Politics of Coordination in Environmental Health

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Abstract: *Since mid-1980s a growing number of coordination efforts between public health and environmental policy sectors have emerged in the EU and nationally. In local projects, policies, and international regimes various ad hoc initiatives to long-term strategies have evolved. These efforts are full of proclamations on the interconnectedness of environment and health but, in fact, severe drawbacks in policy sector coordination have occurred. This paper provides analytical tools from Jordan and Lenschow's (2010) work on environmental policy integration for studying the efforts and paradoxes in sector coordination. Based on this, an overview of the various approaches to coordinative efforts, from an international level to a specific national setting (Denmark), is presented in order to discuss whether and how firm policy coordination is substantiated, and to what extent it is a realistic option. The most important conclusion is that in spite of numerous policy coordination efforts on international levels, both the public health sector and the environmental protection sector in Denmark, as well as in most other EU states, do not seriously address the need for coordinating efforts, or perhaps, more precisely, neglect to place this on the agenda, separately or jointly. We suggest that only governmental hegemonic projects on sustainable health or environmental health promotion assisted by research, institutions, and strong local innovation programmes on selected areas could combine social and environmental factors and allow for a more permanent sector policy integration.*

Key words*: WHO, UN, national strategies for environmental health, sector policy integration*

Introduction

The establishment of modern environmental and public health policy in all western industrialised countries in the last forty years can be considered to be partially successful in terms of the speed and range of policy development. Environment and health, however, are deeply rooted in each other, which we are reminded of now and then when major hazards such as the Fukushima nuclear accident occur, or when scientific discovery reveals that certain persistent health problems, such as the declining sperm counts of men, are embedded in environmental conditions. But still, the environmental health situation is deteriorating in many areas (EEA, 2010,2015). This record is due to many reasons, but here we highlight two specific policy areas. The first is the overall poor implementation of environmental health policies, that is, that policies for environmental and public health policy coordination or integration (EHPI) are lacking. There are numerous rational arguments for the obvious benefits of a firm policy and regulatory coordination between environmental and health prevention or

policy integration for so-called environmental health regulations.[1] Accordingly a common understanding, the concepts and realities of health and environment are important and vital dimensions in one another's realms. The challenges to react to this are manifold, but the one we look at here lies in the historically established and current separation of the two areas in terms of functional systems.

The second reason for poor environmental health conditions is the relatively unchanged continuity of environmental- and health-harmful policies of other departments, such as energy, transport, agriculture, spatial development, or economics that counteract the protection efforts of health and environmental policies. Environmental and public health policies still largely follow the 'down-stream' approach (OECD, 2001). Both health promotion/prevention and environmental protection need strong support from other groups, other sectors and other systems. Within the health system and the environmental system it is clear that health and environment depend on non-health and non-environmental factors to which the policies of other sector must contribute. How to bring in and steer non-health or environment perspectives in order to increase health becomes an articulated challenge of governance (Knudsen & Andersen, 2014). Kickbusch and Gleicher (2012) argue that the governance for health perspective is closely linked to whole-of-society approaches about involving stakeholders from civil society and the private sector to find innovative solutions. Whole-of-society approaches are seen as keys to giving health or environment a more prominent position in policies other than health or environmental sector policies. From this point of view, sector coordination appears to be a pivotal precondition for the success of both health promotion and environmental policies.

In order to unfold the built-in dilemmas and contested attempts to what obviously seems to be a good idea, in the paper we study the various strategies for furthering environmental and public health sector policy coordination or integration.

1. Environmental Health Problems

Internationally the environment and public health correlations are conceptualised in the concept of environmental health. Historically,

> *… the environmental health approach has traditionally centred on protection of population health through identifying, monitoring and controlling the environmental hazards which produce disease in populations. The approach has its origins in the earliest days of the modern public health movement and, by assuring the quality of domestic, community and occupational environments has greatly expanded lifespans and improved health and well-being for communities and individuals. Underpinned by advances in epidemiology and the biological understanding of disease, the disease-centred, hazard-focused approach to environmental health remains a cornerstone of public health activity* (WHO, 2012: p. 14).

Definitions of the degree to which positive health assets are incorporated into environmental health differ among authors and institutions, as does the question of whether these are situated as part of public health, environmental efforts, or in broader institutional and regulatory arrangements of controlling, assessing and understanding their relationship. For our purpose here we refer to the WHO's definition:

> *Environmental health comprises those aspects of human health, including quality of life, that are determined by physical, chemical, biological, social and psychosocial factors in the environment. It also refers to the theory and practice of assessing, correcting, controlling, and preventing those factors in the environment that can potentially affect adversely the health of present and future generations* (WHO, 1997a).

In the EU's regular reports on the European state of the environment, environmental health is one out of four focus areas (besides nature and biodiversity, climate change, and natural resources). Here, ageing in the European population places pressure on health costs and enhances a focus on preventive measures up-stream to the so-called civilization diseases. The European Environment report, *State and Outlook 2010*, states:

> *Degradation of the environment, through air pollution, noise, chemicals, poor quality water and loss of green space, combined with lifestyle changes, may be contributing to substantial increases in rates of obesity, diabetes, diseases of the cardiovascular and nervous systems and cancer — all of which are major public health problems for Europe's population […] Reproductive and mental health problems are also on the rise. Asthma, allergies, […] and some types of cancer related to environmental*

> *pressures are of particular concern for children. […] The World Health Organization (WHO) estimates the environmental burden of disease in the pan-European region at between 15 and 20% of total deaths, and 18 to 20% of disability adjusted life years* (DALY) (EEA, 2010: p. 91).

A comprehensive list of areas relevant to environmental health is difficult to provide due to the dynamic and evolving set of possible conditions causing environment-related diseases. A non-exhaustive overview of the most important areas includes: air pollution, food safety, the built environment, injury prevention, land use planning, noise, pollution, occupational health, chemical safety, radiation, tourism, waste management and water management (WHO, 2000: p. 34). However, more specific knowledge on environment-related diseases has increased during the last decades and has drawn attention, not least, to climate change-related diseases. The dynamic character of environmental health is stated in the most recent state and outlook report from the European Environment Agency:

> *In addition to established problems — such as air pollution, water pollution and noise — new health issues are emerging. These are associated with long-term environmental and socio-economic trends, lifestyle and consumption changes, and the rapid uptake of new chemicals and technologies. Furthermore, the unequal distribution of environmental and socio-economic conditions contributes to pervasive health inequalities* (EEA, 2015: p. 115).

Thus, socioeconomic factors, in addition to pollution from production, mobility, and resource handling, significantly affect peoples' lives and health. Half of the world's population is living in urban environments — projected to increase to 60% within the next 20 years — and the quality of life in cities throughout the world has been declining (Moeller, 2005: p. 8). The decline is greater than the impact from pollution per se, as environmental health takes us deeper into the intertwined mechanisms of public health and environment. Health oriented environmental science builds on public health, discloses the social inequalities in exposure to pollution, in beneficial social contexts, and in health behaviour and social relationships. People who live in economically depressed neighbourhoods are less healthy than those with the same socio-economic status who live in affluent areas. Social and environmental inequalities result in health inequalities because the burden of exposure to pollution is uneven, and the same exposure causes unequal impacts within different communities due to differences in mitigation capacities. Spatial concentration of poverty and wealth lead to imbalanced capabilities when it comes to the communities' access to political influence that may hinder a polluting built environment or enhance health promoting parks, libraries, and so on. Polluting industries, waste dumps, highways, and concrete deserts neighbouring poor communities expose these communities to many sorts of stressors and pollution. At the same time, the local composition of violence, non-access to health care institutions, deprived groups, alienation from political institutions, etc., make up a social context that weakens mitigation and the ability to cope within vulnerable communities that experience less social and economic capital (Schulz & Northridge, 2004). In its report 'Environmental health inequalities in Europe', the WHO (2012) concluded that disparities exist in all regions and countries in Europe in terms of environmental health-risks, and provided a number of recommendations aimed at tackling inequalities in environmental health, including risks in relation to vulnerable populations. The report documents disparities in noise in housing, access to green space, and tobacco smoke at work and at home (based on self-reporting). It is recommended that the inequality perspective, as such, should be addressed in urban planning, etc. (WHO, 2012: p. 111).

2. The Challenges to Basic Co-Ordination of Health and Environment

Environmentally oriented health regulation will have to build on the various ways in which humans, embedded in socio-economic circumstances, interact with the environment. This needs to take into consideration that environmental health burdensthey can derive from multiple sources, that the impacts are socio-economically unevenly distributed, and that the elements in the environment are constantly interacting. As a consequence, interventions in health may result in new problems in other health or environmental areas (Moeller, 2005; see also Pedersen, Land & Kjærgård in this TES issue). Many of the types of environmental health problems require combined knowledge and practical skills from public health and environmental sciences, as

well as practical coordination in administrative systems in order to build up prevention and control. This goes beyond the initial development of environmental regulation with assistance from human toxicology and public health-sciences in establishing thresholds on toxic substances, ambient environmental quality standards, and so on. But despite determinations to raise firm environmental health policies, it has rarely had any institutional coordinative impacts on politics that, for almost 50 years, remain compartmentalised and sectored in public health and environmental policies respectively. Public health issues were initially part of western hygiene and hazard regulations and, subsequently, in chemical risk-oriented environmental policy. Since then, various changes in sector coordinating efforts on environment and public health have emerged as a result of changes in problem pressure, policy discourses, institutional structures, and governing regimes/styles. Yet the innovations from public health integrated environmental policies and regulation withered away along political problem focus shifts to biodiversity, environmental infrastructure, resource depletion, and business options in ecological modernisation, and, perhaps, because of the basic hindrance for firm policy sector integration (Holm, Hansen &Søndergaard, 2003). In many environmental health problem areas, where environment health co-ordinated regulation have disappeared or policy makers have refrained to intervene, instead corporate and civic deliberation have taken over, and have become a major issue in greening products, as in food and cosmetics (Holm & Stauning, 2002, Holm 2004, Kickbusch & Payne (2003))

Seen from public health and health promotion sector policies, the environmental and occupational health policy sectors were initially delivering the basic, necessary structural means to handle a number of public health problems, and the expectations of strengthening their contribution to public health have been maintained. Therefore, for decades, public health policy sectors, internationally, have called for policy coordination as reflected in many statements and agendas:Thus as The Commission on Social Determinants of Health, who stated the many sectors, other than health, that are essential for public health — a number of other policies are at least as important, if not more important than the public health sector policies (CSDH, 2008). The latest report in this respect (Marmot et al, 2012) advocates that the relationship between environmental, social and economic factors is central to all policies and that equity in health should be integrated into environmental policies at all levels. Thus, as an example, the report advocates for framing food consumption and agricultural policies in the context of food safety, accessibility (economically), and nutrition and sustainability (Marmot et al, 2012: p. 1023).

The complexity of new environmental health problems, stemming, for example, from climate change or the long-term impacts of chemical substances from non-point sources, gives rise to new regulatory complexities that the hitherto established environmental regulation system seems unprepared to deal with. Since the late 1980s a number of international policies and actions have thus been directed towards efforts to further integrate or coordinate public health and environment sector policies, recognising the need for an effective Environmental Health Policy Integration (EHPI)(WHO, 1989). This followed a parallel growth in effort at environmental policy integration in a number of policy sectors. In the international policy regimes on health promotion and sustainability (see Almlund & Holm in current TES issue) there is a similar focus on the need to sector co-ordinate health and environment. Already in the Charter of the first international conference on health promotion in Ottawa in 1986, it was stated:

> *Our societies are complex and interrelated. Health cannot be separated from other goals. The inextricable links between people and their environment constitutes the basis for a socio-ecological approach to health. The overall guiding principle for the world, nations, regions and communities alike, is the need to encourage reciprocal maintenance — to take care of each other, our communities and our natural environment* (WHO, 1986).

The forerunner to the Rio Declaration on Sustainability, the Brundtland Commission's report, systematically tried to connect the seemingly incompatible goals of economic competitiveness, social and health development, and environmental protection, and, hence, to ensure sustainable development. For development to be sustainable it must meet basic human needs such as housing, water supply, sanitation, and health care (WCED, 1986). Post Rio, UN declarations and policies health targets have been integrated into conventions on Agenda 21, biodiversity, and climate change mitigation. Equally WHO addressed

the health integrated sector policies efforts since Adelaide in 1989 (WHO, 1989)

At first glance the call for firm sector coordination and integration for environmental health policies seems unproblematic because so much environmental regulation, both historically and at present, is related to human health issues and many political declarations celebrating the sector integration. In some states, such as Sweden and Switzerland, the historical rise of regulations and institutions on health and environment became clearly integrated within environmental health systems. In Sweden, several integrative research and regulatory institutions and professions have emerged in environmental health risk assessments, and studies and politics of certain areas, such as chemical exposure to children, have evolved more strongly compared to other European countries (see the later discussion on Swiss efforts). Yet, in most countries the two parallel — public health and environment — sectorial institutionalised developments have followed their own lines of regulatory systems, rationalisation, professions, monitoring systems and communication. It is thus an up-hill task for policies, programmes and institutional arrangements within sectored political systems (administration, ministries, policies, rules, laws) when there are calls for tighter collaboration, integration (EHPI), or coordination. There is a severe risk of de-coupling due to different codes, agendas, resources, power structures, and partnerships. This is basically due to the fact that policy sectoring is a political reflection of a functionally differentiated modern society, where sub-systems of political, economic, scientific, and moral communications have stabilised ensuring an ever growing complexity of communication (Luhmann, 1996). The call for policy sectors to deliver political power, knowledge and resources to other sectors may easily become a power game of keeping the cards close to one's chest. Current governance models seem not well suited to carrying out the necessary policy shifts that EHPI implies.

> *Governmental agencies are highly specialized, they have accumulated specific knowledge to govern their particular policy field, they build up a network with their target groups and they are path dependent regarding their goals and instruments. Thus, the modern state pursues contradictory policy targets easily* (Jacob & Volkery, 2003: p. 3).

EHPI contradicts this form of sectorial policy formulation and implementation. It is therefore of interest for our purpose here to look at the different political approaches[2] that have occurred in coordinating, merging or integrating the two policy sectors. When it comes to handling climate change impacts, or the subtle diffusion of chemical substances, or local resilience building in water flow areas, some of the current knowledge systems contain an integrated public health and environment perspective for analytical, planning and design purposes. But these areas are exceptions from the normal co-existence of the two knowledge and regulations systems.

3. Divergent Sector Policy Rationalities in Handling Environmental Health

In Denmark the policy sectors of public health, health promotion and prevention have, since the mid-1980s usually been associated with behavioural campaigns and instructions as to what is healthy to eat, or what lifestyle is healthy in a broader sense (Vallgårda, 2003). It is often emphasised that it is possible to promote health via optional behaviour in everyday life — hence the focus in the policy texts, and in practice, on motivation, social capital and network conditions that can support the individual in making a difference. That is, self-regulation technologies for taking personal responsibility.

By contrast, environmental politics has historically been linked to notions of pollution threats to humans, animals, water and air; threats that are generated outside of the private sphere and are therefore a matter of regulation, experts and politicians. In order to handle health-hazardous substances and materials and the health effects from air pollution, climate, food and everyday products, environmental health regulations operate through means such as thresholds or prohibition of toxic, carcinogenic and other substances in water, air and products. There is a widespread set of knowledge systems behind environmental health that operates using hazard assessments of substances and materials, exposure studies (how we are affected and how much), and dose-response studies (that assess the amounts that cause diseases), as well as various risk studies that focus on areas such as the urban environment or cancer and the environment (Moeller, 2005).

Environmental health regulation mostly focuses on chemicals, particles and substances that are foreign to the body, how humans are exposed to these, and how to assess the quantities and mixtures the human body can tolerate or not tolerate. This regulation is predominantly based on scientific evidence with increasingly complex knowledge content, and on a number of international data bases derived from epidemiology or investigations in the laboratory. In addition, a number of agencies balance and consolidate these data, and a number of organisations assign data of specific information value. The resulting knowledge is mediated through politicisation and balancing procedures linked to the environmental health-related risk control through which, over decades, standards, risk communication, and regulation have developed a process that has institutionalised a special environmental and risk-related health perception (Holm, Kjærgård & Pedersen, 1997). Environmental regulation is based on residual principles, such as proportionality (efforts and the effects of intervention and expenditure must match each other), evidence, and the polluter pays principle. Commands and prohibitions are normally given only where there is conclusive scientific evidence of harmful effects, which is the impetus for a strong politicised dispute about when the effects are harmful, what scientific evidence exists, whether the effort is commensurate with the effect, and so on. (Rank, 2005).

With the complexity of the dispersion of hazardous substances into all spheres of life, problems have arisen as a consequence of basing environmental health regulation solely on strictly science-based evidence. Often, in principle, there is no scientifically definite way to make the right choices for what is called 'wicked problems' (Conklin, 2005), and it is common knowledge that a number of highly problematic mixtures of chemicals to which we are exposed are not yet regulated (EEA, 2013). On top of this there are problems that can barely be defined, because there are no final, simple solutions and because the cause-and-effect chains are unique or unknown. Governance by stakeholder involvement in voluntary substitutions has been tried, but, most often, public participation in risk prevention means that it is used to by-pass the command-and-control regime that actually has only limited control. Consequently, in this context, authorities are changing to a more reflexive campaign management and a governmentality politics of self-regulation. Citizens are encouraged to be self-managing in the handling of hazardous substances. For example, in Denmark an Information Centre for Environment and Health was established to inform about legal, but harmful products and substances and about healthy consumer choices.[3]

So a new self-governing orientation of risks has emerged based on a paradigm that consumers and citizens share the burden of guilt and responsibility for the pollution problems and, therefore, can and must choose the form, amount of products, places and behaviour — so as best to avoid exposure. The health consequences of environmental issues have come much more into focus like since the 1970s when environmental health first appeared on the agenda. Thus, environmental health increasingly draws together the behavioural education approach in health promotion and everyday knowledge about the self-management options as a key impetus for environmental and health optimisation. In Denmark in particular, this tendency towards a more liberal approach to health governance has been pronounced, in contrast, for example, to Sweden (Vallgårda, 2003).

Another response to the knowledge and skills gap in risk handling is the use of the precautionary principle in the environmental regulation of products and producers — in special cases we may prohibit substances in certain products if suspected that they are harmful, even if no rigorous proof exists but only a well-founded probability. But the principle has met difficulties in being implemented nationally and is dependent on national business interests. Due to strong lobbying (EEA, 2013), and in the EU, the principle has primarily been used for cosmetics and toys. However, the principle have a say in environmental campaigns from non-regulatory bodies; the former Danish Information Centre for Environment and Health, funded by the Government, often communicated to consumers to follow a precautionary *practice* in consumption (avoiding certain products), rather than awaiting legal norms, permissions and prohibitions to withdraw products from the market (The Information Centre, 2010). This means that the active consumer and citizen were encouraged to act in relation to a very wide variety of scientific sources and uncertain information on the basis of the precautionary principle. Without these kinds of scientific-informed practical knowledge guidelines,

we are left with great uncertainty and confusion in handling general risk awareness (Breck, 2001) and we are vulnerable to the purely symbolic-based mirroring forms of everyday environmental choices that are not based on scientific knowledge but on cultural and social norms (Halkier, 1999). There is, of course, a large reservoir of practical knowledge present in everyday life, which, reasonably, acts as a guideline for environmental priorities — but it is nevertheless a challenge for citizens to handle it themselves.

This is where a genuine environmental health approach, informed by public health social science, could guide politics to direct attention to the preconditions for a strong private policy regime of communities and individuals. Empowerment politics and the preconditions for community-based self-regulation would be of interest here, where a firm regulation of standards and prohibitions fails. And, it is precisely here that internationally, an environment-oriented health regime (Environmental Health Promotion) has gained a foothold. This is defined as:

> *(...) Any organized level and activity in health promotion aimed at assessing change and preventing the circumstances in the environment, posing a potential danger to the health and quality of life among present and future generations* (Parker et al, 2004).

Kegler and Miner (2004) state that with environmentally oriented health promotion two different cultures or expert knowledge regimes meet. The first is the scientific, the environmental risk and exposure regime with an emphasis on the prevention and reduction of hazardous substances etc. in the surroundings. The second is the health promotion regime that provides us with a social science and humanities focus on learning and social behaviour, emphasising community and individual capacity building and empowerment. Interestingly, in Denmark environmental health promotion falls between two stools: structural health prevention on risks, and health promotion relating to opportunities to mobilise certain groups of individuals to act on healthier lifestyles (Danish Health Agency, 2007). Since the early 1970s, interdisciplinary institutes and programmes have housed intervention studies and background knowledge in the field of environmental health, but it is often thought to lack a more systematic knowledge base and expert culture in the area, and that research and knowledge production will not cut across the structural (regulation) and behaviour-oriented (everyday life) approaches.

Knowledge, motivation, power and competence to verify, avoid and compensate for the environmental health conditions in everyday life are, therefore, the starting point for an environmentally oriented health promotion effort. But this knowledge is so unevenly distributed that policies solely of individual self-regulation on environmental health de-facto become politics of health inequalities.

4. Health and Environment Co-Ordination Means and Politics

4.1 Sector Coordination – What is It?

When we discuss the interrelation between health promotion and environmental policy and the crossover between the two, we may distinguish between various levels and strategies (inspired by Jacob & Volkery 2003; Lenschow, 2002a, 2002b):

- Double gains by the twin policies are fulfilled by chance.
- Deliberate cooperation efforts to ensure that sector policies take a consideration of unintended impacts on health/environment in enacting — thus a focus on *side effect outcome*.
- Deliberate combination efforts to foster certain public health politics for the benefit of the environment and vice versa — coordinated, win-win synergy *intended outcome*.
- Designed from coordinated, developed and fully integrated political processes between equally weighed sector parties or objectives. This is a focus on the policy *cooperation processes.*
- Deliberate use of self-regulatory, coordinative and other institutional efforts to take environment and health into consideration. This we may call *steering technologies and institutions* for coordination.

Some political systems and constitutions may be better than others for policy integration, but here we focus on policy coordination options *within* the polity or systemic level. Thus we focus on the policy field of coordination-integration-inclusion that may develop as a deliberate effort of outcome and process

merging on various levels: the political-strategic level, sector planning, enacting laws, coordinating codes of self-steering among business, forwarding best practice communication, network governance, and coordinating terms on specific interventions as in urban development, etc.

Jordan and Lenschow (2010) define policies as environmentally or health *integrated* 'when policy makers in "non"-environmental [+non- public health] sectors recognize the environmental [+ public health] repercussions of their decisions and adjust them by appropriate amounts' (Jordan & Lenschow, 2000: p. 111). If policy coordination is understood as integrating environmental or health needs in the policy outputs of the specific sectors, EHPI represents an *internalisation* of the environmental or health effects of a sector. To evaluate the progress of this output-oriented view, the main focus is on policy outputs and impacts. From this perspective EHPI implies a substantial policy change in the different domains of government.

Here we focus on the policy sector coordination efforts that enhance environmental health concern and institutionalisation, which substantially support the aims of both political areas. Sector policies deal with many concerns other than the immediate policy targets but we do not discuss to what degree there is a mutual win-win or reciprocal advantage in integrating the environmental and public health sectors — in, for example, administrative, resource, market, and power interests. This would be more obvious to discuss in sector policy coordination between, for example, environmental and technology policy sectors.

Lafferty and Knudsen (2007: p. 25) argued that decisions (and their ensuing policies) should prioritise the environment by ensuring that 'every effort is made to assess the impact of [sector] policy on the life-sustaining capacities of the affected ecosystem' (Jordan & Lenschow, 2010: p. 148). The same normative standpoint, it could be argued, is inherent in the call for public health concern in all other sector policies within the Ottawa regime of health promotion (see the article by Almlund and Holm in this TES issue). According to this line of thought, all other sector policies and plans are supposed to evaluate and adjust their activities for the positive health outcome. So the call for policy coordination in both the environmental and public health sectors relies upon other sectors (business, tax, social welfare, education etc.) to deliver, whereas there is a long-term reciprocal call for co-operation specifically between the public health and environment policy sectors.

4.2 International Environmental Health Co-Ordination Politics

In the last three decades, the WHO Europe and the EU Commission have developed several institutions, proclamations and activities to declare, promote and establish effective policy integration mechanisms when it comes to environmental and public health policies or health promotion,[4] as well as internalising aims from these two sectors within the rest of the policy sectors. As early as 1977, the WHO Europe initiated the long-term policy goal of the *Health for All strategy in the European region by the year 2000,* which emphasised the links between environment and health and subsequently formulated goals in environmental health. When the EU ratified the *Health for All* strategy in 1984, it was stated that health depends on a variety of environmental factors, and eight goals were established for environment and health. The WHO Commission on Health and Environment was formed, and at the first of its *Conferences on Environment and Health*, held in Frankfurt in 1989, *The European Charter for Environment and Health* was approved as an extension of the *Health for All* strategy — an important step for the joint development of public health and environmental policy. The emergence of environmental health as an integrated field of public policy followed the publication of the report, *Our planet, our health* (WHO, 1992).

At the WHO's second *Conference on Environmental and Health* in 1994, the EU declared its commitment to develop National Environmental and Health Action Plans (NEHAP), which were monitored by the WHO European Environment and Health Committee, representing a important step toward enhancing a supra-national planning regime with obligations to its member states. The few studies that compare NEHAP's results across Europe tend to consider them as rather positive (Forbat, 2015: p. 716, WHO, 1999). Oft cited outcomes are better political attention to environmental health issues, the increase in the collaboration between public sectors (mainly environment and health) and

private actors (NGOs and firms), and the acceleration of legislative initiatives. The most substantial impacts were seen in some Eastern European states with the establishment of fundamental regulatory institutions where monitoring of health conditions were not linked to environmental burdens. The Swiss NEHAP is worth mentioning for its innovative approach that shows the options of the NEHAP tool.

NEHAP was part of the Swiss Action Plan for Sustainable Development (Swiss Federal Office of Public Health 1997). The Federal Office of Public Health and the Swiss Agency for the Environment, Forests and Landscape jointly guided the development process. A concept working group was formed consisting of representatives of the cantons and municipalities and campaigning 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 (Kahlmeier, Kiinzli, Braun-Fahrländer (2002). The plan was based upon selection of priorities on sector level along 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 resulted in the choice of the following three areas: Well-being and nature, mobility and housing (ibid.).

But lack of integration of scientific knowledge into public administration, low capacity to build intersectoral collaboration, and a limited conception of environmental health resulted in the closure of Switzerland's NEHAP in 2007. According to a study by Forbat (2015), a lack of political awareness of environmental health issues and relevant systems of administration and indicators were behind poor institutional long-term results. The study states the necessity of a true interdisciplinary and intersectoral approach for environmental health policies to succeed. Initially, the two holistic policy regimes on *Health Promotion* (WHO, 1986) and *Sustainable Development* (Rio, 1992) were the first to address firm sector integration (see Almlund and Holm, this TES issue) by calling for healthy public policy and sustainability policy. The World Commission on Environment and Development (WCED), and the series of *Conferences on Environment and Development* first held in Rio, continue until today with outputs such as *Agenda 21, COP's on Climate Change*, and the *Convention of Biodiversity*, which have all promoted sector integration. In particular, the Agenda 21 process and regulations has fostered a number of localised environmental health promotion projects and strategies below the national sector policy level. The WHO conferences on health promotion with charters and declarations have continued with new regulatory, methodological or policy area foci. From this regime another good example of the integrative approach to health is the WHO *Healthy Cities Project*. This explores health and sustainable development in relation to Europe's cities and towns, and states that health is both an important objective for people and a main component of the process towards sustainable development. The underlying understanding here is that human health and sustainable development are inextricably linked, and that health is both an important objective for wellbeing and wealth and a main component for achieving sustainable development (Kjærgård, Land & Pedersen 2014; WHO, 1997b). However, cross-sector collaboration and citizens' involvement is often lacking in the local healthy cities projects (Hancock, 1996).

So the mid-late 1980s was the *gründer* period of a global agenda on environmental health sector policy integration, and the politics of policy coordination took off. Since then differing approaches have been followed — from internalization to more humble requests for policy sector coordination. The so-called Cardiff Process of the EU is a prominent example of this development from holism to sector integration and back to environment/health in all policies. In the mid 1990s many states and the EU adopted some of the policy instruments explicitly mentioned in the Brundtland report: integrated policy assessment as health and environmental impact assessment; strategic and programmatic planning; sustainability strategies; institutional mechanisms; the merging of government departments, and green budgeting. In spite of the substantial means to pursue sector coordination, the analysis of observers is that it failed

to settle the matter: the tension between political claims, practical assets, and implementation continued as they came up against hard political realities in the sectors (Jordan & Lenschow, 2010). Thus, in the *2001 EU Sustainable Development Strategy*, environmental policy integration was no longer an issue, and the 2009 review of the *Sustainable Development Strategy* can be seen as a move to mainstream sustainable development into sector policies.

The politically ambiguous relationship between EPI/EHI and sustainable development/health promotion in the EU has remained; meanings have fluctuated over time from holism to sector integration, and back again as new problems challenged sector policies, or as the power positions of the two policy sectors have changed (Adger & Jordan, 2009). In 2010, a call for strict policy coordination, entitled *Health in all Policies*, again targeted specific groups and problems, and the[4] WHO and the EU jointly agreed upon the *Parma Declaration* at the *Conferences on Environment and Health*. The reason for the new health-in-all turn was the above mentioned health and environmental impacts of climate change; chemical health risks to children; a growing number of vulnerable groups affected by poor environmental, working and living conditions; socio-economic and gender inequalities in the human environment and health, amplified by the financial crisis; and, finally, concerns raised by persistent, endocrine-disrupting and bio-accumulating harmful chemicals and (nano) particles (WHO, 2010b).

For health promotion, the call for health-integrated coordination has been strong, but real implementation has been absent in most EU states due to the weak position of public health and health promotion policies as compared to economic policy sectors. During the whole period the WHO and the EU have continued to articulate new policy attention documents and to gather vast amounts of scientific data and reports on environmental health. Whereas environmental based calls for policy sector integration have been somewhat detached since the sustainability path lost momentum, the public health sector has gained momentum, which is reflected in the WHO Adelaide Statement of 2010 on *Health in All Policies*. This was the foundation for invoking the health sector's special key role in placing health on the agendas of other sector policies, in local communities, in business and in the media. The recent 'Health 2020' policy framework and strategy launched by the Regional Office for Europe (WHO, 2013) draws on the same approach in the call for general governance for health. This is supposed to contribute to initiating action across the state, the private sector and civil society through a network governance approach. This new form of collaborative governance aims at 'creating resilient communities and supportive environments' by promoting health and wellbeing at the individual level and the community level, by enhancing collaboration between the environmental sector and the health sector to manage environmental risks, create healthy settings, and by expanding interdisciplinary and inter-sectoral collaboration (WHO, 2013: p. 20). So today (2015) it is the public health sector that is the initiator of calls for coordinating efforts and internalising health in the environmental sector policies, but the strategies and political argumentations remain the same.

In September 2015 the UN launched the *Transforming our world: the 2030 Agenda for Sustainable Development* (UN, 2015), where a healthy environment, resource use, health promoting empowerment and such like are highlighted. A group of 17 Sustainable Development Goals with 169 associated targets are described as integrated and indivisible, thus presenting and even stronger focus on an integrative approach to health promotion and sustainable development. So the discourses of policy integration are strengthened, but the means and power of the UN remains.

In the following, we will show how these regimes and supra-national state politics have influenced health and environmental sector policy coordination in a specific national setting, that of Denmark.

4.3 Milestones of the Environmental and Health Policy Sectors in Denmark.

Given that national policies, including interaction between sector policies, are displayed in specific institutional frameworks and are the results of specific historical developments, by way of introduction we will briefly describe the relevant policy structures and institutional frameworks around health and environmental policies in Denmark.

In Denmark the executive power of the government has been administered under a ministerial system

since the first constitutional act of 1849. The two most central ministries with respect to environmental policy (EP) and health policy (HP) are the Ministry of Environment, established in 1971, and the Ministry of Health, which has existed since 1925. A general policy to promote certain structural and technological changes to protect human health from hazards has existed in Denmark to various degrees since the beginning of the 20th century and, within the traditional risk-oriented environmental policy institutions, several R&D, information, and standardisation institutions have been established (Christiansen, 1988). A specialised series of environmental health offices, regulations, standards, and knowledge systems have developed over the years with focuses on pesticides, noise, air-pollution, human toxins, bacteria etc. An explicit policy area concerned with public health (PH) first came into being at the beginning of the 1970s, and efforts in environmental PH were only launched in 1985–86. A deliberate environmental health promoting (EHP) orientation on environmental health inequity, as we have seen in Switzerland, in EU programmes, and in the WHO, does not exist in Denmark.

It is the policy sector of EP that has been responsible for environmental health orders, regulations of nuisance, discharges into urban watercourses, and air-pollution. These regulations date back to the middle of the nineteenth century; the first law on nature preservation was passed in 1917 and the first act concerning urban planning and development was passed in 1925. But a genuine policy on environmental protection began as late as 1972 with the first Environmental Protection Act and the establishment of the Ministry of Environment that covered all fields of EP. Since then a comprehensive number of regulatory, monitoring, research and subsiding institutions have been developed within the Ministry.

There are three levels of public administrative competence with respect to Danish EP and HP: the ministries, the regions, and the municipalities. For HP the municipalities and regions play an important role, they co-operate with regional semi-public R&D institutions for technology innovation and networking. In respect of EP, Denmark is characterised by a delegation of implementation and administration of the environmental protection act to state agencies, regional centres and local authorities; the recent reform of the Danish administrative structure in 2007 took away the regional expertise. In 2005–2008 major municipality and budget reforms laid the basis for the current political administrative structure, consisting of a number of state agencies under ministries, and 5 regions and 98 municipalities that vary considerably with regard to the number of inhabitants and the socio-economic structure. Since the economic decline in 2008 onwards, disputes on centralisation and decentralisation have become a central topic on the political agenda. The debate has concerned burden sharing and the separation of political and economic responsibility. Even though neo-liberal political ideologies have dominated the agenda since the beginning of the 1980s and, indeed, still influence politics, it has been vital for all Danish governments to maintain some sort of welfare-based political legitimacy. The dominant policy style in the parliament and in local government has been flexible; the sector ministers or the government govern through guidelines and negotiations, leaving it open to various local interpretations.

For the EP sector this development has indicated a continuous politico-administrative conflict around the burden sharing of environmental costs and the duties between central and local authorities. Whereas initially, the environmental regulation of industry and agriculture was decentralised, the last twenty years has seen the development of various forms of centralisation. In the 1970s new environmental regulation was introduced following the establishment of the Ministry of the Environment containing elements of health prevention and, in particular, the act on chemical substances and products in 1979. Similarly, the existing legislation of safety at work that dates back to the end of the 19th century was succeeded by a more comprehensive act on occupational health in 1977. These regulatory initiatives were structural in character and had a preventive aim. In respect of the HP sector, the opposite to EP has occurred; the municipalities were, under the structural reform in 2007, delegated obligations to establish health promotion and public health policies, as enacted in the National Health Act in 2007 (Dirckinck-Holmfeldt, 2015; Lau et al, 2012).
In 1984 Denmark joined the WHO *Health for All* strategy together with other countries in the WHO European region. In 1988 the Danish parliament decided that the *Health for All* goals should form the basis for Danish health policy. This was followed by a programme for prevention by the Danish

government with contributions from 12 different ministries. This programme formed the basis for a number of initiatives most of which were marked by an emphasis on campaigning directed towards individual lifestyles and health related habits in relation to, for example, smoking, alcohol and nutrition. Efforts oriented towards living conditions were basically ignored (Kamper-Jørgensen, 2010; Almlund and Holm this issue).

There was also an emphasis on local activities in the preventive work, such as the Danish healthy city network that was one of the initiatives during the 1990s where a connection between health and sustainability was most clearly stressed (Kjærgård, Land & Pedersen, 2014). The Rio declaration from 1992, which very clearly stated the mutual interdependence of health and sustainable development, had no follow-up as regards public health policies in Denmark. The only activities during the 1990s that to some extent reflected an orientation towards integrated activities and which, at same time, could be said to have a component of bottom-up citizen involvement, are the healthy cities movement and the local Agenda 21 activities (Holm, 2010). Some of the international policy initiatives of the 1990s, such as *The European Charter for Environment and Health* (1989) and the *Environmental Health Action Plan for Europe* (WHO, 1994) were implemented by Denmark, but rather late and only symbolically, since none of them had any apparent effects on Danish policy. It was only at the beginning of the new millennium that the Danish Environmental Protection Agency issued a report as an implementation of the EU and the WHO's NEHAPs with the significant title, *Environment and health are connected* (Danish Health Protection Agency, 2003). Herein there is an updated introduction to, and an understanding of how environmental conditions can affect the health of the population. Besides giving an overview of specific health effects of environmental hazards, the report points to how the population can be negatively affected by environmental factors and important sources. It describes the efforts by the authorities to cope with the problems and co-operative governance efforts in the respective fields of environmental issues. Other policies, such as the well-established regulatory framework regarding chemical hazards, the regulation of the use of pesticides, food safety and traditional hygiene, despite their obvious importance, were quite narrowly defined as environmental health. To be sure, none of the components of health promotion or public health, such as empowerment, social capacity and resilience, or spatial and social inequity in environmental health, were mentioned. This was followed by the Danish Health and Medical Authority's report, *Think health into the environment* (Danish Health and Medical Authority, 2010), that appeared as a catalogue of possible sector-coordinated efforts that, after the structural reform, the municipalities, with their more broadly defined task in the health promotion area, were supposed to undertake. Both of these more recent policy reports represent more comprehensive and ambitious attempts to promote sector integrated efforts in the field of environmental health. Further initiatives, however, were said to await the implementation of the above-mentioned structural reform, but this has not yet been picked up. Thus, it still remains to be seen to what extent these proposals will be turned into actual policies. Furthermore, the extent to which will be based on, and able to support inequality in health, community health promotion activities, and climate change related health adaptation is unclear.

There are still several environmental health initiatives on the ground that are not covered by these initiatives and in relation to which more isolated 'stand alone' efforts seem to pop up, and sometimes disappear, when temporary funding is withdrawn or when there is a change of government etc. Among these health and environment integrated project efforts we note: the Information Center for Environment and Health; local Agenda 21 initiatives on sustainable urban development and climate mitigation; public procurement schemes of eco-healthy products etc.; the healthy cities network; and the market-oriented national administration of standards for organic farming. For the latter, organic labelling and regulation schemes were politically enacted outside of the health and environmental policy sectors but within food and agriculture policy. This has been a successful institutional framework for the production and approval of organically farmed products that, in turn, has formed the basis for consumers and public social service institutions to meet the rising eco-health preferences. But the organic labelling and market schemes have not been connected to a more integrated health and environmental policy.

5. Conclusion and Perspectives

Looking across the long period of environmental health sector coordination politics has revealed a flourishing number of international initiatives with varying degrees of coordination and internalisation. There seem to be ever running cycles of new initiatives from simple co-ordination requests to whole-of-society or health/environment in all policies. Whereas the epistemic regimes of wholeness as sustainable development and health promotion have had their historical momentums, a number of strategic initiatives have evolved to initiate network governance, impact assessments, focused areas of joined coordination, and so on, among a diverse field of societal players to fulfil multi-layered and integrative goals. This is fuelled by the reports on new environmental health problems and a profound institutional build-up of knowledge and institutions on environmental health in the EU and the WHO. So far, the agenda of environmental health has succeeded in being on the political agenda and in influencing the EU's environmental directives, and most recently, the UN's sustainable development goals of 2015 (UN, 2015).

The stark lack of strong coordination between public health policies and environmental protection policies challenges the underlying assumption that the public health sector and the environmental protection sector need strong support from each other or from other sectors to contribute to sustainable development. From a sustainable development perspective coordinating efforts are not merely about integrating a health-oriented perspective into environmental policies, nor are they about integrating an environment-oriented perspective into public health policies. But we are in spite of this kind of knowledge and e.g. UN sustainability goals, witnessing a genuine lack of coordinating efforts, when we take a closer look at policies of public health and environmental protection. That said, we have to acknowledge that coordinating efforts do take place within certain states and periods, as was the case in Switzerland for 10 years, and in a number of selected projects, such as the healthy cities projects and local Agenda 21, although below the level of policy sector coordination.

Exploring the reasons for the lack of coordinating efforts may not be a simple endeavour and the following may be seen as a tentative attempt to explore the reasons behind it. In spite of numerous policy coordination attempts on international levels, both the public health sector and the environmental protection sector in Denmark, as in most other EU states (according to Jordan & Lenschow, 2010), do not seriously address the need for coordinating efforts or, perhaps more precisely, neglect to put it on the agenda, separately or jointly. The period when environmental policy integration was at the forefront was the period when sustainability and environmental politics were strong, but these have since withered away. A current healthy policies development in Europe may give us a window of understanding into the lack of coordinating efforts. This could be derived from scrutinising formulations about 'governance for health' in recent international policy documents.

Today, the WHO's plea for governance for health draws on the Adelaide statement of 'Health in All Policies' to invoke the health sector's special key role in placing public health issues on the agenda in the policies of other sectors. The governance for health perspective deals with approaches to collaboration and the co-production of health across the health sector and other sectors, and across the state and the society. The governance for health perspective is closely linked to whole-of-society approaches concerned with involving stakeholders from civil society and the private sector to find innovative solutions. Whole-of-society approaches are seen as key to giving public health a more prominent position in the policies of other sectors. 'Health in All Policies' is about how the health sector can reach out to other sectors and help them perform new roles in shaping policies to promote health and well-being. It builds on the recognition that the most important determinants of health are found outside the health sector and outside the reach of government. But the health sector is not the only sector requiring or calling for actions in other sectors for support, and it may not be the case that the health sector is so attractive to contribute to as other policy sectors. Political and economic sectors, may only gain power or profit from integrating health and environmental concern, under certain conditions. Insisting on playing a key role in formulating the agenda for shaping other sectors' policies, may be an obstacle to further coordinating efforts across public health and environmental protection.

A simple reason for hesitant cooperation could be that 15 to 20% of all deaths in the European region, as mentioned earlier in this article, are attributable to environment-related diseases. Although environmental risks are attributed a larger role in environment-related diseases, environment-related risks play a more minor role than diseases related to the social determinants of health. Vice versa, health impacts are only a side-aspect of the concern of environmental policy. But currently, the governance for health perspective appropriates, or at least designates/assigns, the environmental sector as a means for public health policies and the public health sector as the overarching coordinator. In the 1970´s the situation was opposite. In any case, it may politically be problematic for sector co-ordination among functionally differentiated sectors, to perform such subordination strategies.

Perhaps only governmental hegemonic projects on sustainable health or environmental health promotion, assisted by research, institutions and strong local innovation programmes on chosen areas of importance to citizens, public authorities and business — such as joint efforts towards environmental health inequality — could deeply combine social and environmental factors and allow a more permanent sector marriage. The UN Declaration *Transforming our world: the 2030 Agenda for Sustainable Development* is deeply rooted in an integrated and indivisible approach to health and environment, but will it materialise?

Notes

1. The literature is not clear on this, but we may analytically differentiate between integration as fully merged policy sectors, and coordination and co-operation as various forms of combining, co-operating etc. (see section 3). We use all the concepts to articulate the wide spread of coordinative efforts; in general, the literature uses the term integration.

2. There are of course a vast number of other types of social approaches to integrating environmental and health concerns, but here we only pay attention to the political efforts and conditions.

3. The Information Centre 2006–2010, then labeled Consumerchemicals 2010–13, then closed, currently transferred into a semi-private information center (Danish Consumer Council THINK chemicals).

4. We will not describe the many specific rules and regulations that, to some degree, underline the environmental health path, such as REACH that is aimed at improving the protection of human health and the environment from the risks of chemicals.

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