “Our planet, our health” (World Health Organization 1992) prepared for the Earth Summit in Rio de Janeiro in 1992, a variety of environmental health promotion measures was outlined in Agenda 21 (Keating 1993). The subject was further developed and substantiated as part of the practical implementation of sustainable development at the European WHO Conference on Environment and Health in 1994 (World Health Organization 1994).

The novelty of these concepts was the explicit linking of the formerly separated areas of environmental protection and health promotion (World Health Organization 1992; Godlee & Walker 1991) a broadened concept of “health” defined as a dynamic process (World Health Organization 1986). This concept encloses both individual behaviour and conditions stating that political, economic, social, cultural as well as environmental factors all are influential for health and well-being. Therefore, the prerequisites of health cannot be ensured by the health sector alone but health must be integrated into the planning and implementation processes of the different administrative sectors and levels in order to create a supportive environment.

Based on the European Action Plan (World Health Organization 1994), about 40 National Environment and Health Action Plans (NEHAPs) have been developed which seek for the application of these concepts. While the programme has an important impact in eastern European countries (Haralanova 2000; Isac 2001) experiences from the western European region are more rare. The Swiss NEHAP (Swiss Federal Office of Public Health 1997) was among the first to be



**Figure 1** Development Process of the Swiss National Environment and Health Action Plan (NEHAP) and participating institutions (Fed. Off. = Federal Office, NGO = Non-governmental organisation)

developed in an industrialised country. As external evaluators of the Swiss NEHAP, we will highlight and discuss its strengths and weaknesses and draw first conclusions on the development and implementation process of such programmes, illustrated by selected examples of other European NEHAPs.

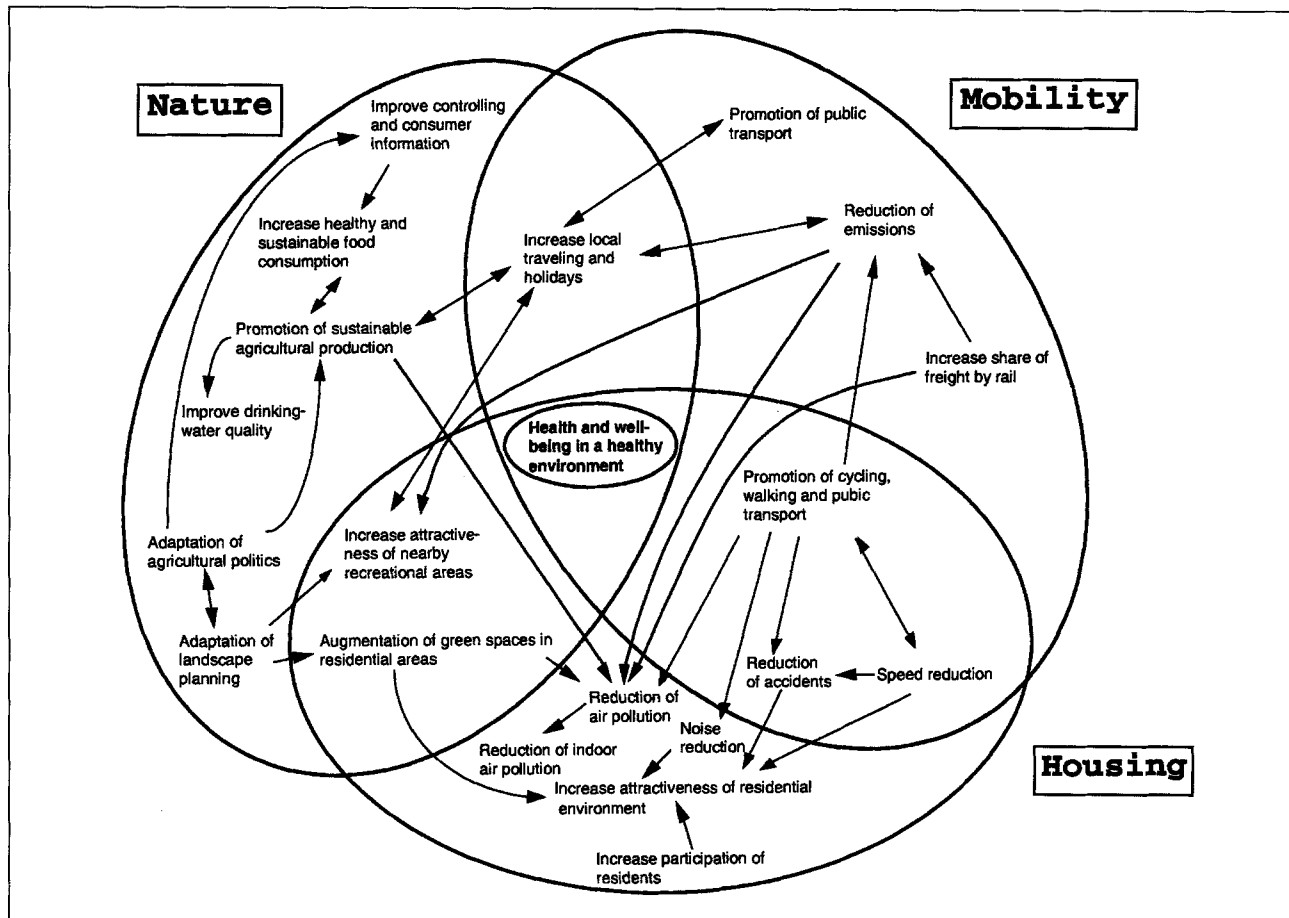
### The Swiss National Environment and Health Action Plan

The Swiss NEHAP was developed from 1995 to 1997 as part of the Swiss Action Plan for Sustainable Development (Swiss Federal Office of Public Health 1997). The Federal Office of Public Health (FOPH) and the Swiss Agency for the Environment, Forests and Landscape (SAEFL) jointly guided the development process (Fig. 1). A concept working group was formed consisting of representatives of the can-

tons and municipalities and campaigning non-governmental organisations (NGOs) as well as representatives from the science sector and of professional groups. This concept working group formulated the central idea of the Swiss NEHAP: the promotion of health and wellbeing of all people in a healthy environment.

### Problem analyses and priority setting

Even though in Switzerland basic environmental requirements for good health such as the supply with safe water and food, waste disposal, or occupational safety are mostly ensured, there are still areas which need improvement (Swiss Federal Office of Public Health 1997; Kahlmeier et al. 1997). Therefore, at first a problem analysis was carried out to identify priorities. Legislation and existing programmes were taken into account to avoid duplication: Areas like sanitation



**Figure 2** Interactions between the three areas of the Swiss National Environment and Health Action Plan (modified from Swiss Federal Office of Public Health 1997)

or chemical safety, in which the existing measures were considered to be sufficient, were not included. Subsequently, 17 topics were rated by each member of the concept working group according to the following criteria: impact on ecology and health, scientific evidence of the relevance of the problem and of a causal association, long-term negative effects, economic burden, political sensibility, perception in the society, and relation to the European programme. Another leading question in this process was on which topics the link between environment and health could be communicated easily.

The ranking of the concept working group members resulted in the choice of the following three areas:

- Nature and well-being,
- Mobility and well-being,
- Housing and well-being.

These three areas are not separate fields. In Figure 2, the complexity of the interactions between them is illustrated (modified from Swiss Federal Office of Public Health 1997). Finally, an interdisciplinary working group was formed for

each of the areas of the NEHAP that had to formulate specific targets and measures (Fig. 1). Subsequently, a draft of the NEHAP was discussed in hearings with various interest groups.

#### Targets and measures

An ideal situation was laid down for each area as a starting point for the formulation of a global target which was further specified in partial targets and areas of intervention (Tab. 1) (Swiss Federal Office of Public Health 1997). The targets and measures were formulated wherever possible in such a way that they will have an impact both on health and environment. E.g., the promotion of human powered mobility, one of the partial targets in the area "Mobility and Well-being" presented in Table 1, is on the one hand a means to reduce detrimental environmental effects of motorised traffic like emissions or space consumption. On the other hand, a doubling of ways made by bicycle would lead to more people exercising on a regular basis. Thus, the promotion of human powered mobility is an ideal measure on the

Table 1 Ideal situations, targets, and areas of intervention of the Swiss National Environment and Health Action Plan (Swiss Federal Office of Public Health 1997)

Nature and well-being	Mobility and well-being	Housing and well-being
<p><b>Ideal situation</b></p> <p>Nature and landscape are conserved and used in such a way that there is a harmonious balance between human well-being and the conservation of natural resources.</p> <p><b>Global target</b></p> <p>By 2007, 1/4 of the Swiss population will be in a position to consume healthy, balanced and enjoyable food, thus contributing to sustainable agriculture.</p> <p><b>Partial targets</b></p> <ul style="list-style-type: none"> <li>- By 2002, 80% of the population will know how to eat healthily and in harmony with seasons and that their consumption patterns influence agricultural production and landscape.</li> <li>- By 2007, nearly 100% of the agricultural soils will be used according to the principles of integrated pest management or organic production (OP), proportion of OP &gt; 30%.</li> <li>- By 2007, 70% of the available meat will be from species appropriate and livestock-friendly production.</li> <li>- By 2007, nitrate content of 99% of all drinking water collectors will be &lt; 40 mg/l.</li> <li>- By 2007, 90% of all agricultural and related business will have standardised quality control systems; positive declaration/reproducible production pathways are the rule.</li> </ul>	<p>Mobility is applied in such a way that it enhances our well-being while our environment is conserved.</p> <p>By 2007, current adverse impacts of motorised mobility will be reduced by a significant reduction in adverse emissions, and by increase in proportion of non-motorised mobility.</p> <ul style="list-style-type: none"> <li>- By 2002, 80% of the population will know about the interactions of motorised traffic, emissions and adverse impacts on human health.</li> <li>- Emissions of motorised traffic will be reduced to such an extent that the impact threshold levels of the Ordinance on Air Pollution Control can be respected.</li> <li>- By 2007, the proportion of journeys by bicycle will have doubled for commuting, shopping and leisure as compared to 1995 (7%, 5% and 7%, respectively).</li> </ul>	<p>The quality of settlements is improved in such a way that it promotes our well-being and allows active individual involvement.</p> <p>By the year 2007, healthy and environmentally adequate housing will be assured in 90% of all residential areas.</p> <ul style="list-style-type: none"> <li>- By 2002, 80% of the population will be well informed about indoor air pollution and able to take adequate measures.</li> <li>- By 2002, a speed limit of 30 km/h will be introduced in 70% of urban and peri-urban residential areas.</li> <li>- By 2000, no-one will be exposed to involuntary passive smoking in the workplace, means of public transport and public buildings.</li> <li>- By 2007, residential areas will have structures to encourage active involvement in neighbourhood life. Planning interventions will create conditions allowing adequate presence of small manufacturers, jobs (esp. supply), leisure and services.</li> </ul>
<p><b>Areas of intervention</b></p> <ol style="list-style-type: none"> <li>1. Information/education/training of all partners of the population concerning environmentally adequate and healthy food (e.g., campaigns, schools)</li> <li>2. Intensification of contacts between consumers and producers/farmers (e.g., direct marketing)</li> <li>3. Implementation of the Swiss Agrarian Reform</li> <li>4. Establishment of labelling and quality control systems for agricultural products and the production of such, in order to enhance truth-in-packaging for consumers</li> </ol>	<ol style="list-style-type: none"> <li>5. Promotion of public awareness of mobility related issues of safety and health (e.g., schools, campaigns)</li> <li>6. Reassignment of roads and improvement of traffic flow to promote non-motorised traffic</li> <li>7. Incentives to transfer traffic to public transport and bicycle (e.g., parking, access to public transport)</li> <li>8. Protection of the alpine region by reducing motorised traffic (e.g., Alp Initiative, tourism)</li> <li>9. Reduction of emissions from motorised traffic</li> </ol>	<ol style="list-style-type: none"> <li>10. Promotion of public awareness of indoor air pollution and adequate behaviour (e.g., schools, campaigns)</li> <li>11. Promotion of 30 km/h speed limit (e.g., streaming of legal procedure, information)</li> <li>12. Prevention of nuisances by passive smoking</li> <li>13. Enhancing attractiveness of housing environment (e.g., meeting places)</li> <li>14. Upgrading of nearby recreational and green areas within urban residential areas</li> </ol>

way to the vision of the NEHAP in this area: A mobility enhancing human well-being while conserving the environment. To achieve this partial target, it is not only planned to rise public awareness but to improve at the same time the conditions for cycling through e.g., landscape planning or incentives by employers (“Areas of intervention”, Tab. 1).

### *Implementation*

The programme is translated into action since 1998 under the guidance of the FOPH. The Swiss NEHAP is aimed at being effective in itself but at the same time, it is embedded in the context of other policies and programmes which have already been initiated. It was intended to complement existing activities with regard to environmental health promotion and to serve thereby as an instrument to intensify intersectorial co-operation. As first step of the implementation, working groups consisting of the concerned Federal Offices and of the local authorities were established to coordinate the activities and to build a structural network at the national and local level. In November 2001, the NEHAP-project database contained information on 48 projects. 35% of these projects were started because of the NEHAP, in the remaining the FOPH is involved in the project management or financing.

### *Evaluation*

Evaluation should be an inherent part of every health promotion programme (Rosenbrock 1995). The evaluation concept for the Swiss NEHAP developed in 1997 is based on a goal oriented, user focused approach (Rossi & Freeman 1993). The planning and implementation process as well as outcomes and impacts are studied. The continuous evaluation of the implementation is based on a series of interviews, document analysis, and the aforementioned NEHAP-project database. Impact models were formulated as basis for the choice of indicators to assess the effectivity of the implementation in relation to the targets. A baseline assessment of these indicators was carried out in 1999 (<http://www.unibas.ch/ispmb/dienst/e/edie301.htm>).

### **Strengths, weaknesses, and first conclusions**

The Swiss NEHAP is innovative in a number of aspects: First of all, the aim was to create a promotion programme with its own specific targets at the interface of environment and health. This is a first distinction to other European NEHAPs such as the Austrian, which mainly represents an overview of existing legislation, measures and programmes (Federal Ministry of Environment, Youth and Family Affairs et al. 1999). Another difference to most NEHAPs is the positive, health-based approach focusing on “well-being” in-

stead of indicators of illness. Further, the majority of the Swiss targets were quantified, stating which level of improvement shall be achieved until when (Tab. 1). Exceptions were made in areas which are politically sensitive (like the time frame concerning the impact threshold levels for air pollution) or which still lack scientific basis (e.g., definition of “attractiveness of housing environment”). Obviously, this quantification facilitated the development of an evaluation concept considerably (Van Herten & Van de Water 1999). Accordingly, in most NEHAPs the assessment of the implementation and goal attainment is only mentioned in a very general way or not at all. So far, only in very few countries apart from Switzerland, an evaluation has been put into practice, e.g., in Hungary (Pinter 1997).

On the other hand, due to restricted resources for the development of the Swiss NEHAP, the analysis of existing programmes, legislation and administrative structures was quite limited. Additionally, the participation in the working groups was solely based on voluntariness and decisions were not always transparent. Another weakness is the lack of involvement of the economy and the general public. While for example in Poland, stakeholders of various economic sectors were involved in the priority setting process (Ministry of Health Poland & Ministry of Environment Poland 1999) or in the Ukraine, a separate chapter in the NEHAP was dedicated to public participation (Ministry of Health Care of Ukraine et al. 1999), Switzerland as most other countries did not provide specific measures to involve these groups. This contradicts one of the basic principles of health promotion programmes, i.e., the participation of the ones affected (World Health Organization 1986) and leads to non-collaboration of a key partner: the economy (World Health Organization 1999). But the non-involvement of the economy is not unique to the Swiss NEHAP: In 1999 WHO stated that “collaboration with economic sectors has been one of the most difficult areas in the development of NEHAPs in most countries” (World Health Organization 1999).

However, the lack of a comprehensive implementation strategy as part of the action plan is probably the most important weakness of a number of NEHAPs. In most NEHAPs, e.g., the need to intensify the collaboration between various departments and administrative levels to achieve improvements in the environment and health area is emphasised. Yet, only a few plans state how this intention shall be put into practice, like e.g., the Bulgarian: An Interagency Steering Committee, jointly guided by the Minister of Health and the Minister of Environment, is responsible for the coordination and continuous control of the implementation in all concerned departments (Republic of Bulgaria Council of Ministers 1998). Another positive example is Poland which worked out a

separate implementation programme (Ministry of Health & Ministry of Environment, Poland 1999). The lack of such an implementation strategy involves the risk of inefficiency, actionism, arbitrariness in the choice of partners, vague communication, and thus, ineffectiveness. Additionally, it impedes a systematic evaluation of the implementation process. Also in Switzerland, the implementation had not been addressed adequately in the action plan itself. However, as a consequence of the process evaluation revealing this fact, an implementation strategy has been developed recently (Swiss Federal Office of Public Health 2001).

The separation of the NEHAP- and the Agenda 21-process at the Rio-Conference, which continued on the national level, turned out to be another powerful hindrance (Chartered Institute for Environmental Health 1998). Despite international efforts to integrate the association between environment and health into decision making and policy formulation (World Health Organization 1995), in daily business the two areas still operate mainly within divided structures in most European countries. Therefore, the formulation process of the NEHAP served as cornerstone for the discussion and transfer of knowledge between hitherto mostly separated disciplines and thus as a starting point to pull the pieces together. However, in Switzerland the FOPH alone was assigned with the implementation. Since the FOPH does not have the authority to issue directives to the other involved administrative bodies, it depends on their non-material as well as material support. Even though the

process evaluation showed that the working groups served their purpose well in ensuring the involvement of the relevant partners, it became also apparent that the identification with the project and the respective role in it as well as the degree of co-operation still depended strongly on the individual representatives. Hence, for the establishment of a stable environment-and-health-network independent of involved individuals, further effort, resources, and time are needed as well as a comprehensive implementation strategy tackling the inherent centrifugal forces stemming from the complexity of the field (Fig. 2).

Thus, the greatest challenge in the implementation of this in principal valuable framework will be to ensure the link between health and environment on a structural level beyond an intersectorial development phase to build a real and long-term stable alliance (Schirnding 1999; Ziglio et al. 2000). An implementation strategy translating the action plans into an "action process" and adequate financing are crucial, as well as the involvement of the public and the economy. Finally, systematic evaluations would add to the effectiveness and credibility of the NEHAPs.

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