

Health impact assessment: a potential tool for managing health consequences of alpine space policies

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Abstract: Health Impact Assessment (HIA) is a comprehensive tool assessing the potential positive and negative impacts of policies, programmes or projects on population health. Although it has been applied to urban policies it comprises many positive aspects and methods that could be useful for mountain region management and development schemes aiming at the enhancement of life quality and the improvement of socioeconomic and environmental conditions of alpine communities. Focusing on the sustainability and equity of decisions targeting the population living in the alpine space the approach could be applied in the field of spatial development, in economic projects and tourism initiatives.

Key words: Alpine population, equity, health determinants, health impact assessment, spatial development, sustainability.

1 Introduction

Health impact assessment (HIA) is defined by the WHO Gothenburg Consensus Paper as “*a combination of procedures, methods and tools by which a policy, a program or project may be judged as to its potential effects on the health of a population and the distribution of effects within the population*” (WHO European Centre for Health Policy 1999). HIAs can be applied on many levels of action although the most strategic one including policies such as spatial planning, transport strategy, and economic policies, is most appropriate because the majority of people and space of a territory are concerned.

Studies can also be conducted in planning and housing at regional and local levels along with specific projects such as the building of shopping centres, the use of new technologies, or environment- and health-related prevention policies. The underlying

idea is the fact that health is less determined by health-care services than by economic, social and environmental influences. The aim of HIAs is indeed to estimate the health effects of these “determinants” (Scott-Samuel 2001). For these reasons, HIA may also be a useful tool for sustainable mountain development facing many socioeconomic challenges at the crossroads of agriculture, tourism, spatial development and environmental issues (e.g. risk management of global warming, the development of transport networks, efficient use of natural resources). As they include important impacts on mountain people’s life quality, these challenges demand a great deal of adaptation. Those impacts can be either negative (e.g. increase of traffic, road accidents, noise and pollution) or positive (e.g. stimulating innovation and employment in the tourism sector, improving access to facilities and services, building and living in sustainable settlements).

2 The origin of the HIA tool: the cross-sectoral dimensions of health

Health is frequently defined as the absence of disease. The epidemiology analysis traditionally follows that perspective and focuses on death and frequency of medically defined disease. HIA uses a broader and more positive perspective taking into account a broad range of causes or “determinants”. It considers all aspects of physical, social and economic well-being, including objective states of health, more subjective feelings and diverse aspects of life quality such as housing and working conditions, food, education or public services. As epidemiology is limited to the measurement of death and objectively assessed disease only, new forms of social studies and approaches have to be developed and applied. Within this framework of health-related causes, the HIA tool aims to estimate the positive and negative effects of policies or projects on the population’s health. The underlying principle is that health is a cross-cutting issue and may potentially concern all policy- and decision-making areas. Health effects may be engendered not only by the health-care system but also, directly or indirectly, by other sectors (Kemmer and Parry 2004).

The purpose of HIA is then to take into account the transectoral dimension of health and to influence decision making so that policies, programs and projects of all areas contribute to the improvement of population health or at least avoid damaging it. Such assessments lead to improved knowledge about the potential impact of political decisions by informing decision-makers and helping them to adjust policies to reduce negative and to maximize positive health impacts.

3 The social determinants of health and their concern for mountain communities

According to the WHO, “*health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*”. In this perspective, individual and community health is determined by multidimensional causes called “determinants”, which go beyond the strict biomedical analysis. In fact, an important number of studies in the United Kingdom or in Canada have recently found that health services and medical procedures play a relatively minor role in influencing the health of populations (Kemmm and Parry 2004). Their focus is on the general living conditions of the population, be it at the environmental, socioeconomic or political level. Many determinants require more consideration of their role in the health of people.

Firstly, environmental sustainability is a condition necessary for long-lasting health within communities. Our physical, mental and social well-being is strongly related to our physical environment and to its sustainable use of soil, water, wood, or fossil fuels. The health status of communities is also connected with the global status of the environment. Today, the depletion of non-renewable resources, i.e. the related cost rise of and pollution, can affect people economically and physically. The people living in mountain regions can be particularly affected by changing meteorological conditions triggering storms, floods, landslides or lacking snow. Beside their possible physical impacts, their indirect impact on tourism and the socioeconomy may also affect the quality of life of local populations.

Secondly, our socioeconomic conditions comprise many aspects having a relevant influence on our quality of life, such as housing conditions, economic activities and employment quality, access to facilities and services as well as social support and networks. The social health of mountain communities, because of their peripheral location, relies much on their specific living conditions. It may involve negative ones such as geographical discrimination due to the weak transport connectivity, economic pressures, poor working conditions (e.g. in the tourism sector) or unhealthy lifestyle (e.g. alcohol, tobacco). Mountain living may comprise positive aspects such as living close to nature, car-free environment and access to local shops in walking distance. Certain tourism projects may also bring direct or indirect economic benefits resulting in better living conditions for a certain number of locals, although there is the risk that a tourism development project widens the socioeconomic gap within the community.

Thirdly, social relationships and participation in community life and development have an important role to play in social well-being and integration. They are part of a more subjective and psychosocial state of living condition, which supports the perception of a complete state of health. In mountain regions, this dimension of health

may be supported by family and community cohesion, proximity, concern for community issues, and the cultural identity.

Lastly, individual and genetic factors such as age, sex and constitution are added to the list of determinants, although they are the smallest contributors to the health status of community members. In this respect, there are no specificities for mountain population.

4 The tools and phases of an HIA

4.1 Setting up a steering group

At first, a multidisciplinary or intersectoral steering group should be established to agree on the work procedure and to advise and support as the assessment develops. Its membership should include at the least representatives of the commissioners of the HIA, the project planners and the assessors carrying out the HIA.

4.2 Screening

Screening is the procedure whereby policies or projects are selected for health impact assessment. It consists in a rapid identification of the potential links that may exist between the projects and aspects of health, on the basis of opinions, information and existing evidence or even by intuition (Taylor and Blair-Stevens 2002). In general, the process of screening consists of an identification of the potential health impacts with a matrix of health determinants whose categories and subtopics are: lifestyle (diet, physical activity and risk-taking behavior), physical environment (air, built environment and land use, noise, water and other), socioeconomic environment (housing, education, employment, income, community interaction and transport) and two other societal determinants: public services (access and quality) and citizen participation.

Looking at the social groups *most affected* by the project is most important, taking into account the distribution of costs and benefits within the population. This is an interesting way of screening as it emphasizes one of the most important goals of HIAs: the reduction of social inequalities in health. In this perspective, the mountain population could be considered as a “vulnerable group” and, consequently, the screening phase would include an analysis of how mountain population’s interests are positively or negatively taken into account in national and regional policies, more specifically in spatial planning, tourism, transport or energy sectors.

4.3 Scoping and methods of appraisal

The scoping of HIA is the next stage of the process, where methods and human

resources are gathered and organized for further investigation. The timeliness of the project is critical. The assessment should intervene early enough to make useful recommendations prior to implementation, and late enough to have the necessary amount of information on the content of the project. Secondly, the potential positive and negative impacts observed with the matrix of determinants (screening stage) should lead to a mapping of relevant themes (e.g. employment, food, transport, waste) in which future recommendations for action and alternative options will be made to maximize the positive impacts and mitigate the negative ones. Thirdly, the steering group should agree on the proposed quantitative and qualitative methods and tools. Existing studies are collected and new research (e.g. surveys, interviews) can be undertaken to gain a more comprehensive picture of the health impacts. Consistent with the value of equity, participatory methods can be used to obtain the more subjective perceptions of risk (e.g. landscape deterioration, restricted view, noise increase, specific economic interests) among community members. Finally, in the interest of reducing health inequalities, a profile of the areas and communities likely to be affected by the project should help to identify the social groups whose health could be affected by the project, especially disadvantaged and vulnerable groups (older people, low income families).

4.4 Negotiation and recommendations by experts and stakeholders

Lastly, the human resources useful for the assessment have to be identified and possibly integrated in the steering group. Both experts who have knowledge of relevance to the project and stakeholders affected by the project should participate in the steering group assessment and share their views to paint a comprehensive picture of the potential negative and positive health impacts (Scott-Samuel 2001). Following the important stage of weighing arguments, relevant recommendations to improve the policy, program or project can be delivered. Ongoing monitoring of the implementation of the proposals is strongly advised.

5 The underlying goals of HIAs and their implications for mountain space

HIAs are carried out within a set of goals and values relevant to the alpine space and its population. The Gothenburg Consensus Paper (WHO European Centre for Health Policy 1999) suggests that in addition to promoting the maximum health of the population, four values are particularly important for HIA: democracy, equity, sustainable development and ethical use of evidence.

First, **democracy** emphasizes the openness of HIAs to the participation of lay people in the process of decision-making including assessment of policies or projects affecting their own life.

Second, **equity** focuses on health inequalities and the fact that effects on health are unevenly distributed within the population, depending on socioeconomic and sociodemographic criteria.

Third, **sustainable development** emphasizes that both short- and long term as well as impacts on the physical environment and human health are taken into consideration.

At last, **ethical use of evidence** includes the use of quantitative and qualitative evidence and a multidisciplinary approach to obtain a comprehensive assessment of the health impacts.

Those four elements have interesting implications for the mountain context. In effect, HIAs would offer the opportunity to address *health inequalities within the mountain population*, that is how positive and negative elements of each determinant are unevenly distributed throughout the population, according to socioeconomic status, gender, age, geographical location or even cultural and ethnic background. With this perspective, an HIA Steering Group would identify most vulnerable social groups (elderly, women, small village communities, etc.) and assess relevant factors in the project influencing their well-being : physical factors (alcohol and tobacco use, diet, physical activity, pollution and noise), social and mental factors (public transport and road networks, social interactions, access to cultural activities) and economic factors (income and work conditions). Health inequalities must also lead to unequal impacts on the quality of life between people living in mountain areas and others, notably related to spatial planning and transport policies at national or regional levels. It would allow the HIA practitioners to determine the benefits and the threat of discrimination that those policies may imply for mountain communities, in terms of public transport and road connectivity, tourism growth and quality, or possibly, of loss of agricultural and natural areas. This naturally leads to the concern for ecological and economic sustainability of mountain regions. The main concerns are the efficient management of soil and other natural resources (timber, biodiversity, wetlands, etc.) and the economic health of mountain communities resulting from the development patterns chosen in building, tourism, agriculture and nature protection.

The analysis of the Swiss transport policy crossing the Alps would enable a closer look at the environmental, economic and health impacts of the local inhabitants due to the shift from road to rail for cargo transport and the resulting changes in pollution, noise and safety. In that sense, the fourth element of HIAs, the ethical use of evidence, is critical. Searching for and drawing on relevant evidence, based on both quantitative and qualitative methods, in the relationship between current social, economic and

environmental trends in mountain regions and the quality of life of their communities remains a challenge.

6 Potential alpine policies concerned by HIA

6.1 A cross-sectoral and multi-level approach

We suggest that local and regional levels are relevant to considerations of the potentialities of health impact assessment for alpine policies. Although we saw that HIA could be applied at national and international levels (commodity transportation) in case that policies are likely to impact life of mountain communities. Consequently, HIA deals with numerous sectors and activities: spatial development and land use; public transport networks and human-powered mobility; tourism infrastructures and building projects; agricultural support and natural resources management. Tourism is probably a major economic sector that may involve many indirect and direct health determinants for alpine communities. Tourist satisfaction is assumed to be related to the degree of attractiveness and competitiveness of the visited region. In this perspective, the protection of the tourism assets of the Alps, that is the landscape (a common inheritance and a topic of priority¹), the natural and cultural assets and the development of nature-oriented tourism could have long-term positive effects for alpine regions, both economically and environmentally, and consequently for the local residents.

6.2 Potential health impacts in alpine policies

A high number of potential positive and negative impacts on health or life quality can be detected by applying HIAs to spatial planning, tourism projects and other areas of alpine development policies. Some are summarized as following:

6.2.1 Direct health impacts

Behavior and lifestyle (diet, smoking, alcohol consumption); Living and working conditions (of local dwellers, farmers); Physical access to facilities and markets (by walking, cycling, public transport); Economic accessibility (to education, employment, information technology).

6.2.2 Indirect health impacts

Sustainability of local business (diversity and quality of initiatives, e.g. in agroecological tourism); Equal distribution of benefits and reduction of charges (social

¹ The alpine landscapes have recently been raised in Switzerland as a major topic of spatial development through the National Research Program 48 "Landscapes and Habitats of the Alps" of the Swiss National Science Foundation. HIA would probably be an appropriate tool to the Program's recommendations.

distribution of tourism income, exposure to environmental pollution); Sustainable management of natural resources (e.g. efficient use of energy); Built environment and landscape quality (e.g. participatory approach, integrated management of nature and architecture, housing density).

The scale and the intensity of those impacts naturally depend on the size and objectives of the selected projects. So the process of screening is relevant to identify policies and projects with the most positive and negative impacts on mountain population's health. Stratification of the social groups within the population is also encouraged to gain a clear idea of who might be impacted most by development projects in alpine areas.

7 Conclusion: towards healthy mountain communities

Because of its nature and objectives, the HIA tool has a strong connection with sustainable development: the assessments aim at reducing the socioeconomic, health and environmental risks and enhancing the quality of life of populations. HIAs can be applied to alpine areas and rural communities, especially where they are disadvantaged and in peripheral situations, either spatially, economically or even politically. The HIA evaluations should emphasize the sustainability of certain choices, for example the efficient use of resources providing financial benefits to the rural community, transport measures reducing the social discrimination in specific areas or economic initiatives supporting the cultural and natural assets of a region. In that sense, HIA has the potential to improve relevant policies and projects designed for alpine space and, consequently, the general living conditions of the alpine community.

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