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The Political Biography of Water and the People's Biography
- A Case Study of Social Entrepreneurship in the Water Sector

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Abstract

Developing innovative water strategies is of critical importance for the 21st century. In this paper, we examine the role and potential of a new type of actor that has recently emerged on the global stage: social entrepreneurs. To this end, the paper first delineates the *political biography of water*: the rough chronological states of the history of water governance from the hydraulic mission causing major public investments in water infrastructure, followed by the neoliberal mission with great reliance on private investments and markets, to Integrated Water Resource Management seeking to recognize all social, economic and ecological uses of water. We then specify the roles of social entrepreneurs in the political biography of water via a sample of such entrepreneurs from Africa, Asia, Europe and the Americas. Almost half of these social entrepreneurs are *changemakers* in that they seek to establish communal ownership and management of water in contexts where the hydraulic mission has failed (communal hydraulic mission). We consider a second group of these social entrepreneurs to be *implementation agents* with respect to IRWM: the change they contribute is to "push through" the participation of local stakeholders (IWRM from the base).We found only a small number of social entrepreneurs, who primarily use market tools as part of their approach. They *extend* the neoliberal mission. This suggests that the potential of social entrepreneurship is located mainly in what we here call the communal hydraulic mission and in IRWM from the base.

Keywords: Social entrepreneurship, water, innovation, water governance, IWRM

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1. Introduction

Threats to the world's rivers, watersheds and critical freshwater ecosystems have resisted the establishment of effective governance in many places. 1 billion people worldwide lack access to potable water and 2.5 billion people do not have basic sanitation (WHO and UNICEF, 2009). Implementing the water-related UN Millennium Development Goals (MDG) is urgent and challenging: by 2015 the proportion of people who are unable to reach or afford safe drinking water and the proportion of people without access to basic sanitation should be halved. Yet, prognoses suggest that the water and sanitation targets will be missed, with 55 and 74 countries off track and particular problems in sanitation (UNDP, 2006).The 3rd World Water Assessment Report (UNESCO, 2009) stresses the fact that water resources are also at the core of many of the other MDGs. In short, water is essential for sustainable development.

A core question of Earth System Governance should be which political dynamics lead to changes towards sustainable development and who the agents are that make change happen (Huitema and Meijerink, forthcoming). "[E]arth System Governance (...) is not confined to states and governments as sole actors. It is marked by participation of myriad public and private non-state actors at all level of decision-making (...)" (Biermann, 2007). There is hence a search for alternative approaches, and new actors besides governments, international organisations and business. In this paper, we examine the role and potential of one such actor that has recently emerged on the global stage: social entrepreneurs.

Social Entrepreneurship (SE) defines a rapidly growing, global actors' group that tackles social (and ecological) problems with entrepreneurial means. The most famous social entrepreneur is Muhammad Yunus, who with his Grameen Bank structurally changed access to capital via micro-credit schemes. He thereby improved access to capital for the poor, in particular for women. Yet, next to such well-known and well-researched success stories, there are also social entrepreneurs in other sectors, including the water sector examined in this paper. What is the role of social entrepreneurs in the water sector?

Critics associate social entrepreneurship with a neo-liberal focus on the individual and the import of market mechanisms into public and social spheres. There are close ties between foundations supporting social entrepreneurs and large business actors. Ashoka founder William Drayton is a former McKinsey consultant (and the organisation continues to receive support from the consultancy), the Schwab Foundation seeks to link its entrepreneurs with the attendants of the World Economic Forum (Klaus Schwab being the host of the forum), and the Skoll Foundation was set up by E-bay co-founder Jeffrey Skoll (more about these foundations below). Is social entrepreneurship a variant of the neo-liberal mission (see below) in the water sector?

In this paper, we approach these questions against the background of global water governance, i.e. dominant structural approaches of a global scale that have significantly shaped how we use water, and what kind of problems we have run into. In this sense, we first delineate the *political biography of water*: the rough chronological stages of the history of water governance from the hydraulic mission causing major public investments in water infrastructure, followed by the neo-liberal mission with great reliance on private investments and markets, to Integrated Water Resources Management seeking to recognize all social, economic and ecological uses and users of water[1]. With a view on these "missions" and the challenges and problems they face, we ask: in what sense are social entrepreneurs change

[1] For these stages we rely on the secondary literature (see Molle et al., 2008).

agents in the water sector? What is their innovative potential in the political biography of water?

Based on an examination of 39 social entrepreneurs in the water sector, we find a differentiated role of social entrepreneurs as change agents in the political biography. More specifically we identify four sites of innovation. 1) The communal hydraulic mission (16 fellows), 2) prices without profit (three fellows), 3) rights versus markets (two fellows), and 4) IRWM from the base (15 fellows)[2]. We then turn to the implication of this analysis for social entrepreneurship in the water sector more generally, return to the relation of SE to neo-liberalism, and the significance of the current approach for the study of Earth System Governance.

2. Social Entrepreneurship

Social entrepreneurship is a relatively young field, and even more so social entrepreneurship research (Mair et al., 2006; Nicholls, 2006; Perrini 2006; Robinson et al., 2009; Ziegler, 2009). A pioneering recognition of the practice of social entrepreneurship is due to William Drayton and Ashoka, the social entrepreneurship organisation he founded. Since the 1980s Ashoka, a US-based non-profit foundation, selects social entrepreneurs worldwide, offers them fellowships and network support (Bornstein, 2004). Fellowships provide social entrepreneurs with the resources to invest themselves full-time into the further development of their iniatives. Ashoka and other foundations such as Echoing Green, the Schwab Foundation and the Skoll Foundation serve as the gate keepers by providing support in three main ways: making small grants, providing expertise and consultancy, and facilitating peer networks (Grenier, 2009). They also contribute to identiy formation: "This new definition [as SE], and the security such a role definition brings along, altered my entire way of relating to and presenting me to clients and partners", says social entrepreneur Judy Korn (Korn, 2009).

By 2009, Ashoka has elected and supported more than 2000 social entrepreneurs in more than 60 countries, Echoing Green more than 450 fellows in more than 40 countries, the Schwab Foundation more than 150 fellows, and the Skoll Foundation 73 fellows[3].

Yet, what is a social entrepreneur? According to Ashoka, social entrepreneurs have innovative solutions to pressing social problems; they are ambitious and persistent; they do not rely on business and government for the realisation of their ideas; and they aim at wide-scale, systemic change[4]. The background to this definition of social entrepreneurship is a pragmatic purpose: fellow selection. Ashoka fellows are selected according to the following criteria: a) a new idea (the knockout criterion), b) creativity, c) entrepreneurial quality, d) social impact of the idea, e) ethical fibre[5]. In this paper, we do not dispute this pragmatic definition or seek to replace it with a different one. Our interest pertains rather to the core claim of this pragmatic definition, the "knockout criterion" of a "new idea", and hence the claim that social entrepreneurs are innovative. "Ashoka cannot elect someone to the Fellowship unless he or she is possessed by a new idea—a new solution or approach to a social problem—that will change the pattern in a field, be it human rights, the environment, or any other. We evaluate

[2] Three fellows could not be classified according to these missions (Karen Grover, Haider El Ali and K.A.V.R Krishnamachari).
[3] This information is available from the homepages of the respective foundations.
[4] See http://www.ashoka.org/social_entrepreneur, last accessed on 15 October 2009.
[5] See http://www.ashoka.org/support/criteria, last accessed on 15 October 2009.

the idea historically and against its contemporaries in the field, looking for innovation and real change potential" (ibid.) [6].

This being said, this pragmatic definition resonates with an important stream of research on social entrepreneurship, the so-called social innovation school of thought (Defourny and Nyssens 2009, 13ff). The most widely referred to definition of social entrepreneurship precisely emphasizes innovation. Gregory W. Dees defines social entrepreneurs as "playing the role of change agents in the social sector by adopting a mission to create and sustain social value, recognizing and relentlessly pursuing new opportunities to serve that mission, engaging in a process of continuous innovation, adaptation and learning, acting boldly without being limited by resources currently in hand, and finally exhibiting a heightened sense of accountability to the constituencies served and for the outcomes created" (Dees, 1998[7]). This school of innovation in turn stands in an important tradition. Joseph Schumpeter, still the theorist of entrepreneurship, singles out entrepreneurship as the driver of economic development, and in turn views innovation as the core of entrepreneurship (Schumpeter, 1934, Swedberg 2009). Innovation for Schumpeter requires a "new combination" leading to a new good, opening a new method of production, opening a market, using a new source of input material or allowing a new organisation of the production unit. But innovation is not the same as invention, it is rather the "carrying out", the "pushing through" of an invention. Finally, innovation in the Schumpeterian sense is neither "good" nor "bad" but part of an evolutionary economic process. We will return to this last point below.

In this paper, we will examine the approaches of Ashoka fellows in the water sector. There is a still a lack of systematic studies on social entrepreneurship with focus on specific themes. For the water sector we are not aware of any comparative study[8]. There are very few theme-specific studies of social entrepreneurship, in particular in the environmental sector. For example, for the water sector, we only know of one case study on the NYC watershed agreement (Hoffman, 2006), as well as of course publications by social entrepreneurs regarding their ideas (see for example Kravcik et al., 2008; Kravcik 2009). This study thus seeks to partly fill this gap with respect to the water sector. While the focus is on a group of Ashoka fellows, the study of this group should shed some light on social entrepreneurship on the water sector as a whole, not least due to the pioneering and global role of Ashoka.

3. The Idea of a Political Biography of Water

Social entrepreneurs in the water sector do not enter the river first. Their initiatives, and the need for these initiatives, have to been set against the background of already existing water governance. Before turning to the work of social entrepreneurs in the water sector, the next sections will therefore first present the governance of water.

[6] For comparison see the definition of the Schwab Foundation (http://www.schwabfound.org/sf/SocialEntrepreneurs/Whatisasocialentrepreneur/index.htm, last accessed 28.10.2009). The Foundation states "innovation" as its first criterion when selecting fellows (followed by "sustainability", "reach" and "social impact"). For the Skoll Foundation see http://www.skollfoundation.org/aboutsocialentrepreneurship/whatis.asp, last accessed 28.10.2009). Here too "innovation" is prominent from the first sentence: "Entrepreneurs are essential drivers of innovation and progress."

[7] For a list of SE definitions see Mair, Robinson and Hockerts 2006, 4f; for a discussion of the different uses of definitions of social entrepreneurship as a contested concept see Ziegler 2009, 8ff.

[8] There are, however, practice oriented overview studies. See the comment on the Ashoka mosaic below.

The governance of water has changed considerably over time. As, it is possible to single out stages in the history of water, we speak here of a "political biography of water". It is a "biography" not in the sense that chronological stages can be roughly sketched in the history of water governance, but also in the sense that moving to a new "stage" does not mean that the old "stage" has "disappeared". It remains there, modified, perhaps removed from the centre of attention or put next to new developments just as childhood experiences are present in adult life.

Following a suggestion by Francois Molle, Peter Mollinga and Ruth Meinzen-Dick (2008) we can distinguish three chronological stages of the history of water governance: the "hydraulic mission", the neo-liberal mission and Integrated Water Resources Management (IWRM) (see table 1)[9]. "Mission" here refers to a way of thinking about water policy goals, technical means, as well as more general ideas about society and political organisation. We adopt the term "mission" from the secondary literature, but a useful way of thinking about missions in this context is the Kuhnian language of scientific paradigms (Kuhn, 1996). Scientific paradigms for Kuhn include ontological ideas about the universe, just as much as practice regarding preferred instrumentation and experiments. Paradigms typically arise around outstanding scientific achievements (i.e. "paradigms" in the narrow sense of the term). Also, there is a sense of temporal sequence: just as one scientific paradigm succeeds not without conflict the old paradigm, so the neo-liberal mission rises as a critique and politically conflictual attempt to replace the hydraulic mission. Unlike Kuhn, however, we do not think that paradigms cease to exist, rather they coexist, possibly with one paradigm dominating (as arguably IRWM in the first decade of the 21st century). So here the analogy ends. Missions unlike Kuhian paradigms also do not depend on scientific communities with exclusive authority; rather the respective missions are pursued by a variety of actors in changing constellations. And again unlike scientific paradigms, they explicitly include social goals.

In the next sections, we will sketch these three missions. We identify dominant relatives or friends for each stage: multilateral development banks such as the World Bank, in particular, the International Water Supply Association (IWSA) and the International Water Quality Association (IAWQ) for the hydraulic mission, the World Water Council and the Camdessus Panel for the neo-liberal mission, and the Global Water Partnership for the IWRM.

As these organisations suggest: these missions stand for water governance missions on a global scale. The biography can be traced and told in numerous countries and regions. For instance, the story of the hydraulic mission has been told for the America West by Reisner (1986), for Mexico by Wester (2009), for Spain by Swyngedouw (1999), for the Mekong-Delta in Vietnam by Evers and Benedikter (2009) and for South Africa by Turton (2001). Likewise in 2000, national, provincial and local governments in ninety-three countries had begun to privatize drinking water and wastewater services (UNESCO, 2006) – a core practice of the neo-liberal mission. Finally, IWRM has been global from the very beginning, promoted by the Global Water Partnership (2000) on a worldwide scale, with case studies in diverse countries on all continents (UNESCO, 2006).

Taking into account this global scale is also important due to temporal differences. The rise or fall of a "mission" does not need to be simultaneously in all regions. Thus, according to Tony Allan, the global South is still "involved in its hydraulic mission" (Allan, 2005).

[9] For a related account see Allan 2005. Allan draws on the theory of modernity and the distinction of certainty and uncertainty for his proposal of stages of water governance.

Table 1: Dominant Water Missions: Stages of the Political Water Biography

Missions (and their peaks)	Aim	Approach	Side-effects	Representative global organizations
Hydraulic mission (1950-70s)	"Every drop counts" Capturing as much water as possible for human uses and economic development	Large-scale infrastructure development by central government agencies, i.e. technical approach, supply-side management	Heavy footprint on the natural environment, water over-use and pollution; dislocation of people, bureaucratic inefficiency, local disempowerment, high financial costs	World Bank, International Water Supply Association (IWSA) and the International Water Quality Association (IAWQ)
Neo-liberal mission (1980-90s)	"Financing water for all" Recognizing water as an economic good Increase efficiency of water supply and sanitation systems,	Privatization: Increase capital in water sector with private investments , i.e. economic approach, demand-side management	Difference between price and value, lack of private investment, Popular resistance to privatisation not least due to tariff increases, non-payers cut off and (threats of) job losses	World Water Council (WWC), Camdessus-Panel
Integrated Water Resources Management (since 2000)	"Some for all forever"[10] Recognizing all social, economic and ecological uses of water and establishing cross-sectoral multi-level management	Holistic approach, river basin as relevant management unit, stakeholder participation	Integration difficult to achieve in practice, difficulty to make the concept determinate (and hence problems with "green-washing" and old wine in new bottles) dominance of powerful agents	Global Water Partnership (GWP)

[10] This slogan is mostly used to capture the water principles and rights of the South African constution.

4. Hydraulic mission

The hydraulic mission, entails the construction of significant hydraulic infrastructure to capture as much water as possible for human uses and economic development. Water, as nature in general, should be conquered for the sake of development and progress. "Not a single drop of water should reach the Ocean without paying its obligatory tribute to the earth" as Swyngedouw quotes a Spanish parliamentary document (Swyngedouw, 1999). "With the exception of a few rivers draining the remote North Coast, virtually every drop of water in the state [of California] is put to some economic use before being allowed to return to the sea" (Reisner, 1986). In short, "every drop counts" is here part of a large-scale economic perspective on water[11].

Variations of this every-single-drop idea can be traced back through the centuries;[12] here we understand this claim as part of a modernist approach (in the sense of Scott, 1998). The hydraulic mission is characterized by a powerful administration, in particular governmental agencies with state hydraulic engineers (as in the US Bureau of Reclamation and the Corps of Engineers), which is able to enforce large-scale water infrastructure projects such as larger irrigation projects and large dams, encouraged by supply-side management. According to the theory of high modernism, there is also a rationalist belief in the power of science and a relatively weak and absent civil society. Indian Prime Minister Nehru spoke of the larger dams as the "temples of modern India" (quoted in Conca, 2006). In short, engineers are able to build dams as temples of human achievement, but dislocated people such as first nations in the American West have little voice as to the cost and benefits of these "temples" (though ultimately civil society would organise influential oppositional movements, notably against large dams).

While the hydraulic mission can be traced back to the origins of the modern states and colonialism, including internal colonisation (Blackbourn, 2006), it arguably had it peak as a global mission in the 20th century. It dominated global water governance until the 1970s (Swyngedouw, 1999). "The 20th century has witnessed the apogee of the so-called 'hydraulic mission', a period in which engineering approaches at dominating nature fully blossomed, leaving behind a balance of 50,000 large dams and 280 million hectares of irrigated land, on which a substantial part of humankind's food and energy" depend (Molle et al., 2008).

At a global level, important "friends" of the hydraulic mission in the second half of the 20th century were the International Water Supply Association (IWSA) and the International Water Quality Association (IAWQ). IWSA was established in 1947 while IAWQ was originally formed as the International Association for Water Pollution Research in 1965. IWSA and IAWQ came together in a merger in 1999 to form the International Water Association (IWA). IWA is today comprised of leading water professionals in science, research, technology and practice, still dominated by water engineers. There are 10,000 individual and 400 corporate members, spread across 130 countries (www.iwahq.org, accessed on 15 September 2009). In addition, multilateral development banks such as the World Bank played a crucial role for large scale dam construction and the spreading of the hydraulic mission. In the global South, foreign capital and expertise has been necessary for large-scale infrastructure development (Dingwerth, 2005; Khagram, 2004; e.g. see Wester (2009) for Mexico and Evers and Benedikter (2009) for Vietnam).

[11] The slogan could of course also be given an ecological meaning in the sense that "water" also counts for ecosystems independently of concerns with irrigation and hydropower (see the work of Kravcik et al 2007).
[12] King Parakramabahu of Great Sri Lanka is commonly attributed a version of this claim.

The hydraulic mission has intended and unintended environmental and social consequences. Large dams have a heavy footprint on the natural environment and often displace large numbers of people, sometimes disrupting traditional societies (UNESCO, 2009). "The World Commission on Dams estimated that 40-80 million people have been relocated to make way for dam construction projects around the world, often with no compensation or voice in the process" (Conca, 2006, 168). The infrastructure development of the hydraulic mission has lead to water over-use and pollution. The centralization of water responsibilities has resulted in bureaucratic inefficiency and local disempowerment. Water is usually transported over long distances due to canalisation, drainage, and river rectifications systems ensuring the quick run off of water from the land (mixing drinking water with industrial and domestic waste). Finally, large dam and irrigations projects come at high financial costs and high organisational requirements. The hydraulic mission has therefore also been accompanied by intransparency, corruption, and poor planning (Molle et al., 2008; Postel, 2006). "Each year India is estimated to lose the equivalent of two-thirds of the new storage it builds to siltation" (The Economist, 12 September 2009, 33).

Environmental and human rights activists have protested against the construction of "modern temples", and often succeeded in hindering or even stopping large-scale dam projects. Multilateral investment banks and the World Bank, in particular, became the target of critics (Dingwerth, 1995; Khagram, 2004). In 1998, the World Bank and the International Conservation Union (IUCN) set up the independent World Commission on Dams to formulate new acceptable guidelines for evaluation. Still, the hydraulic mission continues to be promoted and implemented with, for instance, the current construction of Three Gorges Dam in China, and of the Narmada Dam in India.

5. The Neo-liberal Mission

If the state-driven hydraulic mission reached its high point in the 1960s and 70s (in some countries of the North much earlier, in others of the South later), water governance in the 1980s and 1990s was characterized by the neo-liberal mission in line with the more general neo-liberal restructuring during this period in many other sectors (Barlow and Clarke, 2002; Finger and Allouche, 2002; Okereke, 2007). The *International Conference on Water and Environment* (ICWE) in Dublin 1992 marks a turning point by technically declaring that "(f)resh water is a finite and vulnerable (…) resource (and) has an economic value in all its competing uses and should be recognized as an economic good" (Dublin Guiding Principles, 1992; Dobner, 2007). It is this notion of water as an economic good, and therefore as something that can and should be managed with market instruments, that stand at the core of the neo-liberal mission. It implies a critique of the hydraulic mission's focus on publicly provided infrastructure. "Financing water for all", the title of the Camdessus Report (about which more below), therefore serves here as our slogan to capture the goal of the neo-liberal mission, and with it the reframing of water governance as a primarily economic task.

As an approach, this mission in practice seeks to price and market water, and seeks a greater involvement of private companies. Private-public partnerships are meant to make capital available for investments in the water sector, as in many countries of the global South there is a lack of infrastructure for access to water and sanitation. Also, private sector involvement is meant to make water facilities and allocation more efficient and effective. Principles such as the user pay and polluter pay principles, and economic tools including stricter cost benefit analyses, demand-side management, pricing, polluter taxes, tradable rights or entitlements,

and markets were proposed as means to regulate demand (Molle et al., 2008, see also Finger and Allouche, 2002; Prasad, 2008).

The first countries that privatized the water supply and sanitation infrastructure were England and Wales in the 1980s, followed by privatisation projects in most countries in Europe and North America during the 1990s (Sawkins and Dickie, 2008, Finger and Allouche, 2002). Private sector participation was also vigorously promoted on the water and sanitation policy agenda for the global South as a means of achieving greater efficiency and expansion in the water and sanitation sector (Prasad, 2008). Between 1995 and 1999, governments around the world privatized an average of thirty-six water supply or wastewater treatment systems annually (UNESCO, 2006).

At the global level, the World Bank and the World Water Council (WWC), founded in 1996, are important friends at this stage in the political biography of water (Finger and Allouche, 2002; Dobner, 2007). The World Bank plays an important role in co-ordinating and facilitating public-private partnerships worldwide. For this objective, the WWC is an important partner as WWC members are transnational water corporations as well as governments and international organizations. The WWC head office is in Marseille, France, home country of the three largest private water service corporations Suez, Veolia and SAUR. Suez, for instance, has water service contracts in more than 100 countries with a turnover of 10.1 billion euro in 2003[13] . The WWC has close ties to these corporations. Loïc Fauchon, from 1991 a Director General and then President of the Marseille Groupe des Eaux de Marseille, was first a vice president of the WWC and became the WWC'S new president in 2005. The Council's main task has been consulting political decision makers. The World Water Forum, the largest worldwide water conference, is organized by the WWC since 1997.

At the 3rd World Water Forum in 2003, the Camdessus Report "Financing Water for All" attracted a great deal of attention. It was the output of a panel initiated by the WWC (and also Global Water Partnership, see below) and chaired by Michel Camdessus, former head of the International Monetary Fund (IMF). The Report states that "(m)ost private operations have achieved real progress in efficiency (…)" (Winpenny, 2003) and that „there is room not only for public utilities but also for private operators to perform their trade, to use their skills and to point the way for better efficiency and better customer satisfaction" (Winpenny, 2003). The Camdessus Panel recommends using public means and official development aid for financing and supporting private investments in the water sector. The Report had major influence on diverse institutions' financial initiative, for instance, on the European Commission which explicitly justifies the EU Water Facility strategy to mobilize private means for financing water infrastructure with the Camdessus Report.[14]

Just as the hydraulic mission, the neo-liberal mission encountered problems and opponents. First, there has been fundamental opposition against treating water as a market commodity. "Recognizing the social and ecological value of a resource leads to its equitable and sustainable use. In contrast, assessing a resource only in terms of market price creates patterns of nonsustainable and inequitable use", argues Vandana Shiva (2006). She has become a figurehead of an anti-neo-liberal movement. Second, it proved very difficult to make low-income areas attractive to private water companies (Budds and McGranahan, 2003). In practice affordable drinking water relies on social policies, including public subsidies (Prasad,

[13] See for turnover: Deckwirth, 2004; for countries: www.suez.com, accessed on 28 September 2009; there is a direct link from the corporation's website to the WWC.
[14] See European Commission documents COM (2003) 211 and COM (2004) 43. See Partzsch 2007.

2008). Water remains an area that is heavily dependent on public investment and regulations in developed and developing countries alike (UNESCO, 2006). Third, the neo-liberal mission has become identified with privatization, which is widely unpopular and has encountered strong political opposition particularly from trade unions and NGOs. Privatization is objected to because of increase in tariffs, cut-off of non-payers, job losses for union members and a strong sense that the private profit motive is in tension with basic demands of a fair water supply. Not least due to widespread resistance, the rate of privatization has been slowing since the late 1990s. Companies are now more careful about engaging in the water and sanitation sector. In a number of instances, private operators have withdrawn from projects or have had their contracts terminated (Budds and McGranahan, 2003; Hall et al., 2005).

6. Integrated Water Resources Management

In the period from 2000 onwards, global water governance is characterized by Integrated Water Resources Management (IRWM), the now hegemonic concept. Officially coined by the Global Water Partnership, IWRM "aims to ensure the co-ordinated development and management of water, land, and related resources by maximizing economic and social welfare without compromising the sustainability of vital environmental systems" (GWP, 2000). Water governance should thus be based on a holistic approach, recognizing the many uses and users of water. The slogan "Some for all forever" captures this central aim. Neither a public core of hydraulic engineers, nor the market is given primary importance. Instead, the approach seeks to recognize all social, economic and ecological uses of water, to establish cross-sectoral management (industrial, agricultural, municipal, ecological uses of water) and to integrate relevant stakeholders in decision processes. This should be done on the required scales and levels, i.e. the relevant management unit is the river basin, independent of national or other administrative borders (Conca, 2006; GWP, 2000).

The "integrative" spirit of IRWM allows the continuation of aspects of the neo-liberal and the hydraulic missions to the extent that they respectively are given a place as part of a holistic yet vague perspective on new water projects and policies. Possibly, IRWM thereby responds to a distrust of and estrangement from advanced division of labour and reductionism (Biswas, 2004). "The massive promotion of IWRM by mainstream institutions – in the form of literature, websites, capacity building and training sessions, MSc programmes, conferences, etc. – has contributed to inspire a new generation of professionals and to disseminate new ideas of dealing with natural resources and complex social settings" (Molle et al., 2008; Conca, 2006).

The 2nd World Water Assessment Report entails 44 case studies that "clearly show that the approach towards sustainable utilization of water resources is evolving globally in the direction of IWRM" (UNESCO, 2006). However, the case studies illustrate the diversity of circumstances and various challenges and priorities applied in different regions. For example, in the Danube River Basin, homogeneous implementation of the Water Framework Directive among EU Members and non-EU Member countries is considered an IWRM priority. In Japan, the adoption of proper waste management techniques, which reduce the threat of waterborne diseases, are interpreted as an approach towards IWRM. What these "best practice" studies have in common, is the establishment of basin-wide participative schemes such as, in the case of the Danube, the International Commission for the Protection of the Danube River (ICPDR) or, in the case of Japan, the cooperation of several high-level research institutes and centres when comprehensive water resource development plans were designed.

This latest stage of the political biography of water also has not been without problems and critics. Including different sectors and different stakeholders requires dealing with their respective priorities and goals. As the social, economic and environmental uses of water are often contested, "integration" is difficult to achieve in practice (let alone "maximizing" welfare). Second, the holistic approach and the multi-dimensionality of the concept also make it difficult to determine what is not included in the concept: "water, land and related resources". Arguably, a host of ministries and agencies would have to work on IRWM due to the open meaning of "related" (extending to issues in agriculture, energy, industry, waste management, urban planning, preservation etc.). To the extent that IRWM means different things to different people, it also invites "old" approaches to be simply carried on under the umbrella of the "new" concept. For example, the neo-liberal mission can be continued as an "integration" of the economic use of water (Incidentally, the GWP was a co-initiator of the above quoted Camdessus Panel). Consequently IRWM has been accused of "green-washing": "Some people and regimes have continued to do what they were doing in the past, but under the currently trendy label of IWRM in order to attract additional funds, or to obtain greater international acceptance and visibility" (Biswas, 2004). Third, such agents and agencies as well as stakeholders in particular are not equal. In practice, the most powerful agents can dominate IWRM processes. Organizing participatory processes that do not exclude or disadvantage, in particular, local people remains a challenge.

These three chronological stages of the political biography of water offer an ideal type account of the evolving structure of water governance with a global scale[15]. The next stage – the "new" mission – is in each case also an answer to key problems attributed to the preceding mission. For example, as large-scale infrastructure of the hydraulic mission necessitates massive public investment, the neo-liberal mission aims for private ventures to make funds available and put them to efficient and effective use. As the neo-liberal mission focused on water as an economic good, it is criticised for not appropriately taking into account the fundamental role of water as a public good for livelihoods, as well as the other social and ecological uses of water. IRWM seeks to offer just such an "integrative" perspective.

If we say that a mission runs into problems or encounters (possibly unintended side-) effects, the language of "problems" has at least two semantic layers. First, a mission may run into problems according to its own standards. For example, there is no empirical evidence that the neo-liberal mission could mobilize substantial private investments for water infrastructure expansion in poor rural and poor urban environments. A mission may also run into problems from the perception of fundamental opponents and new innovators. Many of the arguments against the hydraulic mission and against the neo-liberal mission are coined from the perspective of the respective "next" mission. Second, we can speak of "problems" in an explicitly normative sense drawing on an ethical theory. Below we will focus on the first sense of "problem"; we will return to the second sense and the relation to ethical theory in the conclusion.

7. Social Entrepreneurs as Change Agents in the Water Sector

The political biography of water delineates three major approaches to the governance of water. These approaches are missions on a global scale, as outlined above. Whatever the

[15] The detriment of this attempt to delineate a political biography with a global perspective is no doubt a reduced attention to regional differences and local histories. For this reason, the political biography is also in a sense a "Western" perspective, although in a large sense of "Western" as the hydraulic mission no doubt was powerful in the soviet countries of the "East" as well.

innovation of a social entrepreneur, it will most likely have to situate itself within the context of these missions. With respect to social entrepreneurs, two types of change relations are specifically likely (besides of course the "null-option": acceptance of the mission):

1) Responding to a problem that the respective mission recognizes but cannot solve, struggles to solve or struggles to implement. The social entrepreneur accepts the aims of the respective mission (but might disagrees with the approach, see table 1). For example, the neo-liberal mission seeks to finance water for all through more private investments and markets. Yet, private investment remains a challenge in poor rural and urban areas where water infrastructure is lacking, and social entrepreneurs might offer a new idea to "finance water for all".

2) Responding to a problem that the respective mission has created, though possibly only as an unintended side-effect (see table 1). For example, the hydraulic mission built dams for hydropower. Impacts to existing ecosystems and social systems as, in particular, the dislocation of people ranges from the intended to the unintended.[16] Treating water as a market commodity lead to the unintended exclusion of those who are not able to afford market prices for water supply and sanitation.

It is with respect to these problems of the "missions" that we explore the role of social entrepreneurs as "change agents". In what sense are social entrepreneurs "changemakers" in the water sector (Drayton, 2006)? In was sense are they "innovative"? We explore their innovations with respect to the dominant missions, and ask to what extent we can identify types of "innovation".

For our typology we have examined a group of social entrepreneurs active in the water sector of the pioneering, and largest social entrepreneurship organisation, i.e. Ashoka. For our classification, we rely on the description of their work as published via the Ashoka fellow homepage in the form of profiles[17]. Our typology relies on the self-understanding of these entrepreneurs at the moment when these people became fellows (and when the profiles we examine were produced). Quotations in the following sections will always refer to these profiles, with the year of publication (and hence of accreditation as a fellow) added in brackets.

[16] Wester (2009) argues that large-scale dams and irrigation systems were built to further exploit water, even though it was clear that the ecological limits of the basin had already been reached. Harmful ecological and social consequences must therefore not be considered as unforeseen side effects of the hydraulic mission, but as direct consequences of it.

[17] These are the fellows who describe their work as falling under "water management" (last accessed November 3, 2009). We have added three fellows (Bozek, Simao, and Sinkamba), who also belong to the water management category and whose non-inclusion is in our view simply an artefact of Ashoka's classification system. As each of them falls into a different mission, these additions do not affect the distribution of fellows.

	Approach	Aim	Strenghts	Limits	Social Entrepreneurs
Communal hydraulic mission	Small-scale infrastructure with local ownership, appropriate technology, including education, recovery of traditional management methods, typically focused on the village as relevant social unit	Capturing as much water as possible for human uses and economic development without compromising the natural ecosystem and local independence; strengthening communities	Only small interferences in natural ecosystems; no dislocation of people; more transparency through local empowerment; respecting traditional knowledge;	Application to large urban areas doubtful; cumulative ecological effects of small-scale initiatives; technical know-how for dealing with water quantity and water quality problems of industrialised society	Wilson Passeto, Michal Kravcik, Laxman Singh, Sachidanand Bharati, Zepheniah Maseko, Ako Amadi, Jagdish Pradhan, Eugen Tóth, José Roberto da Fonseca e Silva, Carlos Simao, Sameh Ghali, Agus Gunarto, Ayyappa Masagi, Ajaya Dixit , Juan Carlos Calizaya Luna, Dinesh Kumar Mishra (16 fellows)
Prices without profits	Price mechanisms and payment schemes	Preservation of ecosystems; more equitable access to water; improve allocation efficiency	Additional financial resources for ecosystem preservation, affordability problems mitigated through voluntary payment schemes and cross Payments,	Difference between value and price, limits to voluntary payment schemes, especially in antagonistic contexts (see side-effects of neoliberal mission)	Marta Enchavarría, V.S. Chary, Alvaro Francisco Ugalde Víquez (three fellows)
Rights versus profits	Legal advocacy	Ensure basic access to drinking water and sanitation as a human right	Affordability and water quality problems mitigated through human rights approach and legal assistance	Lack of enforcement mechanisms; difficulties in interpreting the right (e.g. right to water for food); costs of claiming rights	Abdul Hakim Khoso, Peter Sinkamba (two fellows)
IWRM from the base	Local stakeholder participation, long-term educational approach; river basin management (catchments),	Public awareness and community mobilization against water problems	More democratic implementation of IRWM Collaboration with established actors, tapping their expertise	Social entrepreneurs not democratically elected	Roberto Epple, Jacek Bozek, Fausto López, Santosh Ragunath Gondhalekar, Manop Pratoomthong, Rajendra Dahal, Prema Gopalan, Rakesh Jaiswal, Oscar Rivas Ganesh Pangare Khatau Jani, Moniraul Kader Mirza, Gustavo Candia Irigoita, Kim Kieser, Kriengsak Klomsakul, (15 fellows)
No category: Karen Grover, Haider El Ali and K.A.V.R Krishnamachari (three fellows).					

8. A communal hydraulic mission – social entrepreneurship and the hydraulic mission

Many social entrepreneurs of this cluster have been mobilized by the anti-dam movement and turn against the large-scale modernist approach of the hydraulic mission. They are responding to problems that the hydraulic mission has created (heavy footprint on the natural environment, dislocation of people etc., see table 1). For instance, social entrepreneur Michal Kravcik (1994) and his organisation *People and Water* successfully mobilized the Tichy Potok community in Slovakia and anticipated plans of the national government to build a large-scale dam in the area. In addition to their anti-dam actions, Kravcik offered an alternative proposal or "new idea" for the governance of water in Tichy Potok.

What we propose to call the "communal hydraulic mission", replaces large-scale by small-scale infrastructure with local ownership. There is a strong technical dimension to this, similar to the conventional hydraulic mission. Many of the social entrepreneurs are trained engineers. However, they are innovative in strongly referring to the local context and often recovering traditional water management methods. The communal water approach is for example explained in Jagdish Pradhan's profile as a demonstration of "traditional methods (...) improved with appropriate uses of new technology" (1992).

The techniques the social entrepreneurs use are simple and cost-effective, not least because they extensively rely on factors that are abundant in poor rural areas: labour and time. "In contrast to the deep wells the government typically digs, shallow tube wells are less expensive, easier to build, and more efficient at producing water", so Brazilian social entrepreneur Carlos Simao in his profile (2007). He works with local community associations in order to install water infrastructure as well as to "empower communities by turning water into an asset (...)." Hence, most entrepreneurs' innovations include an educational and/or empowerment dimension. Simao's institute teaches the shallow well model and promotes community responsibility at local meetings. "Fostering ownership from the start gives each community an integral leadership in its own process" (ibid.).

Further examples of social entrepreneurs with a communal hydraulic mission can be given: Laxman Singh from India uses "a combination of simple techniques for tapping every water path in the village and diverting them into the natural watershed of the village" (1998). Indian fellow Sachidanand Bharati envisages "a shimmering net of earthen water pits, ponds, and tanks laid out across mountain slopes, from the apex to the base ..." (1998). In Zimbabwe, Zepheniah Maseko constructs "catchment systems with available local materials, plants terraces with deep rooted crops that stabilize the soil, and in effect trap the water ... " (1997). Nigerian social entrepreneur Ako Amadi "harvest[s] the wet season's rainwater [with] a network of cement lined gutters . . . the gutters slope and empty into an open cement cistern in which water hyacinths and lilies are planted on a gravel bed for microfiltration" (2001).

The focus on local technology is accompanied by a focus on villages and rural communities as the political unit of primary action. For example, Sameh Gahli from Egypt "works with both men and women in villages and rural areas to build and maintain sewage systems that are appropriate for household size, income-level and village context" (2006). Brazilian entrepreneur José Roberto da Fonseca e Silva seeks to empower "rural communities in semi-arid regions cope with drought by tailoring a micro productive and commercialization system with high aggregate value products" (2007). This focus on the village takes the form of "privatisation with a civic twist" as Kravcik puts it (1994). "Privatization" in this sense is

opposed to public ownership by the nation-state and central government (a clear difference to the dominant hydraulic mission). In this sense, Indian social entrepreneur Prema Gopalan proposes to "demonstrate that privatization can actually democratize the management of basic services, and that village women can form the backbone of leadership for such a process" (2003). "Privatization" here as in other cases stands for a "community ownership of water supply systems and their management" (that is in Gopalan's case the communty groups for water management operated by women and collaboration with the village administration committees) (ibid.).

While the communal hydraulic mission is typically focused on the village, there are some social entrepreneurs, who apply the communal mission to an urban context, for example Eugen Toth in East-Slovakia aims at "holding water where it falls and then circulating it in the area" in an urban context (Eugen Toth, 2007). Civil engineer Wilson Passeto from Brasil uses individual water measurement systems to "combat water wastage in [urban] homes and offices" (2007). And Agus Gunarto from Indonesia has developed "appropriate waste water treatment [that] can be based on household sewerage units that are financed, constructed, and managed by the same communities that benefit from the systems" (1998).

The aim of the communal mission is capturing as much water as possible for human uses and economic development without compromising the natural ecosystem and local independence. Instead of dislocating people, local communities are strengthened. Local empowerment increases the transparency of water management, allowing local managers to respect traditional knowledge. These strengths of the communal hydraulic mission however also point to limits. What is the potential of this approach for large-scale urban areas? What are the cumulative ecological effects of many small-scale initiatives? Does the communal hydraulic mission have the technical capacity do deal with water quantity and quality problems of industrialised societies? Finally, how can we ensure democratic decision-making and equal participation in empowered communities?

9. Rights, Prices, Profits – Social Entrepreneurship and the Neo-liberal mission

The public discussion of water governance has recently been dominated by one theme: privatisation (Barlow and Clarke, 2002; Conca, 2006; Dobner, 2007; Finger and Allouche, 2002). With private operators withdrawing from projects, the anti-privatisation camp overall seems to have won the dispute (Budds and McGranahan, 2003; Hall et al., 2005). Yet, "the opposition campaigns have not always articulated a specific alternative policy" (Hall et al. 2005, 295). In our analysis of social entrepreneurs in the water sector, we found two types of entrepreneurs whose respond, albeit in quite different ways, to the neoliberal mission.

9.1. Prices without profits

In the Ashoka group of social entrepreneurs in the water sector, there is a small group of entrepreneurs who use market mechanisms, more specifically prices and funding mechanisms, for ecological and social purposes. Thus, these fellows arguably extend the neoliberal mission. Their innovative market mechanisms are, however, not guided by profit motives, let alone a shareholder profit model. The social entrepreneurs' new idea and innovative aim is rather to use these market tools for the preservation of ecosystems and for a more equitable access to water.

Marta Echavarriá from Ecuador for example establishes "water markets among traditionally non-cooperating upstream and downstream users" (2006). Her goal is to account also for the

"high environmental costs associated with sustainable water management which could help prevent the inefficient loss of the valuable water resource" (ibid). With a social goal in view, V.S. Chary from India argues for "fixing meter tariffs" so as to "induce changes in consumer behaviour" (2006). A 24-hour, seven days per week water delivery with fixed tariffs "allows towns and cities access to sufficient water while also serving the poor, leading to a reduction in government public health expenses from urban water-borne diseases" (ibid.).

Alvaro Víquez from Costa Rica uses a different market mechanism for ecological conservation efforts. With his Instituto Nectandra he has developed a finance mechanism called "ecological lending: this is a credit program that helps communities buy polluting and overused farmlands in order to restore, them with interest-free loans which have extended repayment options" (2008).

The use of market instruments allows these entrepreneurs to develop models that speak the language of business and finance. These social entrepreneurs primarily rely on voluntary pricing and financing schemes. However, the value of water resources is difficult to capture solely in terms of market price as pointed out by Vandana Shiva and others (see above). Just as we identified a lack of investment and infrastructural decline as a problem facing the neoliberal mission, there is by analogy the question how far voluntary payments will go, in particular in the case of antagonistic water issues. Thus, in so far as they extend the neoliberal mission, these entrepreneurs face problems and (side-) effects similar to that mission.

9.2. Rights versus markets

The neo-liberal missions stands for the hegemony of prices and markets as a solution to water issues. Its counter-hegemony tool – as is well-known from the water justice movement (Barlow, 2008) – is the language of rights, in particular of the human right to water. Some social entrepreneurs innovative potential lies with the use of legal tools to ensure, protect and promote access to safe and affordable water for those at the base. This approach can be considered as a response to a problem that the neoliberal mission has created. Treating water as a market commodity leads to the unintended exclusion of those who are not able to afford market prices from water supply and sanitation. Social entrepreneurs use legal advocacy as a weapon against inadequate water management by corporations and governments. Thus the rights based approach opposes the neoliberal mission. However, water being a human right does not necessarily contradict water being treated as a market commodity, in particular, if social policies prevent the exclusion of those who are not able to afford market prices. Thus, in these cases, a rights-based approach can also qualify the neoliberal mission.

Abdul Hakim Khoso from Pakistan has organized small farmers to demand a "a legal right to irrigated water as a basic human right as well as the court's willingness to see to it that these rights are respected by larger farmers as well as the government authorities legally responsible for maintaining the canal system" (1998). In a similar vein, Peter Sinkamba from Zambia has mobilised citizens to "hold mining companies accountable to domestic and international environmental law" (2004).

The language of rights is a weapon that allows local initiatives to connect to, and receive support from the national and international level. Sinkamba, for example, has worked with Oxford University's Rights and Accountability Department to produce a report on denial of human rights. Limits of the rights based approach are difficulties in interpreting the rights (e.g. the right to water for food) as well as lack of enforcement mechanisms. There are also

costs such as those for legal assistance, which can be a barrier for poor people without access to potable water and basic sanitation.[18]

10. IWRM from the base

While working with local community is important for all social entrepreneurs, there is one group of social entrepreneurs that specifically focuses on mobilizing and making heard the voice of communities in the larger multi-actor negotiations and deliberations of water governance. These entrepreneurs responding to a problem that the IWRM recognizes but struggles to solve in practice: Organizing participatory processes that mobilize local communities without being dominated by powerful actors. "IWRM from the base" in our view thus *implements* one dimension of IWRM. In this spirit, Manop Pratoomthong from Thailand mobilises "people who are most affected by the [pollution of Songkhla Lake, the country's largest freshwater lake] – those who depend on the lake for a living – to take charge of cleaning up the lake and managing it in a sustainable way" (1993). His *Southern Thailand Environmental Plan* (STEP) seeks to give "voice in deciding how this resource is to be allocated among them and also have some responsibility for its management" (ibid.).

Precisely because the focus is on those at the "base", the affected communities are generally very much aware of environmental degradation and ecosystem services at stake. In accordance with IWRM, the focus is less on a social unit such as the village, but on the ecological unit of catchments. For example, Roberto Epple from France has created a "River Parliament", a European Network of citizens' associations involved in the preservation of fifty European rivers (2007).

For the goal of participation from the base, social entrepreneurs, on the one hand, have to educate the public about water problems at stake and, on the other hand, need to encourage citizens and communities to take action. Khatau Jani from Pakistan uses "on-the-ground reporting" and "existing media channels" to influence policy makers and bring relief to drought-stricken areas (2003). Monirul Kader Mirza from Bangladesh "is positioning himself as an alternative voice in the field of environmental water resources management in Bangladesh" (1990). Polish social entrepreneur Jacek Bozek builds a "citizen's movement to preserve Poland's rivers", more specifically his organisation Gaia builds coalitions between "various Polish citizens' organizations and river communities" (1997); Rakesh Jaiswal from India has co-opeted "religious groups that contribute to the pollution of the river" (2002). Fausto López from Ecuador idenfies "hot button issues" and "hooks that could enable wide participation". His local direct action campaigns, such as those to find sustainable ways for locals to derive material benefits from Podocarpus, are designed "to be fun and to provide direct benefits to the participants" (1995).

The approach of these social entrepreneurs differs from those of the "communal hydraulic mission" in that they do not focus so much on the establishment of communally owned water management with a technical basis as an alternative to the state provided schemes. Rather, they seek to rebalance societal constellations of water management. Rajendra Dahal from Nepal "believes that creating institutionalized linkages between hydropower planners,

[18] While we stress here the legal advocacy, we also have to point out that both social entrepreneurs quoted are in fact not limited to legal activism. Khoso is not just a legal activist: "on the ground level, he trains farmers to recharge aquifers and make the most of the rainwater that falls on their lands . . . he introduces them to water-efficient systems of drip irrigation, sprinkler, perforation, plastic mulching, and bottle-feeding" (1998). Sinkamba's legal activism is connected to his goal to "engage citizens in the responsibility for reversing and preventing environmental damages in Zambia" (2004).

government officials, and the people of Nepal will increase the accountability of decision-makers" (1993). In February 1993, Rajendra formed the Alliance for Energy with a small group of environmentalists, economists, and hydro-engineers in order to publicize the Arun scheme and to persuade the government to adopt an alternative, economically sensible approach to hydropower in Nepal.

Indian social entrepreneur Ganesh Pangare is "steering a meaningful transfer of power away from the dysfunctional irrigation bureaucracy and toward citizens by helping state governments design new systems and at the same time working with farmers to create democratic water users' associations. . . He sees the emergence of the users' associations as an opportunity to engage Indian farmers in larger issues of natural resource management" (Pangare, 2002).

IRWM from the base has the innovative potential to mobilize numerous actors of water governance at the river basin level, including multi-level cooperation. The organization Sobrevivcencia of Paraguayan social entrepreneur Oscar Rivas works "on all levels of society from individual citizen to the largest international institution" (2006). The civic impetus, especially, of grass-roots initiatives increases transparency and anticipates more democratic decision-making. Powerful agents might less likely dominate IWRM processes while people of local communities are not excluded or disadvantaged. Still, social entrepreneurs and their initiatives are not democratically elected representatives. "Involving, educating, and helping organize everyone with an interest", as Santosh Ragunath Gondhalekar from India puts it (1990), therefore raises questions of democratic representation and delegation.

Table 3: Political Biography of Water and Social Entrepreneurship Clusters

Political biography of water	**Social Entrepreneurship cluster**	**Social Entrepreneurship relation with respect to mission**
Hydraulic Mission	Communal Hydraulic Mission	Changemaking
Neo-liberal Mission	Prices without profits	Extending
	Rights versus markets	Opposing
Integrated Water Resources Management (IWRM)	IWRM from the base	Implementing

11. Conclusion

In this paper, we have examined a core claim of social entrepreneurship, the "knockout criterion" of a "new idea", and the related claim that social entrepreneurs are innovative change agents. We examined this claim against the background of the political biography of water: in what sense are social entrepreneurs change agents given the problems and (side-) effects of the hydraulic, neo-liberal and IRWM missions? Our examination of a group of social entrepreneurs accredited by Ashoka suggests a differentiated, three-part answer (see table 3).

First, we have assigned roughly 40% of the social entrepreneurs (16 fellows) into the cluster of the communal hydraulic mission. These social entrepreneurs are *changemakers* in that they seek to establish communal ownership and management of water in contexts where the hydraulic mission has failed. In difference to the hydraulic mission, the communal hydraulic

mission seeks to not compromise the natural environment and to strengthen local communities (against the central government of the nation-state). Social entrepreneurs of this type are often engineers with some "inside" experience in the hydraulic mission like Michal Kravcik, who worked for the central government of Slovakia and then became a dissident. They are communal activists, promoting small-scale, and cost-efficient technology that contribute to achieving the MDG, in particular in poor rural areas.

Second, according to our analysis a second significant category of social entrepreneurs (15 fellows) can be classified in relation to IRWM. While IRWM includes stakeholder participation and aims for a cross-sectoral multi-level management of water, social entrepreneurs of our cluster "IWRM from the base" seek to establish democratic participatory processes that strengthen and empower local communities in this process. With respect to IRWM, we consider these entrepreneurs as *implementation agents*, i.e. the change they contribute is to "push through" the participation of local stakeholders, a desideratum of IRWM that has been difficult to achieve in practice.

Third, we found only a small number of social entrepreneurs, who primarily use market tools as part of their approach (three fellows). These fellows arguably *extend* the aims of the neo-liberal mission in that they seek to establish new markets (such as between upstream and downstream users in the example of Echavarria) or draw private capital into nature protection (as in the example of ecological lending). We also identified two fellows who use the language of rights, which can serve as a weapon against the neoliberal mission. In our analysis, the relation of social entrepreneurship to the neo-liberal mission is therefore internally differentiated.

Striking about the group of social entrepreneurs extending market mechanisms is certainly its small size. Critics of social entrepreneurship have associated social entrepreneurship with a neo-liberal focus on individuals and with the import of market mechanisms into public and social spheres, thereby potentially delegitimizing the existing actors in this field as inefficient and ineffective etc. Our analysis of SE in the water sector suggests that the link between social entrepreneurship and the neo-liberal mission (now in a more general sense) is puzzling. On the one hand, we find that that the struggle over privatisation of water that has engaged civil society worldwide is at best marginally present in our set of social entrepreneurs. To be sure, the issue of privatisation as a fact is mentioned by a few social entrepreneurs, but there is no overt stance against privatisation[19].
On the other hand, when "privatisation" is used, there is typically a move to redefine its sense. Kravcik as noted speaks of "privatisation with a civic twist", likewise Gopalan says that privatisation has been "implemented rather narrowly, usually into the hands of private companies and investors" (Gopalan); instead "village women [should] form the backbone of leadership for such a process" (ibid.). The focus on communal ownership and communal empowerment does not fit the private-public dichotomy of neo-liberalism and its critics. Communal ownership opposes large-scale public infrastructure (irrigation, hydropower) by central government as well as by private corporations. Communal ownership is a form of public and not of private for profit-ownership. When private actors are integrated in the decision-making with the IWRM, social entrepreneurs mainly aim to give voice to civil society and to empower communities. In short, we cannot confirm social entrepreneurship as

[19] This analysis is based on the Ashoka databases. We would like to add that we know that some of the entrepreneurs in this cluster have elsewhere taken a stance against privatisation, and that they work with the anti-privatisation/water justice movement.

a variant of the neo-liberal mission. However, we can say that the supporting foundation gives little space to the debate on privatization in the fellows' presentations.

This takes us to a possible practical implication of this paper. Ashoka seeks to arrange its fellows in thematic clusters, so called mosaics, "in the sense of assembling the pieces. The purpose [is] to see how the fellows' ideas fit together and to look for patterns" (Bornstein 2004, 148). The purpose of a Ashoka mosaic is to 1) identify the general patterns that explain how hundred of fellows [succeed] in their fields; 2) select from those patterns the few that, once understood, could open up major new avenues for those working in the same fields; and 3) spread those principles across the fellowship and the field's of practioners" (Bornstein 2004, 258). For the water sector such as "mosaic" is still in the making[20], but once completed this synthesising effort would no doubt offer an additional clue to the general impact of Ashoka on the sector. Our paper suggests that the fellows contribute new ideas in the form of decentralized technologies and community mobilization.

We have examined the role of social entrepreneurs against the context of major global water missions and the problems and challenges they face. Yet, there is of course an ethical dimension to these "problems" and "challenges" that ultimately would have to be made explicit with the help of ethics. Drawing a line connecting ethics, the political biography of water and the respective change-agent roles of social entrepreneurs would, however, further burden an already lengthy paper. We believe that this further work is particularly relevant when not only the change-agent roles of social entrepreneurs are to be classified, but also their social and sustainability potential evaluated. Do these initiatives contribute to human development in an ethical sense? Do they sufficiently take into account ecological sustainability? The present paper delineates the sites and contexts to poses these questions, but a normative stance is required (Ziegler, 2010). For example "IRWM from the base" calls for a stance on the conditions of participatory governance and the normative theory of democracy.

These questions also point to further research in other directions. Such further research would call inter alia for an extension of the data base to include social entrepreneurs outside the Ashoka universe, and it also calls for more in depth study of the approaches singled out here, including in depth case studies of specific social entrepreneurs[21]. Another line of further inquiry concerns the relation between social entrepreneurs and "established" actors in water governance. As outlined by Frank Biermann (2007), we need research on the macro-level, interlinkages and the overall "architecture".

The political biography of water is an approach to concretize macro-level governance in the water sector. It is a framework to analyze the content and innovative potential for change of water initiatives. According to our analysis, there is a clear sense in which the three stages are present in the context of the social entrepreneurs we studied. While there is some historical sequence from the hydraulic mission, via the neo-liberal mission to IRWM, all three missions remain present. Also, the variety of social entrepreneurs' countries of origin underlines the global significance of the biography: our group includes social entrepreneurs from Asia, Europe, Africa, Latin and South America; with a notable clustering in India.

References

[20] GETIDOS currently examines a draft water mosaic produced by Ashoka.
[21] Such case studies are planned as part of the GETIDOS research project.

Allan, J. A. 2001. *The Middle East water question: Hydropolitics and the global economy*. London: I. B. Tauris.

Allan, J. A. (2005): Water in the Environment/Socio-Economic Development Discourse: Sustainability, Changing Management Paradigms and Policy Responses in a Global System. *Government and Opposition*, 181–199.

Barlow, M. and Clarke, T. (2002): *Blue gold: the fight to stop the corporate theft of the world's water*. The New Press, New York.

Barlow, M. (2008): *Blue Covenant. The global water crisis and the coming battle for the right to Water*. New York: The New Press.

Biermann, F. 2007. 'Earth system governance' as a crosscutting theme of global change research. *Global Environmental Change* 17, 326-337.

Biswas, A. K. 2004. Integrated Water Resources Management: A Reassessment. *Water International* 29(2), 248-256.

Blackbourn, D. 2006. *The Conquest of Nature. Water, Landscape and the Making of Modern Germany*. London: W. W. Norton & Company.

Bornstein, D. 2004. *How to change the world. Social entrepreneurs and the power of new Ideas*. Oxford: Oxford University Press.

Budds, J. and McGranahan, G. 2003. Are the debates on water privatization missing the point? Experiences from Africa, Asia and Latin America. *Environment and Urbanization* 15(2): 87-113.

Conca, Ken. 2006. *Governing water. Contentious transnational politics and global institution-building*, Massachusetts Institute of Technology, Cambridge, London

Deckwirth, Christina. 2004. *Sprudelnde Gewinne? Transnationale Konzerne im Wassersektor und die Rolle des GATS*. Bonn, Germany: Weltwirtschaft, Ökologie und Entwicklung e.V..

Dees, J. G. 1998. The meaning of social entrepreneurship. Working Paper, Kauffman

Center for Entrepreneurial Leadership.

Defourny, J. and Nyssens, M. 2009. Conceptions of social enterprise and social entrepreneurship in Europe and the United States: Convergences and divergences. Paper presented at the Second EMES International Conference on Social Enterprise, University of Trento, Italy, 1-4 July 2009.

Dingwerth, K. 2005. The Democratic Legitimacy of Public-Private Rule Making: What Can We Learn from the World Commission on Dams? *Global Governance* 11 (1): 65-83

Dobner, P. 2007. Did the state fail? Zur Transnationalisierung und Privatisierung der öffentlichen Daseinvorsorge am Beispiel der globalen Trinkwasserpolitik. In Wolf, K.-D. (Eds), *Staat und Gesellschaft — fähig zur Reform? Der 23. wissenschaftliche Kongress der Deutschen Vereinigung für Politikwissenschaft*, pp. 247-261. Baden-Baden: Nomos.

Drayton, B. 2006. *Everyone a changemaker. Social entrepreneurship's ultimate goal*, Cambridge, MA: MIT Press.

Evers, H.-D. and Benedikter, S. 2009. Hydraulic bureaucracy in a modern hydraulic society – Strategic group formation in the Mekong delta, Vietnam. Water Alternatives 2(3): 416-439

Finger, M. and Allouche, J. 2002. *Water privatisation. Transnational corporations and the re-regulation of the water industry.*, London, UK, New York: Spon Press.

Grenier, P. 2009. Social entrepreneurship in the UK: from rhetoric to reality? In Ziegler, R. (Ed.), *An Introduction to Social Entepreneurship: Voices, Preconditions, Contexts. Voices, Preconditions, Contexts*, pp. 174-206. Cheltenham, UK, Northampton, MA: Edward Elgar.

GWP (Global Water Partnership). 2000. Integrated Water Resources Management. Technical Advisory Committee Background Paper No. 4, Stockholm.

Hall, D., Lobina, E. And de la Motte, R. 2005. Public resistance to privatisation in water and energy. *Development in Practice* 15(3-4), 286-301.

Hoffman, J. 2006. The NYC Watershed agreement: sustainable development and social entrepreneurship. In: Perrini, Francesco (Ed.), *The new social entrepreneurship. What awaits social entrepreneurial ventures?*, pp. 260-271. Cheltenham, UK, Northhampton, MA, USA: Edward Elgar.

Huitema, D. and Meijerink, S. (Eds.) forthcoming. *Water policy entrepreneurs. A research companion to water transitions around the globe*, Cheltenham, UK, Northampton, MA, USA: Edward Elgar

Khagram, S. 2004. Beyond temples and tombs. Towards effective governance for sustainable development through the World Commission on Dams. Case study for the UN Vision Project on Global Public Policy Networks, www.gppi.net/fileadmin/gppi/Khagram_WCD.pdf, accessed on 18 September 2009.

Korn, J. 2009. Taking responsibility: breaking away from hate and violence. In Ziegler, R. (Ed.), *An Introduction to Social Entepreneurship: Voices, Preconditions, Contexts. Voices, Preconditions, Contexts*, pp. 33-52. Cheltenham, UK, Northampton, MA: Edward Elgar.

Kravcik, M.; Pokorny, J.; Kohutiar, J.; Kovac, M. and Toth, E. 2008: Water for the Recovery of the Climate. A New Paradigm, Kosice.

Kravcik, M. 2009. Return the lost water back to the continents. In Ziegler, R. (Ed.), *An Introduction to Social Entepreneurship: Voices, Preconditions, Contexts. Voices, Preconditions, Contexts*, pp. 21-32. Cheltenham, UK, Northampton, MA: Edward Elgar.

Kuhn, Thomas (1996): *The Structure of Scientific Revolutions*. 3rd edition. Chicago: The University of Chicago Press.

Mair, J.; Robinson, J. and Hockerts, K. (Eds.) 2006. *Social Entrepreneurship*, Hampshire, New York: Palgrave.

Molle, F; Mollinga, P.P and Meinzen-Dick. 2008. Water, politics and development Introducing Water Alternatives. *Water Alternatives* 1(1): 1-6.

Molle, F. 2008. Nirvana concepts, narratives and policy models: Insight from the water sector.

Water Alternatives 1(1): 131-156.

Nicholls, A. 2008. *Social Entrepreneurship. New Models of Sustainable Social Change.* Oxford: Oxford University Press.

Okereke, C. 2007. *Global justice and neoliberal environmental governance: ethics, sustainable development and international cooperation.* Abingdon/New York: Routledge.

Partzsch, L. 2007. Global *Governance in Partnerschaft. Die EU-Initiative Water for Life*. Baden-Baden, Germany: Nomos.

Perrini, F. (ed.) 2006. *The New Social Entrepreneurship*. Cheltenham, UK, Northhampton, MA: Edward Elgar.

Postel, S. 2006. Safeguarding Freshwater Ecosystems. In Worldwatch Institute (ed.), *State of the World 2006: Special Focus: China and India*, pp. 41-76. New York: W.W. Norton and Company.

Prasad, N. (ed.) 2008. *Social Policies and Private Sector Participation in Water Supply – Beyond Regulation*. New York: Palgrave.

Reisner, M. 1986. *Cadillac Desert. The American West and Its Disappearing Water*. New York: Viking.

Robinson, J.; Mair, J. and Hockerts, K. (Eds.) 2009. *International Perspectives on Social Entrepreneurship*. London: Palgrave.

Sawkins, J. W. and Dickie, V. A. 2008. *Great Britain: England and Wales, and Scotland.* In Prasad, N. (ed.), Social Policies and Private Sector Participation in the Water Sector. Hampshire: Palgrave.

Schumpeter, J. 1934/1997. *Theorie der wirtschaftlichen Entwicklung*. 9. Aufl. Berlin: Duncker & Humboldt,

Shiva, V. 2002. *Water wars: privatization, pollution, and profit*. Boston, MA: South End Press.

Swedberg, R. 2009. Schumpeter's full model of entrepreneurship: economic, non-economic and social entrepreneurship. In Ziegler, R. (Ed.), *An Introduction to Social Entepreneurship: Voices, Preconditions, Contexts. Voices, Preconditions, Contexts*, pp. 77-106. Cheltenham, UK, Northampton, MA: Edward Elgar.

Swyngedouw, E. 1999. Modernity and hybridity: nature, regeneracionı´smo, and the production of the Spanish waterscape, 1890-1930. *Annals of the Association of American Geographers* 89(3): 443–465.

Turton, A. 2001. The Construction of knowledge and implications for the climate change Debate: A Perspective from the Developing South, www.isodarco.it/courses/candriai01/paper/candriai01turton.html, accessed on 15 August 2009.

UNEP. 2006. Challenges to international waters – Regional Assessments in a Global Perspective. Nairobi: United Nations Environment Programme.

UNESCO 2006. Water a shared responsibility. The UN World Water Development Report 2, World Water Assessment Programme, http://unesdoc.unesco.org/images/0014/001454/145405E.pdf, accessed on 15 August 2009.

UNESCO 2009. Water in a changing world. The UN World Water Development Report 3, World Water Assessment Programme, http://www.unesco.org/water/wwap/wwdr/wwdr3/pdf/WWDR3_Water_in_a_Changing_World.pdf, accessed on 15 August 2009.

UNDP. 2006. Human development report 2006. Beyond scarcity: Power, poverty and the global water crisis, http://hdr.undp.org/en/media/HDR06-complete.pdf, accessed on 15 August 2009.

Wester, P. 2009. Capturing the waters: the hydraulic mission in the Lerma–Chapala Basin, Mexico (1876–1976). *Water History* (1): 9-29.

Winpenny, J. 2003. Financing water for all. Report of the World Panel on Financing Water Infrastructure, www.unwater.org/downloads/FinPanRep_MainRep.pdf, accessed on 19 October 2009.

WHO and UNICEF 2008. World Health Organization and United Nations Children's Fund Joint Monitoring Programme for Water Supply and Sanitation

(JMP). Progress on Drinking Water and Sanitation: Special Focus on Sanitation. UNICEF, New York and WHO, Geneva, http://www.wssinfo.org/en/40_MDG2008.html

Ziegler, R. 2009. Introduction: Voices, Preconditions, Contexts. In Ziegler, R. (Ed.), *An Introduction to Social Entepreneurship: Voices, Preconditions, Contexts. Voices, Preconditions, Contexts*, pp. 1-18. Cheltenham, UK, Northampton, MA: Edward Elgar.

Ziegler, R. 2010. Capability Innovation – Social Entrepreneurship und soziale Innovation aus Entwicklungsperspektive. In Christmann, G.; Jähnke, P.; Balgar, K. (Eds.), *Social Entrepreneurship - Perspektiven für die Raumentwicklung*. Wiesbaden, Germany: VS Verlag für Sozialwissenschaften.