Actions on urban health enhancement in the Arctic:

Salutogenic Planning Concept

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Abstract

The prevailing paradigm of environmental health research has emphazised pathogenesis and disease prevention, instead of salutogenic mechanisms of health promotion. Looking at the historical background of the interconnections between public health and urban planning since the 19th century, it can be concluded that the practical measures of environmental health concerns have been underpinned by preventive medicine and probabilities of exposure, focusing on screening health risks and fighting epidemics in urban areas. The only major difference today is that the newly emerged healthy urban planning initiatives are triggered by the global epidemics of non-commutable diseases caused by lifestyle and dietary factors. While many of the recent healthy urban planning initiatives and academic studies have originated from the USA or in the institutional sphere of the World Health Organization, the aim of this article is to add a new dimension to this discussion. The article explicates in detail the environmental mechanisms affecting healthiness and elaborates theoretical perspectives and principles of salutogenic planning. The salutogenic model for health promotion is founded on the theoretical basis developed by sociologist Aaron Antonovsky (1996). He has suggested, that the mechanisms generating health and wellbeing are firmly linked to the general resistance recourses and sense of coherense of individuals and societies. The article suggest that understanding better the salutogenesis of healthy communities, possibilities could open to study their adaptation capacity within the transformation processes of the changing North. Shortcomings in the scientific evidence on how to build healthier environments are demonstrated – and noted that clear examples on healthy planning practices in cold climate are missing.[1] Holistic approaches are required, which pay attention to the large number of environmental aspects related to individual and population health and wellbeing in the Arctic areas while seeking sustainable planning solutions in fragile natural environments. The article reveals an undoubted need for further research on building and planning practises which enhance health, social inclusion, resilience and sustainability of northern communities.

Introduction

The first part of the article comprises a brief review of the historical background of healthy planning objectives in the light of their connections to public health actions. The aim is to frame the development of healthy urban planning in its temporal and societal context. The second part concentrates on making key remarks of the current understanding of healthy urban planning, mainly reflecting on the definitions brought out by the World Health Organization. The third part outlines a preliminary framework for salutogenic urban planning approach in the contex of northern settlements.

[1] Reacting to this lack of knowledge, a research initiative called “Health on Thin Ice – urban planning for good health in cold climate” has been launched in 2013 as a Nordic cooperative between University of Oulu, Finland, Luleå university of Technology, Sweden, and Norwegian University of Science and Technology, Trondheim.

The timeliness and importance of this subject derives from the environmental and societal changes in the Arctic regions, which set major challenges for urban planning policies and public health sector. Nordic countries are, as in most European ones, tackling serious challenges such as the ageing population, which force us to reconsider the Nordic welfare model. The concept of the *new public health* has abandoned, at least in some extent, the objective of state (or public sector) led guardianship over citizen health, which was prevalent in the health politics of Finland in the 1980 and 1990s. Since then, the general approach has underlined more the individual's own activity in health promotion instead of state or public sector responsibility for ill treatment. (Sairinen et al. 2006).

Major environmental challenges have also turn the world`s focus toward north. Climate researchers have concluded, based on their climate models and calculations, that the viable habitat for human existence will be withdrawn towards the earth poles in the future, even as soon as within the next century. (Lovelock 2006; Smith 2011). According to the FINADAPT-survey (Carter 2007), which assessed the adaptive capacity of the Finnish environment and society under a changing climate, the impacts will be drastic, but changed circumstances can also pose positive affordances from the perspective of forestry, agriculture or tourism. Even if the moderate estimations hold true, the significance of Arctic areas also as a resource of health and welfare will increase. Peripheral, mostly rural areas have significant advantages over densily populated urban areas in many respects. Recearch has indicated that certain environmental characteristics have positive effects on human health and wellbeing, such as low density of human population, low levels of noise and movement, and a slow rate of change. (Thompson Coon et al. 2011). Finland has a privileged position in this sense; 90% of our surface area can be classified as rural, and approx. 80% of our land cover is forest. Global issues related to clean water, food, renewable energy and natural resources are an asset in Finland. A significant change in attitudes speaks also for the benefit of Arctic areas, when the traditional discourse on extending the average *length* of life is gradually being supplemented by an increasing focus on improving the *quality* of life. (ICSU 2011).

A historical review: The objectives of health in urban planning

The coalescent of health issues in urban planning stem from the early stages of professional and systematic communal planning. With the emerging profession of city planning, architects started to become aware of the health problems that people suffered in rapidly growing cities. The causes of problems were firmly associated to physical space, therefore also the means to improve the situation pertained the physical fabric of the urban environment. In early modern Europe, urban areas were associated with poorer health and higher mortality rates than rural areas. This development was closely related to the emerging industrialization and urbanization of the 18th and 19th century. Overcrowding of cities together with poor sanitation, lack of clean water and waste disposal created serious problems. Rapid growth led to the expansion of slum areas and million living in cities died in epidemics. (Rydin et al. 2012; Corburn 2009). Concrete actions fighting these outbursts were based on preventive clinical medicine, in the form of attaining better sanitation and hygiene levels. This was assisted by evindence provided by geographers, who draw thematic maps to chart the occurrence of various diseases. (Rydin et al. 2012; Larice & Macdonald 2013). These measures concerned not just the urban fabric but single buildings as well, after Florence Nightingale had recognized in the 19th century the negative effects of hospital buildings by observing differences in survival rates at various facilities. She attributed this difference to the hospital design and construction, particularly regarding crowding, light, and ventilation. (Schweitzer et al. 2004).

As a result, public health concerns started to integrate more broadly into urban planning processes. Combining economic efficiency, public health and morality arguments, sanitarians began to gain the political support they needed to implement their reforms, and in the late 19th century improvements in sanitary

conditions were made through large infrastructure and housing improvement projects. (Corburn 2009). The sanitary movement and efforts towards disease prevention were actually the launch to modern town planning and building regulations, like legislation that required new homes to have running water and adequate drainage. (Hancock 1993; Shoshkes & Adler 2009; Dubos 1959). According to Davoudi (2006), a key factor in the 19th century public health and housing acts preceding the post-war planning system developed in Britain, was a social survey undertaken by Charles Booth in 1887, which was considered as the first modern survey. In this spirit, the Scottish town planner Patrick Geddes (1854 –1932) also realised the social consequences of crime, illness and poverty that developed as a result of modernization. He opposed strongly the "sweeping clearances" executed in the form of gridiron plans, which caused only a large population that would be driven to create worse congestion in other quarters. Instead, he was in favor of "constructive and conservative surgery" rather than the heroic planning of the nineteenth and early twentieth centuries. Geddes promoted a mode of planning that sought to consider "primary human needs". Yet his efforts aimed at improving the physical conditions by performing "a surgical operation" for the sick parts of the neighborhood and bringing sunlight and airflow in to the slum areas. What was though significant, Geddes considered the analytical civic survey as indispensable to urban planning: his motto was "diagnosis before treatment". (Geddes 1915; Tyrwhitt 1947). Along with the Geddesian dictum "survey-analysis-plan", the city itself was defined as an object to be cured.

The first true efforts not just for the treatment of disease but for the creation of a healthier, happier world were presented by landscape architect Frederick Law Olmsted. He attempted to bring relief to citizen's lives by designing green areas, which extended also to the inner core of the city. (The most famous example of his work is the Central Park in New York). Olmstead was certain that parks would improve people`s physical health by providing open spaces filled with trees, sun and fresh air. In parks people would find relief from stresses they encountered in the chaotic urban life, and would regain their mental and physical health. To Olmstead, public parks represented the 'lungs of the city'. (Olmstead 1870). His planning philosophy lead to the establishment of American Park Movement in the late 19th century, and eventually to City Beautiful Movement in the beginning of the 20th. The City Beautiful Movement consisted of citizen activist and professional urban planners, who attempted to make cities better by improving their physical public realms and "polishing up" the city. This movement was led by the middle and upper classes that were concerned with rising urban issues of sanitation, crime, and overcrowding. Jason Corburn claims, that this actually steered planning away from health, safety and social justice, and Olmstead`s legacy removed people and their wellbeing from the focus of the planning professionals and shifted their interest towards private land and elite. This ultimately led to spatial separation and classification, which was manifested in the physical separation of working class from upper class residential areas. Depicting the staggering human cost of the Industrial Revolution in England, Friendrich Engels had wrote the famous report "The Condition of the Working Class" (1844) to bring attention to how class and wealth could unjustly affect health. Other ideological reforms were claimed during that time period as well by renowned planners; for example in England models of garden cities were sketched and general objectives of planning by Abercrombie declared "beauty, health and convenience". (Abercrombie 1933).

Modernism of the early 20th century heavily critizised aesthetic "ornamentation", and shifted the focus from aesthetics to efficiency. Its rational aim was to utilize technology and mass production to deliver better housing and health care for the masses. Especially after the First World War, the housing shortage and the "healthification" of the damaged cities required rapid actions in most European countries. Functionalism in the 1920s started to claim green space, sun and air instead of unhealthy urban development alienated from nature. Even though the new apartments received the maximum amount of sun light, and green areas were within easy reach, the shift to open mode building was especially unsuitable for northern climate. High rises emerged as "towers in the park" with windy spaces and flat roofs. (Larice & Macdonald 2013; Shoshkes & Adler 2009; Corburn 2009). The twentieth century however continued to incorporate

health into the urban framework through its own theories and methods. The Garden City Movement in the 1920s called for healthier and happier surroundings in the spirit of Ebenezer Howard`s utopias, combining the best elements both from the city and the countryside in the sake of improving people`s wellbeing. These ideas gained ground during the mid 20th century, as middle-class families had started to seek escape from the crowded cities to garden suburbs. The expansion of the suburbs was in a large scale made possible by the widespread car ownership. Zoning of detached suburbs and the uncontrolled building in the city fringes led to the dispersion of the urban structure, and the incoherence created traffic problems and increasing noise and air pollution. Regional development and structural dispersion also created another kind of problems; most of the new housing area became socially one-sided and monotonous.

By the mid-twentieth century urban planning had gradually shifted its focus on economic concerns and traffic planning. Accessible public services formed a major criterion for the good living environment, while traffic planning became a significant field of specialization in Finland as well. According to Sairinen et al. (2006), the reasoning that was formed with the functionalistic "forest suburb" development, was ground breaking also in the field of social and health politics. The suburban development was essentially intertwined with the question of urban *density*. The renewal of the urban districts was the answer in the 1960s, and Tapiola garden city was considered to be the total opposite to the Helsinki city center blocks, which were doomed as practically inhabitable. However, planners and policy makers soon begun to realize the negative effects of the urban sprawl. The urban crisis related to sprawl evoked increasing attention in the mid-twentieth century discourse: Concurrently, the urban renewal movement, in the forefront Jane Jacobs and Jan Gehl, criticized modern public space. Rene Dubos stated in his book *Man Adapting* (1965), that "worldwide urban sprawl is creating a disease patter of its own even in prosperous settlements". The pathology in the urban and suburban life showed itself in crowded and polluted environments, and people having problems with health. Drugs, overeating and underexercise were some of the factors of modern life that determined the pathological pattern of disease despite of the high standards of living. This called for new forms of collaboration in practice: suddenly there was more support on the view that health field was no longer to be seen solely as part of the medical profession and physicians. Dubos insisted steps to be taken not just to treat the diseases of community, but to protect its health. (Shoshkes & Adler 2009, 207; Dubos 1965).

According to Shoshkes & Adler (2009), the discussion that emerged from mid-twentieth century in US about the reintegration of urban planning and public health has been influential in the followed reintegration efforts. In particular Leonard Duhl`s work in the 1950-60 led to the creation of intersectoral approach that included city planners, psychoanalysts, public health physicians, journalist, humanist, scientist, biologist and sociologist. They discussed about mental health, and the impact of the physical environment on behavior. (Duhl 1963). Since this academic debate, civil rights activists started to call actions in the 1970s to link social, environmental and health justice. Realizing the course of unhealthy development, designers begun to understand that the primary reason for epidemics, crime and other related problems was not the just the physical environment, but also poverty and social conditions. The focus turned finally towards people, even to the extent, that some urban planners felt that the concerns they traditionally shared with health authorities became less immediate priorities (such as air pollution or waste disposal). (Ardell 1969). The interest for more integrative approach was nevertheless growing between health and urban planners. Furthering the possibilities of collaboration, several legislative initiatives were launhed in the US during late 1960s.[2] A new breed of "comprehensive" urban planners was sought for, and prestigious universities even had curricula in health planning. Research was also conducted of urban-and-health relationship by many institutes, and the subject of interdisciplinary between the two professions was discussed in conferences and conventions. (ibid). Despite these efforts to create new, broader combinations of skills for

[2] such as the Comprehensive Health Planning and Public Health Service Amendments of 1966.

health planning, more analytical and theoretical approach gained ground with the help of geographers and social scientists. As a consequence, a heavily engineer-based spatial science emerged, denoting a quantitative revolution with massive reports from 1960s onward. Comprehensive regional plans with separated functions were embodiments of the new "scientific" and rationalized approaches that emerged into city building. (Taylor 1998). Witnessing the outcomes of the rationalistic-comprehensive planning during the following decade, urban planners began to react to the revitalizing of the neglected urban neighborhoods in ways that improve health and promote greater equity. At latest this stage it was evident that urban environment and the planning processes which shape it are powerful determinants of population health. During 1980s a region-specific planning movement called New Urbanism took its role models from the cities before city planning and the domination of car traffic. Urban villages, pedestrian areas, and mixed functions reflected the ideals of Camillo Sitte in the 19th century. From the 1980s onward there has been a resurgent interest towards the interconnection between urban planning, health and wellbeing.

The recent efforts of healthy urban planning

The historical overview reveals that the practical means regarding health in urban planning were mostly focusing on preventive tactics. Eminently this correlates with the narrow concept of health as such, even though WHO introduced the broader definition of health in the late 1940s: 'health is not only the absence of disease but a state of complete wellbeing in a physical, mental, and social meaning'[3] It can also be concluded that the main responsibility of urban health has been on the public health sector, and to a limited extend on the hands of the planners. The discussion of the integration of these fields has given the urban planner only a marginal role.[4]

Comparing the present day situation to the 19th century outbreaks of diseases, one can find many similarities but also differences; back then the average length of life was lower in towns than in the countryside. Nowadays the health inequalities are formed in a more complex way, and dependant from several variables. In most western countries the residents' health is in general better in urban than rural areas, although the exposure to pollution, crime, stress and life style risks is higher. The negative effects related to urban areas are however compensated through better access to health care services. Still the health differences between districts can be significant, both between urban and rural areas and also inside regions, and they are further growing. (ICSU 2011). Currently, 75% of the European population live in urban environments. (Thompson Coon et al. 2011). Urbanization is associated with the adoption of lifestyles that enhance the development of non-commutable diseases, which have become an epidemic and a national concern in many (Western) countries. As in 1950s, young families are also moving to suburbs, mainly because they look for affordable housing on the fringes of cities. The current state of knowledge and scientific evidence we have demonstrates clearly, that urban sprawl has multiple effects to environment as well as to human health. It affects air and water quality, overtakes farmland and forests, decreases physical and social activity, and is expensive to maintain. In general the modern lifestyle entangled to the front of monitors discourages exercise and activity both in working and leisure hours. It is stated that people spend 90% of their lives within buildings. (Evans & McCoy 1998). In cold climates the rate is even higher; in Finland people spend ca. 4% outdoors during the winter and most of it during their leisure time. (Mäkinen et al. 2006). Hence, physical inactivity is the fourth leading cause of death worldwide and on that account a global pandemic (Kohl et al. 2012).

[3] The Constitution of WHO was adopted by the International Health Conference held in New York on 22 July 1946 and signed by the representatives of 61 States.

[4] The universities of California, Berkeley, MIT and Harvard were the forerunners in academic studies from the late 1960s, to integrate these fields. The domain of the health professionals was however underlined in the discussions – and "a significant, but limited" role was given to city planners. (Shoshkes & Adler 2009, 207).

The vast majority of environmental health research focuses on dealing with the traditional causal connections between environmental threats and health. However, due to the reasons mentioned above, the interest has grown towards the positive benefits that might be gained from natural environments and time spent outdoors. (Thompson Coon et al. 2011). The broader perspective is though missing, perhaps on that account that the biomedical or pathogenic approach, where health is generated through the elimination of risks for diseases, has been the dominating paradigm for a long time. The hegemony of city planners, architects, political leaders, financiers and public service officials making the decisions about the built environment is also critizised by environmental health researchers. It is even suggested that healthcare providers ought to be leaders in the discussion concerning built environment. The importance of working across sectors to incorporate health promotion approach in the design and development of built environment is nonetheless noted. (Younger et al. 2008).

Public health research has only recently indicated converging interest towards the field of urban planning with a stronger emphasis on health promotion. (Corburn 2009; Kohl et al. 2012). The initiatives of health promotion through urban planning have been strongly intertwined with the WHO Healthy Cities programme and Healthy Cities network. It can be stated that the launch of the programme in the late 1980s has been the most influential platform for the current discussion of "healthy urban planning". The Healthy Cities network began to underline the need to promote health through urban planning with the Healthy urban planning initiative (HUP), launched in 1997. This was a part of actions to integrate the agenda of health with that of sustainable development. Within this initiative, human health and wellbeing was considered as the central purpose of sustainable development, and a prime goal of urban planning.[5] Reacting to the identified gap between principles and practice, WHO set a City Action Group on Healthy Urban Planning, where planners from 12 member state worked together for 3 years. The group focused on integrating health and quality of life considerations into planning processes through concrete case examples in six different European cities.[6] The outcome revealed, that even though the concrete procedures how cities implemented health issues into policies and practisies varied, the theme in common was the efforts on developing more integrative and cross-sectorial approaches to urban development. The results indicated that the intersectoral approach is difficult to develop and it requires continuous effort, even when well established. People speak different languages and the work together can be impeded by bureardcatic norms and procedures, even resistance among staff. Excemplified by the six cities, it was also noted that the engagement of citizens in general strategic planning processes might turn out to be difficult, whereas in specific and local issues it is usually much easier. Joint ownership of plans and policies is however considered as the key to success based on the reported experiences.[7] (Barton et al. 2003).

Healthy urban planning involves many sectors and therefore relates to health in many ways by affecting for example to physical activity, injury risks, respiratory and cardiac health and mental health. (Younger et al. 2008). The practical experimentations on healthy urban planning seem to have two key concerns: firstly incorporating the principles and objectives of healthy planning into documents and policies and secondly, on implementing specific projects and initiatives that test the principles. (Barton et al. 2003). However, the need for more strategic approach, upper level commitment and intersectoral cooperation

[5] The concept and principles on healthy urban planning were summarized in the report *Healthy Urban Planning – a WHO guide to planning for people* (Barton & Tsourou 2000). WHO defines healthy urban planning as following: "Healthy urban planning involves planning practices that promote health and wellbeing and has much in common with the principles of sustainable development. It means focusing on humans and how they use their environments in planning rather than simply concentrating on buildings and economics."

[6] The outcome of this work has been compiled to *Healthy Urban Planning in practice: experience of European cities* –report. (Barton et al. 2003).

[7] The preliminary outcomes of a research project called Integrative Urban Development Concept: Case Sustainable Winter City (2012-2014, University of Oulu), indicate same type of problematics.

is highlighted for instance by WHO Healthy Cities program. Respectively, the International Council of Science has also indicated an urgent need to develop an innovative, operational approach to understand urban health and wellbeing, which integrates longer chains of causality and interactions between various processes and factors. (ICSU 2011). WHO Health in All Policy (HiAP) approach is one of the practical measures targeted to overcome the barriers of sectoral policies. Although the HiAP approach is widely understood in Finland and much has been done already to promote it, according to the Finnish Social Barometer 2013, there are certain obstacles in the implementation of it in practice. Only 29% of municipal social managers and 36% of health care center managers reported that HiAP approach is taken into account in their working area. They also mentioned that on the strategic and planning level HiAP is present, but it is not realized in practice. Municipalities find the intersectoral work and evidence-based decision making challenging; usually the decision makers and administrators are not familiar with other organizations good enough and this may hamper the cooperation. Different sectors also have different understanding of health and different terms are used in different context. Moreover, the economic issues overweight health promotion often, eventhough it could be an important aspect of adding municipal competitiveness and vitality. (*Report on the state of play 2014*).

The role of evidence-based planning, design and decision making

The ideal of modern democratic constitutions, which often remains unattainable, is that we must first know about the problem, and then we can decide about it. (Faludi & Waterhout 2006). To fill this demand, the "evidence-based turn in planning" of the 21st century, as Faludi & Waterhout call it, presupposes the use of best scientific information available for decision making in the context of spatial planning. The importance of evidence-based planning and the provision of a coherent foundation for policy making is also highlighted in the WHO healthy planning principles, noting that planning decisions must be based on evidence, not hunch. (Barton et al. 2003). In the heydays of communicative turn planners somewhat abandoned the objective of planning and focused more on procedural planning theories, in other words on the nature of planning process and the role of planners in it. This included the risk that planning becomes a bureaucratic regulatory routine, which is more interested on its procedures and hierarchy than the actual substantive issues. As Simin Davoudi puts it, conflict mediation and detailed knowledge of regulatory rules have become planners` new stock in trade. (Davoudi 2006). Even though the evidence-based planning paradigm can be understood as a countermove to the 1990s communicative or argumentative turn in planning, they do not have to be exclusive of each other. On the contrary, evidence-based planning shoud support an interactive and communicative process and vise versa. Participatory methods, both in the collection and inclusion of data in planning processes, can be especially informative in defining the social determinants of wellbeing. (ICSU 2011). As heavily stated by the WHO policy documents, healthy urban planning means planning for people. This calls for political commitment and transparency in decision making, participation and involvement of residents creating a sense of "health governance", as true possibilities for people to have control over decisions concerning their own health and their own living environment. The opposite premise, where people are being isolated from the information and decisions regarding their own health or their living environment should not be accepted. The qualitative and subjective experiences of people are equally important evidence for decision making as the quantitative data, although much harder to grasp.

The newly emerged interest in evidence-base planning and policy has been dominated by utilitarian, or instrumental view of research knowledge. (Davoudi 2006). Having its historical origins in the positivist view of planning of the 1960s and 70s, this view is burdened with a number of misconceptions about the nature of evidence, role of experts and the influence these may have on policy. Davoudi defines these misconceptions in short as following: policy-making is rational, evidence can only be generated through positive science, and experts are apolitical, value-free and always right. In the Finnish land use planning context evidence has meant "proper and adequate surveys", which has become one of the bottlenecks of these processes (see Rönkkö 2012; Finnish Land Use

and Building Act 9§). Renewal of the legislation should definitely reconsider the focus, role and scale of evidence more as enlightening the sphere in which the policy decisions are made. Davoudi calls this evidence-informed policy rather than evidence-based policy. (Davoudi 2006). At its worst, policies are written and decisions made even though the evidence is still incomplete or contradictory – one of the most striking examples of this are the measures taken to achieve sustainability objectives through urban densifying, or the new energy regulations of building, which both are heavily questioned by many researchers. Avoiding the problem of "cherry picking", (ibid.) or the use of selective evidence that is politically-driven, biased, or evoked by big business to amplify certain viewpoints while other evidence is disregarded, one should also realize, that legible knowledge or evidence should not be limited only to scientific research findings. Information, ideas and arguments created and exchanged by people also in the less formalized arenas are equally valuable. Admitting that the social factors of the living environment affect greatly to the state of our experienced health, participatory action research has established its position not only in the urban planning and design research but it is also increasingly used in health research. (Baum et al. 2006). Social participation and networking might have a salutary effect in a form of increasing sense of security, and there are indications that residents` participation in planning processes actually enhances health and happiness in itself. (Lindheim & Syme 1983). This covers also the questions of citizens' empowerment and inclusion in planning processes, which all reverts back again to the functional environment and state of possibilities and resources for healthy life. In a good case, this creates a cycle of prosperity in a community (see Putnam 2000).

In order to understand the complex qualities related to healthy living environments, scientific research should enlighten planners and desicion makers of the various aspects related to urban health and informing the wider public debate. However, as communities find the evidence-based decision making demanding, also researchers have considered the transdisciplinary research on healthy urban planning challenging. The built environment data is infrequently collected and in many cases local in nature, which is very much in contrast with the nature of environmental or climate data. (Younger et al. 2008). Instead, evidence-based design has become influential in the building of health care facilities. Substantial support exists for the view that the health care facilities itself affects quality of care and outcomes: Ulrich et al. (2004) have identified more than 600 studies that link hospital design with clinical outcomes.The evidence on the indicators of the built environment and community health is still scarce, although some evidence does exist and research on these complex relationships is in progress (see e.g. Curran et al. 2006). Multidisciplinary collaboration, and perhaps even shared data banks, as Ardell suggested already in late 1960s, are necessary. In this manner health professionals could aid planners in understanding the health impacts of the decisions they make concerning e.g. land use and transportation.

Identifying the health promoting mechanisms – a Salutogenic Planning concept

Despite the attempts to outline an integrative framework for policy implementation of healthy urban planning, the current understanding of the complex interactions among the correlates of living environment and health promotion needs further work. Elaborating the sphere of healthy urban planning, which is considered much wider than the sphere of the built environment, this section of the article aims at defining a theoretical framework for the concept of health promotion in urban planning. The environmental determinants of health and the conditions, which exist in healthy settlements, have to be identified. As Constantinos Doxiadis has stated in his book *Ekistics: An Introduction to the Science of Human Settlements* (1968) "the health of settlements is determined by their ability to meet the requirements set by their inhabitants and the environment."

A preliminary model for Salutogenic Planning concept is presented in figure 1. Integrating insights and inputs from diverse scientific disciplines, it aims at explicating the relationships and interconnections between the different

domains of healthy urban planning. The multidimensional living environment is approached through its primal elements: 1) the pragmatic, functional space that is regarded as the productive or promotive dimension constituted by human intentions and motivation 2) the cognitively or rationally understood physical space forming a logical structure that assemble the world, 3) perceived, sensory space of exposure (the multi-sensually perceived environment) and 4) existential, symbolic space of meanings, values and significance embedded in the living environment. This forms the basis for the comprehension of the human-environment interaction as a multidimensional setting that reflects and explains our culture and values. The relationships between the dimensions is reciprocal; people generate new culture, and the products of culture (such as the built environment) interlink people as part of local community and cultural tradition. (Rönkkö 2012).

Affiliating this model of environmental multidimensionality with the mechanisms of health promotion, the model is supplemented with the principles of salutogenic theory introduced by sociologist Aaron Antonovsky (1987, 1996). Antonovsky defines health promotion broadly as a "process of enabling individuals, groups or societies to increase control over, and to improve their physical, mental, social and spiritual health" (Eriksson & Lindström 2007). He`s answer to the question, what creates health, are the concepts of sense of coherence (SOC) and generalized resistance resources (GRR). Both of these theoretical concepts offer possibilities to look at the promotion of health from the perspective of settlements and societies. However, Antonovsky`s salutogenic model has not been applied in the field of urban planning[8] though there are some examples of its application in healthcare architecture (see Golembiewski 2012).

The salutogenic theory is primarly concerned with the relationship between health, stress, and coping as individuals and communities continually encounter hardships and deficits. At the same time they possess a variable amount of resources, which help them cope and adapt. Populations adapt over time to the local prevailing circumstances via psychological, behavioral, cultural and technological responses. It is known, that extreme events often stress populations beyond their adaptation limits. (McMichael et al. 2006). Therefore social support is considered as one of the most important generalized resistance resources. Sense of coherence in turn is formed through three main components: comprehensibility, managebility and meaninfulness. They denote firstly individuals and communities ability to understand events and reasonably predict what will happen in the future. Secondly, having the skills and support, and the resources necessary to increase resilience towards negative changes, and thirdly, believing there is a meaning to persist and survive, which means there is also motivation to confront difficulties. According to Antonovsky, having a strong sense of coherence predicts positive health outcomes. Whether sense of coherence or generalized resistance resources could be reinforced or taken account of in urban planning, is the question to be asked.

Regarding the semantic environmental dimension equally important as the syntactic function-form dimension, the salutogenic planning model crosses the borders of tangible and intangible. What is created in the physical world through planning, is encountered by the sensory exposure and ultimately, experienced individually through psychological and mental processes. To sum up, the ultimate objective of salutogenic planning is to *create prerequisites* for a good life, which includes concrete objectives such as healthy housing, equal access to healthy food and water, conservation of natural surroundings and development of the living environment which promotes and facilitates social and physical activity. Having its roots in the human-centered approach and notions of socially inclusive and supportive societies, the principles of the salutogenic planning presented in this article can be summarized as following: Salutogenic urban planning has to be able to 1) *promote* functional possibilities as drivers of wellbeing that motivate people to accomplish their daily activities in an active manner; 2) *enable* the formation of physical framework, which support these functions 3) *prevent* potential health risks through general environmental quality

[8] This being author's current conception of the matter.

with acceptable leves of exposure to the negative effects but also exposure to the positive affordances; and 4) *include* people in decision making at local level, which is the constituent of social wellbeing and quality of life.

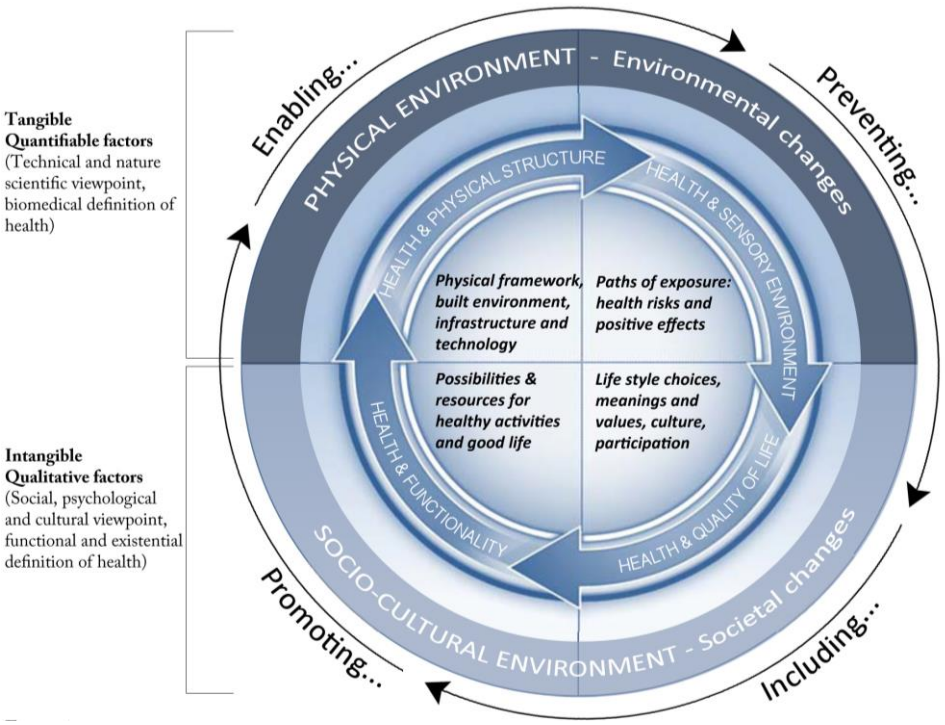

Figure 1. A Conseptual model for health promotion through planning of the built environment: a cycle of feedback mechanisms and impact of choices. Salutogenic urban planning has to be able to 1) promote (possibilities) 2) enable (framework) 3) prevent (health risks) and 4) include (people) in order to foster health and wellbeing in Arctic communities.

Incorporating information from variety of sources (i.e. health data, characteristics of the built environment, user experiences and climate data), salutogenic urban planning is built upon relevant evidence, skills to use it, and ability to understand its implications. One of the benefits in using analytical or conceptual tool is that it can help identifying the correlation between choices and impacts of certain decisions. Prescriptive knowledge, which links interventions to outcomes, denotes that the decisions are based on credible surveys. Therefore verification and follow up have an important role in the iterative, evidence-based planning process, which calls for new methodological innovations in the field of health and wellbeing impact assessment. Another asset of the conceptual model is the emphasis on variety of understandings, rather than holding on to preconceived suppositions. Thereby the individual expertises of specialist in academic or professional circles are not relevant in such, but the common goal and as good as possible outcome. This should be seen as one way to cope in the information overload. Understood in this manner, the integrative model for salutogenic planning aims at clarifying the interest and objectives of different stakeholders, creating an arena also for multi-criteria impact assessment where the intensions related to land use are not considered separately, but the environmental load and threats as well as the salutogenic effects to human health can be assessed together. This would be needed in regional policy and land-use planning, for example when new permissions for large-scale industry are evaluated.

Concluding remarks

The relevance of incorporating health promotion into urban planning associates with its close connection to climate adaptive planning strategies (see Roggema et al. 2012) and sustainability. Joint strategies are much needed and urgent that simultaneously reduce GHG emissions, promote adaptation and at the same time improve public health (Younger et al. 2008), as well the evidence on which to base policy recommendations. The role that built environment has in climate change has been verified for instance in the reports of the Intergovernmental Panel on Climate Change. (IPCC 2014). The healthcare sector is already involved in the green movement, as is building and urban planning in their own sector. Clients and developers have begun to realize the co-benefits from promoting sustainability and health through building – simply because

sustainable and healthy building principles are turned out to be cost effective in the long run. (Younger et al. 2008). The integration of the salutogenic planning principles to the sustainable development of northern settlements is definitely worth of further examination, when Arctic areas likely encounter drastic social and environmental changes. Facilitating for instance climate friendly transportation and walkability interact well with the objectives of healthy planning. On the other hand the emphazis put on climate friendly transportation has given background for the dogmatic presupposition of the ecological and social pre-eminence of dense urban areas over rural areas. This can also be criticized. As stated in this article, how the built environment is shaped and urban planning processes conducted, play a crucial role in adding the health potential, sense of coherence and GRRs of individuals and communities. Comparing the types of generalized resistance resources of rural communities over urban areas could shed more light to the elements that are profound to healthy settlements. Which mechanisms enhance wellbeing in the Arctic and compensate the negative effects of remoteness, isolation or harsh climate? Such resources could be, for example, innovative service structures, invigorating living surroundings, ability to minimize risks and maximize self-supportive actions by the individuals.

All things considered, the importance of developing healthier, resilient and more sustainable settlements is undisputed to the quality of life, especially in the harsh conditions of the sparsely populated northern regions. The possibilities for sustainable development and the healthier future of Arctic areas are not all in the planners` hands, and innovative types of collaboration between researchers, urban planners, climate and health experts are required. Perhaps the barriers hindering this cooperation still are rooted in the old juxtapositions, which Ardell identified already in 1969: 1) different attitudes to planning (management vs. cooperation), 2) tendencies toward exclusiveness within disciplines, 3) resistance to the idea of planning itself by health professionals, 4) different focus (land use vs. disease), 5) orientation (product vs. process), 6) role limitations, and 7) knowledge gaps. It seems even today that the main obstacle to be surmounted is the methodological gap still eminent between natural sciences, urban planning research and health and social sciences. This culminates into the fact that the markers between social environment and health are much harder to detect than the effects of toxic substances to environment and people. Public participation has been a way to include residents' opinions to planning, but this is too often a separate measure from the actual decision making process, and therefore it does not have equal weight as the "scientific" data. Decisions concerning health or land use easily rely on quantifiable and numerical data, and biomedical and functional definition of health still dominates over existental definition of health.

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