

Water, the Sacred and the Commons of Rajasthan: A Review of Anupam Mishra's Philosophy of Water

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1 Introduction

Who should own the commons? The very word "commons" suggests something that is shared by or belongs to a group or a community. However, natural resources or creations of society, traditionally regarded or managed as commons, are threatened by enclosure (privatization) and by state usurpation. Anupam Mishra's study and work on the traditional water systems of Rajasthan makes a strong argument for localism and cultural diversity, as well as for reclaiming and re-inhabiting the commons, as means to ensuring resilience and sustainability, as well as to social and cultural enhancement.

Presently, the commons are threatened by the neoliberal belief in the Market and in economic growth. Globalization, which combines the omnipresent nature of the modern state with unchecked forces of private enterprise and *laissez-faire* markets, promises to promote growth as the only way to meet pressing social and environmental challenges. In this mindset, society is dichotomized into two realms: the State (urged to privatize and outsource its social functions) and an ever growing private sector (which generates an inevitable accumulation of private wealth by the fortunate few). The commons have no place in this dichotomy.

This globalization paradigm is being contested in the last decades. Critics have argued against corporations-based globalization and claimed that the growth economy has devastating effects on society and on the environment. Indian scholars and authors contribute significantly to this debate. For example, Vandana Shiva and Rajni Bakshi argued that a GDP-oriented growth and the Market economy bankrupt the poor and destroy resources, that globalization impoverish communities, that intellectual property laws are used for biopiracy and to outlaw age-old sustainable practices such as seed saving. They argue for localism, diversity and empowering communities as alternatives. Water in particular is an area of fierce resistance, and it has been argued that large scale damming of rivers displaces communities in the name of the greater common good (Roy, 1999), and that water is transformed from a sacred power and a public good to a market commodity (Shiva, 2002; Alley, 2012). To this debate, Mishra makes an important contribution.

Anupam Mishra is an Indian author, journalist and Gandhian and environmental activist who works extensively on water conservation. He was among the first to write about the "tree hugging" Chipko movement in the 1970s, in which rural women in the Himalayas struggled for forest conservation and for peasants' rights of the forests, reclaiming their commons rights.¹ His reputation comes from decades of study into time-tested systems of water harvesting and conservation in several Indian states, especially Rajasthan.² Mishra testifies that he became

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¹The *Chipko* movement used non-violence methods to defend the forest, especially tree hugging. Their struggle became a landmark in environmental struggles both in India and globally (Shiva, 1988).

²Other Indian states in which Mishra worked include Madhya Pradesh, Maharashtra and Uttar Pradesh.

involved with rediscovering the Rajasthani water traditions "quite by accident". As a social activist, he arrived as an act of solidarity and support to Bhinasar, a small village in Bikaner district. Wandering in the pastures, Mishra saw a garden. Entering it, he saw a spotlessly-clean courtyard surrounded by a wall. As he wanted to walk around, he was asked to take off his shoes (commonly done in temples and religious sites). In one of the corners he saw a structure, covered with a wooden lid, attached to it, was a bucket tied with a rope. Opening the lid, he revealed water. It was a *kuin*, a water reservoir that collects rainfall; the courtyard was actually an *agor*, a catchment area of rainfall (Mishra, 2001: 105). This first encounter led him to study, protect and promote traditional water systems. His first book on water traditions and practices (1993), published in Hindi as a copyright-free volume, was praised as empowering farmers, enabling them to be self-reliant in water.³ In 2001 another book was published in English followed by a TEDx talk (2009). Despite the widespread recognition in India of its significance, there is no systematically scholarly discussion of Mishra's work, except occasional references (e.g., Nawre, 2013).

Water-wise, the geographical conditions in Rajasthan are harsh. Rajasthan, located in North-West India, bordering Pakistan, is part of the Afro-Asian desert belt that stretches from the Sahara to the Gobi desert. The Indian or 'Thar desert' is about 58 percent of west Rajasthan, and consists mostly of sand dunes, low hills and fertile soil, rich in minerals. It is the most arid state in India: compared with the national annual average rainfall of 110 mm, Rajasthan receives 60 mm, and some parts (e.g., Jaisalmer) receive only 16-25 mm. The groundwater is often very deep and in most cases saline. In many areas, the soil itself is salty (Mishra, 2001: 31). This seeming paradox, a populated desert, stems from the fact that water is not merely a physical resource. Klaver (2012) mentions as "truisms" the notions that "Water shapes culture and culture shapes water. Water is crucial for the flourishing of cultures, and vice versa" (p. 3). In Rajasthan, such truisms are manifested even in the most arid parts, such as Jaisalmer. In this sense, the Rajasthani desert is very far from the stereotype of an arid region, such as the Sahara, "abandoned, cursed or lame" (Montaut, 2001: 3). The difference lies in the human parameter. Rajasthan flourishes despite the harsh conditions since its inhabitants skillfully and efficiently manage their limited quantities of water. The challenges of living in an arid desert did not result in scarcity but in abundance, making Rajasthan the most populated desert in the world, and enabling it historically to play a dominant role in terms of trade, culture and politics.

According to Mishra: "The people of Rajasthan scaled the peaks of trade, culture, art and standard of living *because of the depth of their philosophy of life. This philosophy gave a special space to water*" (Mishra, 2001: 24; italics added). Although "new development strategies have somewhat altered this exceptional water tradition they have not been able to completely destroy it" (ibid). In this paper, we will survey this philosophy and tradition as a unique Indian example of commons' governance, rooted in localism, culture and spirituality.

Mishra writes as an activist with social and spiritual aspirations. For this reason, his philosophy is embedded in his narratives of old and reintroduced traditions and practices. Our aim here is to discuss his water philosophy, to demonstrate its reliance on broad cultural, religious and social foundations, and to show its relevance and contribution to current social and environmental discourse. Moreover, we will show the inherent unity which Mishra depicts in the various contexts of the Rajasthani "philosophy of life". Moral and social virtues are interlinked with religious rituals and architectural aesthetics. For this reason, "ethnographic" facts are inseparable from description and analysis of the Rajasthani water commons.

This paper is divided into three parts. The first part describes the water traditions in Rajasthan as commons, including its different unique water systems. This part also places Mishra's

³Nivedita Khandekar (Oct 6, 2014). For more than 20 years, a slim book has helped Indian farmers become self-reliant in water. <http://scroll.in/article/677189/For-more-than-20-years,-a-slim-book-has-helped-Indian-farmers-become-self-reliant-in-water>

works against the theoretical background of the study of commons in general and in India in particular. The second part discusses the cultural and especially the religious and spiritual foundations and values underlying the water commons. In this Mishra provides a semi-religious and deeply spiritual interpretation of these water traditions. This part illustrates Mishra's unique contribution in showing the particular conditions underlying the successes of the water commons and traditions in Rajasthan, achieved within a particular context and not based on global universal principles and knowledge. The third part of the paper discusses the changes, hardships and challenges that the water commons faced, due to pressures by the British colonial rule and by the independent State of India, and their subsequent resurrection. The conclusions elaborate on the relevance of Mishra's work to discussions on globalization, privatization and the role of the state, contrasted with the vigor of the commons, and the importance of local knowledge and the community as basic principles of resilience and sustainability, which Mishra rediscovers and recreates in his activist and written work.

2 The Water Commons

2.1 The Debate on the Commons

Since the early 1990th, especially since the publication of Elinor Ostrom's *Governing the Commons* (1990) there is a growing literature on local commons governance. Ostrom claimed that given certain conditions (1990),⁴ commons may be managed by local communities *better* than private or state-managed resources (Ostrom et al, 1999). She focused on common pool resources (CPRs) such as water resources, pastures, fisheries, and other clearly defined resources in which there is a strong affinity between the resources and the communities that depend on them.

In this, Ostrom criticized biologist Garret Hardin (1968) who argued that the commons generates "tragedies". Hardin argued that, when a public resource is at stake, the fact that the profit from (over)using it is private, while the (externalized) costs are public, results in its destruction. Hence, commons were regarded as inherently unsustainable. To cope with this devastating logic, Hardin suggested two alternatives: firm public regulation (state or international governance, depending on the resource), or privatization. Ostrom suggested that Hardin was not describing "commons" but unmanaged "free access" resources. Hence, privatization or state-run centralized governance is not an imperative, and may often be inferior to commons regime. Economists and neo-liberals endorsed Hardin's conclusions, while others argued that such recommendations lead to another tragedy-that of enclosure.

The origin of the term enclosure originates from England's Industrial Revolution era, when the parliament issued a series of "enclosure acts"-laws that privatized grazing and agricultural lands, "commons" of rural communities, thereby impoverishing peasants and disintegrating their communities. Scholars such as George Monbiot (1994), *The Ecologist* (1994)⁵ or Michael Goldman (1998), among others, argued that economic projects in developing countries, marketed as "development", "efficiency", "modernization", or "private/international investments", frequently result, just as in 18th century England, in enclosure and transfer of wealth from local communities to a privileged few, with the subsequent destruction of natural resources and social integrity. Others argued that the same logic of enclosure-takeovers still occurs, hidden in divers arenas (Bollier, 2003) such as the global commons (Barnes, 2001), intellectual property and culture (Lessig, 2004; Bollier 2008) or food, natural and agricultural heritage (Shiva, 1996). To reverse the tragedy

⁴Ostrom articulated 8 "design principles" for governing "common pool resources" (CPRs) such as clear boundaries of the resources, effective exclusion of third parties, etc.

⁵"The Ecologist" is a non-academic environmental periodical. Leading authors of this periodical signed by this name on a number of collective publications, including this one.

of enclosure, activists and scholars call for 'reclaiming' commons rights (Mishori, 2010, 2014). Mishra's work on rediscovering and recreating water traditions are exemplary acts of reclaiming commons.

2.2 Commons in India

The commons in India has long been the subject of research. "The commons" are usually understood as pre-market or pre modern-State social arrangements for the governance of resources. Common pool resources (CPRs) in India were discussed as examples for the general discussion on the theory of commons (Herring, 1990; Feeny et al, 1990; McKean, 1992; Berkes, 2006), especially regarding the tragedy of the commons or enclosure (Goldman, 1993). The commons which are discussed include classical CPRs such as forests (Agrawal & Yadama, 1997), fisheries (Kurien, 1991) or lakes (D'Souza & Nagendra, 2011). The traditional village is describes as historically dependent on commons, which to some degree still persist today (Guha, 2000; Brara, 2006). Brara (2006), who studied commons in the Sikar district in Rajasthan, also discussed their social significance as arenas for social communication which transcend cast divisions in the deeply divided, hierarchic Indian society. The commons were discussed also as a gender issue, in which women play important roles and are particularly affected by enclosures or disintegration of commons regimes (Agarwal, 1992; Davidson-Hunt, 1995).

Water and irrigation in particular received focused attention as a commons (Agrawal & Sivaramakrishnan, 2000; Bardhan, 2000; Kerr, 2007), especially with regards to the changes that have occurred in water management since British rule (Mosse, 2006), and as a human right, best secured as a commons (Bakker, 2007). Regarding water as a commons implies viewing it as embedded in given social settings and a cultures, rather than mere resources or as a commodity. In India, water is often regarded as sacred (Pandey, 2000), an issue which becomes central in Mishra's discourse.

A recurring theme is portraying the commons in India as an antidote to neoliberal mindset, which views water as a commodity and praises privatization and globalization (Bakker 2007). The commons are portrayed as an alternative to modern notions of governance or as the traditional forms of resources management which are being replaced by the new forms of governance (Randeria, 2007), or as decentralized local governance contrasted with state management of resources (Agrawal & Ostrom, 2001).

2.3 The Idea of a Commons

Hess and Ostrom (2007) broadly define the commons as "a general term that refers to a resource shared by a group of people" (p. 4). John McMurtry (2001) analytically differentiates between two types of commons: "civil commons" and "natural commons". Unlike "natural commons", e.g., the biosphere, "civil commons" are defined as cooperative and distinctively human traditions designed to give access to the natural resources and social goods: the means of existence provided by the biosphere and society. Thus, the civil commons are the social arrangements that provide people with means of subsistence.

McMurtry's distinctions are material here, since they correspond to and illustrate Mishra's insights. As we shall see, water in Rajasthan is not simply there for the taking; water should be carefully harvested and stored. It is product of the community no less than it is the product of nature. "Water" is therefore primarily "civil commons", social creations resembling the health system or social security. In his work, Mishra describes what was almost lost, and embarks on a successful quest to restore knowledge, practices and the institutions underlying the water commons, as a prime tool for sustainability, social cohesion and justice.

"The commons" were originally a type of *property*. The term "commons" is derived from

Latin *res communes*, one of the categories of *property* in ancient Roman law, which distinguished between the exclusive *res privatae* and a number of non-exclusive types of property or things (*res*), among which the state-created *res publicae* (e.g., ports, roads, bridges) or property belonging to a group (*res universitatis*). The *res communes* included, according to the Justinian Code, air, running water, sea, shores and fishing rights (Rose, 2003).

Some argue that commons right should be conceptualized as public property (Barnes, 2006; Mishori, 2014). Elinor Ostrom and Charlotte Hess warn against several sources of "confusions" that hinder scholarly communication regarding the commons, one of which regarding *ownership*. Ostrom and Hess stress that "[c]ommon-pool resources may be owned by national, regional, or local governments; by communal groups; by private individuals or corporations; or used as open access resources by whomever can gain access" (pp. 8-9). Hence, the issue of property is immaterial to the function of a resource as a commons. Whether property or not, Barnes (2006) and Bollier & Helfrich (2012) see The Commons as a separate Sector, a social sphere beyond the Market and State, which is the social reality that Mishra portrays in his work.

2.4 Rajasthan's Water Traditions as Commons

Mishra's discussion of the commons follows Ostrom's and Hess's logic. Although he rarely uses the terms "commons" or "commoners", he nevertheless elaborates on the traits that characterize commons, emphasizing the collective nature of water practices and criticizing both private and centralized State management. He describes traditional water traditions as inherently sustainable, since they rely on indigenous knowledge and on the collective commitment of communities to preserve their common resources and heritage.

In the spirit of Barnes (2006), and Bollier & Helfrich (2012), who see the Commons as a third sector of society, beyond the Market and the State, Mishra claims that "The people of Rajasthan did not entrust the organization of such boundless [water] work to either the central or federal government, nor even to what in modern parlance is termed as the private sphere" (2001; 40). Hence, Mishra describes a realm that is neither private property nor the State.

He further argues that "The sacrosanct line, which divides private property from commons property, gets strangely erased when it comes to *kuin* [very narrow and deep wells]⁶; everyone has the right to construct a *kuin* and use its water. However, the *kuin* is constructed on land which is the collective property of the village" (ibid, 50). The reason thereof is that "Constructing a *kuin* ...means sharing the humidity present there and that is why, though the *kuin* is a private property, it falls under the control of the village society. It is only in case of dire necessity that permission is granted to build a new *kuin* (ibid, 50-51). Hence, the humidity is regarded as a commons, and this public nature implicates also on privately built kuins, which are deliberately built on public land.

Another example is Gharsisar lake, which Mishra says that "The pond was that of the king but the people kept maintaining and adorning it" (1993, 59), and that "Through pairing of the king and the commoner, Gharsisar had become a lyric" (ibid). Lakes in general are described by Mishra as involving common people too: "...the work of building lakes did not stop in Jaisalmer and its neighbourhood. ... So many lakes were built in this town that it would be difficult to count them. ...It was not as if the upkeep of lakes was only left to Rajas, Rawals and Maharawals. That section of society which in today's economic vocabulary is classified as the weaker section also contributed to maintain the strength of this chain..." (ibid, 84). Moreover, in other places he suggests that not only that water were the collective effort of the whole Rajasthani society, water

⁶In the following sections, Mishra's water terminology such as the *kuin*, *agor* and others, will be discussed and explained.

even helped to softened social divisions: "By the side of this lake of happiness [Gadisar], society forgot its hierarchical divides" (ibid, 128).

The intercourse between the private and the public recurs with *kundis* [small ponds]. According to Mishra, "*Kundis* can be both private and collective. Private *kundis* are made in front of houses, in the front courtyards (*angan*), in the enclosure facing the house (*ahates*) and in backyards (*pichwadadas*). The collective *kundis* are made on common *panchayati* ground or usually between two villages" (ibid, 56-57). Mishra elaborates on the collective *kundis*, describing them as gifts by the well-off to society, and as based on intergenerational commitments:

"The collective *kundis* too are made by individuals, for providing water is considered to be an act of *punya* (both sacred and virtuous). If a happy event has occurred, the head of a household undertakes to build a collective *kundi* and to this end other households will contribute their labour. Some well to do families make collective *kundis* and entrust its care to a particular family. In the large prescient of the *kund*, outside the *agor*, a dwelling is made for that family. This arrangement comes down the generations from both sides. The head of the family who has made the *kundi* keeps a specific percentage of his revenues for the maintenance of the *kundi*. The succeeding generations too will take care of this and perpetuate the tradition. You will even find that several families who have built such *kunds* have relocated to Assam, Bengal or Bombay because of their business whilst the families in charge of the care of the *kundis* have stayed put by them" (ibid, 57).

The notion of intergenerational obligations and efforts is another characteristic of the commons discourse (Barnes, 2006; Weston & Bollier, 2013), since commons are often perceived as diachronic in essence (Mishori, 2014). Mishra has numerous places in which he regards water traditions as intergenerational in essence. For instance, regarding maintenance and cleanliness of water reservoirs, Mishra says that "...such precautions are taken at the *agor* that it is only necessary to remove sand ...every 10-20 years. Such is the care with which one generation looks after its *kundi* that only the next generation needs descend inside to clean it" (2001, 56).

2.5 The Commons of Water Conservation and Harvest

The traditions of water management, which Mishra describes, continued for many hundreds of years. Until the 19th century, most resources were commons, built or maintained and managed by local communities. The commons existed everywhere in Rajasthan: shared fields for agriculture, wood for heating and cooking, hay for livestock, and water resources and infrastructure (Montaut, 2001: 13). They were especially manifested in rural communities, where village committees or assemblies were responsible for developing and maintaining common resources. Montaut describes two fundamental principles underlying the commons: 'Self-management' and 'Collective's participation' (ibid, 15-16). Communities managed their own local resources, which created a strong sense of responsibility and accumulation of knowledge, which generated highly efficient water systems.

Communities maintained their water infrastructure in three ways: collecting money, donating food grains, and labor. Everyone contributed as much as they could. *Amavas* (moonless night) and *Poornima* (full moon night) were dedicated times for public service (traditionally a time of withdrawing from personal engagements), in which communities would labor to maintain ponds (Mishra, 1993: 66-67).

The state also had a role in maintaining and regulating the water commons. There was a hierarchy of systems from local wells and infrastructures to big ponds built and maintained by the state (or Raja), which even collected taxes and revenues for maintaining them. Elinor Ostrom (1990) describes such a complex systems as "nested enterprises" in which commons exists at different scales (e.g., village, area, state) while each layer maintains its autonomy.

Although the commons were manifested in rural communities, they were also present in cities. In Jaisalmer, the task of cleaning and maintaining the lake was under the responsibility of the king himself, and was done in a creative way. An invitation to play *Lhas* (game) in Gharsisar Lake was sent to all city inhabitants. When the day arrived, the king, his family, army and subjects gathered in the lake. The king was the first to start digging and soon everyone joined the work. Music was played and food was served for everyone who came to the lake. It was a playful event, conceived as a game, where the simplest peasant could rub shoulders with the mighty king, "help of all, help for all" (Mishra, 1993: 45-46). Hence, even when the state (the king) was held responsible for water resources, actual maintenance was the joint labor of the whole community.

2.6 Types of Water and Water Bodies

The Rajasthanis differentiated between three types of water: *Palar Pani*, rainfall water, absorbs directly into various water bodies; *Patal pani*, groundwater, accessible from wells and closed-deep ponds; and *Rejani Pani*, capillary water, trapped in the surface, before it reaches the salty water table (Mishra, 2001: 45). All required sophisticated craftsmanship and joint community efforts to build and maintain them.

Mishra notes that, contrary to the famous proverb "Running water, pure water", in Rajasthan, water in closed water storages remains pure and fresh. The water bodies were kept sealed in order to prevent the water from evaporating, and to keep them clean and pure. An open water body was considered to be contaminated or impure (ibid, 53).

Mishra describes in detail the varieties of water infrastructures, of which the most common and important for Mishra we will shortly describe below. There were three general types of water bodies: *kund*, ponds, wells; *kundis*, small ponds; and *tanka*, huge reservoir (ibid). The diversity and creativity of the water bodies enabled them to be suitable for diverse geographical conditions. The *kund* and the *kundis*, as well as every other type of pond (e.g. *tanka*), are built with slopes in order that every drop will be collected in a drainage space, an *agor* (*agorna* means collecting; p. 54), designed to catch every drop of rain. This area is kept spotlessly clean on a regular basis, especially before the rainy season starts. There was a strict prohibition to get inside the *agor* with shoes. The *tankas* were usually built far from human settlement, and their purpose was to serve as emergency reservoirs, in case of war or drought. An average *tanka* contained between 200.000-300.000 liters of water, was used also for animals, both domestic and wild, and enabled shepherds to water cattle in areas remote from human settlements (ibid, 62-63).

The largest *tanka*, in Jaigath fort, near the city of Jaipur, built in the 15th century, contained up to 3 million liters of water. It is an enormous reservoir, supported by a complex pillars construction and a highly developed ventilation system. The water reaches the *tanka* through a net of tunnels, built on the surrounding mountains, which were routinely cleaned before the rainy season. Nevertheless, first rain water was directed into an open pool, and only the cleaner water from the second rainfall reach the *tanka*. The water in the open pool was being used by animals while the closed *tanka* supplied the needs of human residents, as well as an emergency reservoir in case enemies besieged the fort (ibid, 63-64).

The different water ponds and wells were built by guilds ("specialized communities"), specializing in specific craftsmanship, such as the *Odhis*, "who worked stone and the earth", the *Agariyas*, blacksmiths, *Shilavat*, stone sculptors and the *Gajdhars*, architects, specializing in mining wells and ponds (Montaut, 2001: 13).

A unique practice of the Rajasthani water tradition, not found anywhere else in the world, is the ability to extract drinking water from the *rejani pani*, the layer of rain water "trapped" in the soil, which does not percolate into the groundwater, which in many cases in Rajasthan is very salty (Mishra, 2001: 45). *Chelvanjis*, expert miners, were digging very narrow and deep wells

known as *kuin*. The excavation process was risky and slow. Once completed, such wells collected water even when there was no rain. The ability to extract water from the soil stems from the fact that there are certain areas in the desert, in depth of 20-30 meters below the surface, where there is a gypsum layer; the water are "captured" between the Earth and the gypsum, and form a layer of sand absorbed with moisture. It cannot be easily spotted from the surface, but miners know how to locate it, according to special characteristics, e.g., presence of stagnated rain water, or the presence of certain trees (ibid, 41-44).

The *kuin* is excavated until the *Chelvanji* reach the gypsum layer. This hollow deep crack in the Earth converts the moisture within the sand layer into drops of water. Each *kuin* can convert moisture into water in a rate of about 2-3 buckets a day. Usually in areas where gypsum layer is located, up to 30-40 *kuins* can be dug. The gypsum layers are very common in the "heart" of the Thar Desert; Jaisalmer, Bikaner, Churu and Badmer. In Jaisalmer district, there is a village named *Khadedo ki Dhani* that had 120 *kuins*, and was known as *cha-bisi*, six times twenty (ibid, 45-51).

Other unique ponds are the *talais* or *johar-joharis*. Their uniqueness is manifested in the fact that they are found in the most extreme geographical conditions, in salty soil and lakes areas. There, every drop of water touching the ground immediately turns salty; the subterranean water and even the *rejani pani* is saline. Therefore, the *agor* of the *talais* was built above the ground, two to four hands height, catching the rain water and directing it into the pond, clear and sweet (ibid, 68).

2.7 Beauty

Aesthetics makes another inherent part of the Rajasthani water culture. Entering water reservoirs in Rajasthan is a breathtaking experience: Majestic engineering is combined with religious aesthetics, which relates to rituals that were being performed there. Mishra emphasizes this aesthetic experience which transcends the practical level of life and invites reflection and contemplation - an elevation above the mundane.

The lakes and ponds were designed in a way that preserves their beauty even when they dry up (during the hot summer months). For example, in the summer, the beautiful lake of *Amarsagar*, at the outskirts of *Jaisalmer*, dries up almost completely. In order to draw people to the lake even when it is dry, seven *beris*, step-wells, were built in the beds of the lake. People still had a reason to come to the lake and enjoy it in a different way (Mishra, 1993: 62-63).

Mishra elaborates on the aesthetic realm as instrumental in creating an image of Rajasthan as a place of abundance and wealth. According to Mishra, "It is another important evidence to the idea that Rajasthan was not perceived as a bad or cursed place to live in, but rather a place that celebrates life, it is an actual expression that connects the water as the fundamental element that enables human existence with pleasure, existence that aesthetics elements in it are evident and clear" (Levi, 3.10.2014).

Aesthetic elements often had practical functions. On the walls of the beautiful *Amarsagar* one can see stone sculptures of a horse and an elephant. They were used as an indication of the water level. When the elephant's trunk reached the water, there was enough water for six-seven months; when water reached the horse's legs, it meant water would last for a whole year (Mishra, 2001: 80-83). This technique made all residents aware of their collective water condition. It enabled people to realize and thus to act responsibly towards the water commons: i.e., transparency of information regarding the levels and quantities of water.

Lake Gharisisar/Gadisar, Jaisalmer



3 Cultural Foundations of the Commons

3.1 Mythology and the Gods

The Rajasthanian philosophy of water is closely linked with its religious background, a fact which Mishra illustrates by stories from Hindu Mythology: "Both luck and duty underpin the water tradition of Rajasthan. It was luck that after the Mahabharata war, as Sri Krishna was returning with Arjuna from Kurukshetra to Dwarka, his chariot passes through the deserts of Rajasthan. At the place where modern Jaisalmer stands, on mount Trikut, he met the Rishi Uttung who was practicing austerities there. Sri Krishna bowed to him and pleased with his devotion told him to ask for a boon. The rishi was a sage of high thinking, and never asked anything for himself. Instead he said to the Lord: 'if I have any merit, my Lord, may this region never suffer from scarcity of water'. "Let it be so", granted the Lord" (Mishra, 2001: 24-25).

Mishra regards "Sri Krishna" as "the Lord of the Desert" (ibid, 33), and refers to Indra as God of rains (ibid, 104), which has to be seduced in order to rain water on the desert: "If from far the women of Meghwal families spotted the first signs of preparation for the rains, they would come on their own to the dike of Gadisar and sing seductive songs to tempt Indra. ...here, at Gadisar, Indra himself would get seduced" (ibid, p. 128). The whole narrative places water in the center of religious context. E.g., religious ritual is described as a way to force Indra to rain water: "While carrying out this ritual, the people remove their turban and remain bareheaded in order to show the God of water that they are sorry and contrite. At the sight of his devotees steeped in sorrow, the rain has no other option but to cast away its anger and to fall" (ibid, 116).

Such sections could be viewed as describing the religious aspects of the water traditions. However, even if Mishra regards them as anecdotes, they become the metaphorical context of his discussion of water, for example, when he speaks of the success of the water practices as "the capacity of the Rajasthanian society to convert the one moment of Indra [rain] into twelve months

Lake Gharisisar/Gadisar, Jaisalmer



[of water]" (ibid, p. 131).

Elsewhere Mishra regards *palar*, rain water "as the *prasad* (blessings) of God Varuna" (ibid, 66). He then connects this theme to sacredness and spirituality, discussed below, and he says that "to ensure that not a particle of it gets dissipated is indeed an act of faith; the spirit of devotion displayed in collecting it is steeped both in spirituality and the physicality of life (samsara). Without this spirit how could life have ever been possible in the desert?" (ibid).

3.2 The Sacredness of Water and of Hydro-Practices

According to Montaut, texts from the 8th century, such as *Agni-Purana*, already contains descriptions of water bodies, tanks, lakes as well as descriptions of religious rituals that were being performed at these sites. Montaut concludes that "water techniques are also a ritual and a religious tradition and it is this tie that has enabled them to make the desert human and fit for life" (2001: 11). Hence, when it comes to water, the Rajasthanian culture did not distinguish between the religious and the mundane. Particularly illustrative of the sacredness of water is

Lake Gharisisar/Gadisar, Jaisalmer



Stone pillar at the entrance to Gharisisar/Gadisar lake's agore, Jaisalmer



Mishra's claim that water bodies were built and supposedly regarded as temples. For instance, stone pillars were posited at entrances to water ponds, wells or lakes, symbolizing their sacredness. The stone pillars were carved with religious symbols and texts. This meant that people who enter such areas should adapt their behavior accordingly. There were precise "do's and don'ts", such as taking one's shoes off, proper behavior, prohibition to spit inside, etc. In big ponds, not just pillars indicated their sacredness but also statues of idols, placed at niches carved in the walls of *Ghats* (steps leading down the water). The idols were regarded as deities guarding the *ghat*.

Stone pillar at the entrance to a well in Kuldhara, a deserted village in Jaisalmer district



As mentioned earlier, the process of cleaning ponds was the most important in their maintenance. The water was desalted by adding clay, once a year. Then the silt was taken from the ponds, and considered a *prasad* (edible offering to gods, distributed among participants after religious ceremonies), which farmers used to add to their fields as fertilizers (ibid, 38-39). Hence, cleaning the pond is performed as a religious ritual, while the silt is treated not as "waste" but as *Prasad*, a "sacred fertilizer" that enriches the soil and crops. The word *prasad* is used also with regard to rain: "The bounty of rain god Varuna was received as '*prasad*' i.e. sanctified food by the village with a spirit of devotion" (Mishra, 1993: 6).

Likewise, he identifies notions of piety and impiety, normally associated with religious praxis: "To have a *kathri* [a wooden container kept on the coping of a well] made and to keep it on the well is considered to be a pious act and inversely to steal or break a *kathri* is considered to be a highly impious one. These implicit definitions of piety and impiety are nowhere couched in a written text; yet they are deeply engraved in the very soul of the local society" (ibid, 133).

According to Mishra, a more essential or fundamental level of "sacredness" was an invitation to contemplate about the connection between human and place. From the interface of humans with their surroundings, they are invited to change their mindset into a "spiritual", "meditative", "aesthetic oriented" one (Levi, 3.10.14). According to Mishra, then, the commonplace acts of pumping water become spiritual acts of acknowledging the dependence of humans on their environment.

It is questionable whether most people actually contemplated daily on such matters while carrying buckets of water back home. It nevertheless sheds light on Mishra's own thought, as perceiving the social, technical, spiritual and religious aspects of water conservation in the desert as inherently interconnected.

3.3 Moral, Social and Spiritual Virtues

The mythological religious context, which Mishra uses, is intimately linked with nomenclature with spiritual and ritual connotations. First, Mishra speaks of *riti*, saying "they elaborated a *riti*, a tradition of preserving the rain water in each nook and cranny of every village" (ibid, 25). Literally, *riti* means a religious ceremony or a religious way of life. However, it also means a tradition, a social custom. By describing the water traditions of Rajasthan as *riti* Mishra posits them as sacred practices, not merely mundane efforts to sustain vital "infrastructure" or "resources". However, it is a special kind of semi-religious praxis since it reflects an active relationship with nature; the people of Rajasthan did not sit still and waited for the Lord to provide them with water, but actively worked to create and sustain their water economy. Montaut describes *riti* as "established on a deep partnership between nature (the environment), human action and its ethical as well as religious framework" (ibid, 5).

Mishra relates the term *riti* to traditional Rajasthani notion of *voj*: "There is an ancient word for *riti* in the vocabulary of this place, *voj*. *Voj* means composition, system and solution but it also means competence, discernment and politeness mixed with humility. ...the people of Rajasthan did not measure their rainfall in inches or centimeters, not even in finger and hands but in drops. They cherished these millions of golden drops which they gathered with vigilance according to the principle of *voj* in order to fulfill their needs in water: so doing they set up a tradition so marvelous that its course which starts in history flows towards the present turning the present itself into history, through the competence of *voj*" (ibid, 25)⁷.

Another concept Mishra uses regarding the moral and social virtues of water praxis is *savai*. This notion means intended perfectionism, doing something wholeheartedly, with more than 100%, including with one's treatment of his fellows. According to Mishra, "*savai* is a term used in mathematics but also in life. In pure life. *savai* means 25% more. ... I'm 100% and you're 125%. It's a kind of honor giving, to have more love and affection for somebody else than for oneself". So *savai* means "greater than us" (Levi, 3.10.14). With regard to harvesting of water Mishra says "it means that the effort of harvesting is not 100%. 100% is perfect! They are not saying perfect, but more than perfect!" (ibid). Mishra sees the application of this virtue as explaining the ability of ancient Rajasthani cities to survive and even thrive in the desert:

⁷According to Montaut (2001), saving and cherishing the "millions of golden drops" requires also the practice of the virtue of *tevar*: frugality and modesty (p. 11).

Without understanding the '*savai*' nature of this princely people, we will utterly fail to understand how in the last millennium big towns like Jaisalmer, Jodhpur, Bikaner, and even Jaipur were established according to all the rules of town planning. The towns were moreover highly populated and yet, in spite of the scarcity of water, they were no less equipped than other cities of the county. In fact each of these towns, at different periods of time and for long durations, was important centers of power, trade and art (Mishra, 2001: 24).

Mishra also claims that building ponds was seen as an act of sacredness, and that the pond makers were regarded as spiritually elevated. Hence, he claims that *kund* and *kundis* were often funded by individuals as an act of *Punya*, usually an act of gratitude and thanksgiving to celebrate a joyful event (Mishra, 2001:57).⁸ Makers of ponds were regarded as pious souls: "The pond maker is a pious soul, an enlightened being. He who protects the pond is equally great. Thus pond is a miniature pilgrimage. The people gather here in the form of fairs. Such a fair-loving society makes pond an integral part of its heart, its vision" (1993, 69). At another place he says that "Some of these ponds were made by a king or queen, some other by an ordinary householder, still another by some widow and further still any other by an enlightened ascetic. Whosoever made a pond was revered by the people as *Maharaj* or *Mahatma*, i.e., a pious soul" (ibid, 5). Hence, the acts of building ponds is both a spiritual act, and their makers are referred to in spiritual-religious terms.

According to Mishra, such achievements are based on cultural ethics elevated to the degree of moral duty and a shared philosophy: "In Rajasthan, more particularly in the desert, water work was never considered as work but came to be viewed as a moral duty; that is why it was able to rise far above what is today called community project, to take the beautiful shape of a *samagra jal darshan*, a perfect water philosophy" (2001: 105).

3.4 Quasi-Religious Interpretation

It should be noted that Mishra not only describes the ways in which water practices are embedded in semi-religious or spiritual notions, he also interprets these practices in his own spiritual terms. Such terms appear in chapter titles in his *Radiant*: "The Eternal Script of Water and Cereals" (Chapter 6), "The Eternal Script of Water and Food" (a subtitle in his Author's Notes, p. 129) and "The Commitment of Body, Soul and Wealth" (chapter 8), all loaded with religious connotations. More significantly, he refers to the tedious techniques of collecting drops of water, which requires dedication and patience, as *tapasya*.

Tapasya means ascetic dedication; the term is derived from *tapas*, a term rooted in the Indian yogic and ascetic traditions and originally meant "heat", which is supposedly generated by the powers of deep concentration. It usually signifies austerity and extreme renunciation in an effort of the yogi to reach liberation from the cycle of *samsara* (the endless cycle of death, reincarnation and rebirth). It is usually used in the context of meditative and spiritual techniques, while withdrawing from the world of senses (Flood, 63, 75-6). Mishra, however, uses it in the sense of the total devotion with which one practice the techniques of water harvesting and conservation. According to Mishra, "for the people of the desert, in the 10 days of rainfall, they have seen millions of priceless drops and they have undertaken to collect them in each house, each village, even in each town. The result of this *tapasya* (ascetic dedication) is manifest" (Mishra, 2001: 70). He thus relocate *tapasya* from the realm of the individual to the realm of the community, making it a "collective *tapas*", mutual dedication and commitment that generates a better, sustainable society, intimately embedded in its local environment (ibid, 70, Levi, 3.10.14).

⁸In the Rajasthanian penal code, people found guilty of a crime were sometimes ordered to build a pond for the community, or to deposit money later used for building ponds (Mishra, 1993: 66).

Other quasi-religious notions that Mishra uses are *swayamsiddha* and *samaysiddha*. *Swayamsiddha* means self-achieved empowerment or accomplishment (with spiritual resonance), while *samaysiddha* means having achieved realization or perfection which defies time. Mishra uses *swayamsiddha* to describe the ability to identify suitable local materials, and *samaysiddha* to signify the ability to build with materials resistant to desert conditions, which have enabled water facilities to last for hundreds of years: "These have seen old times and new times and thus have passed the test of Time and become *samaysidh*" (ibid, 58). The word *sva* (self), in this context, means for Mishra "local", emphasizing the use of local materials: "...for their construction no material from outside is required" (ibid, 58). Mishra, then, ascribes spiritual quality to the perfection achieved by local communities, on their quest for survival in the harsh Thar Desert.

According to Mishra, "In Rajasthan all the water work has been the result of the spiritual commitment of the whole society which also enjoyed its fruits" (ibid, 135). This commitment, manifested in both the social and the individual levels, is described also as "collective asceticism" and *sadhana*.

The notion of asceticism is prevalent in Mishra's book. He speaks of "The ascetic ardour of earth, water and heat" (ibid, 29) while regarding the Rajasthan people he says that "In their culture, the asceticism of the soil, rain and heat is reflected and in this asceticism we can find both the radiance of life and its coolness" (ibid, 33). He regards the ability to find water as "asceticism of the eyes" which is "the greatest form of asceticism" (ibid, 88). *Sadhana* (devotion) is commonly used to describe the commitment of the devotee or the yogi. Mishra uses it to describe collective effort and wisdom and adds that "the ascetic eyes were able to perceive with fineness [the course of impermanence rivers] and thus at many chosen places it was possible to hold their waters. Khadeens [a sort of temporary lake; moist bad of seasonal rivers where cultivation is undertaken; 89, 139] were made at such places" (ibid, 88-89). According to Mishra:

The asceticism of the eyes is indeed the greatest. The experience of looking upon our surrounding world in a proper way and the collective point of view which emanates from that experience down the generations, such asceticism facilitates the passage of life from this world to the other. In the desert, the asceticism of the eyes is behind the unusual *sadhana* (devotion) of collecting food grains together with water. This *sadhana* gave rise to khadeen (ibid, 88).

A particularly interesting semi-religious interpretation of the water tradition is his usage of the expression *neti neti*. *Neti neti* is a Hindu expression in Sanskrit which means "not this, not this", or "neither this, nor that". It is found in the *Upanishads*, and is practiced in the *jnana yoga* (the yoga of knowledge of the Absolute), and is supposed to help people to meditate on the true nature of the Brahman by first realizing what is not Brahman (similar to the *via negativa* in Christian theology). Mishra says in this context that "I have no hesitation whatsoever in admitting that it took me no less than seven to eight years to understand - that too partially - the philosophy of the *kuin*, grounded in the *neti, neti* concept" (ibid. 119). Mishra does not elaborate on this concept, so it is hard to say in what way the *kuin* is "neither this, nor that", except that "in a milieu of salty water it offers sweet water" (ibid), a more paradoxical fact than *neti neti*. However, it is telling that Mishra does not speak of a technological know-how but of a "philosophy", whose nature is best perceived in a religious yogic particularly difficult-to-grasp notion.

Talaab - Image of the tattoo, taken from the book cover of the Hindi version "Talaab"



3.5 The *Talaab*⁹ (symbol)

A tangible expression of the Rajasthanian philosophy of water is the *talaab*. The literal meaning of the word *talaab* in Hindi is a pond or a pool (and thus the name of Mishra's 1993 book), but it is also a 2000 years old tattoo, usually tattooed in the inner part of calves (the lower part of the leg). Mishra describes it poetically:

"the *talaab* (or *Sita Baawadi*) is mainly rectangular in shape. There are waves in it. In its center is a point which is symbolic of life. Outside the rectangle are the steps and on all the four corners are flowers. The flowers signify the fragrance of life. It is very difficult to depict so many things in a single but simple sketch. But the mind of the engravers and the engraved have so much been imbued with love for the *talaab*, that eight ten lines, eight ten points portray the whole scene effortlessly on the body... One who is heart and soul with the pond, does not view it as a pit of water only. For him it is a throbbing tradition a family with a number of kins. He is well aware of who is to be remembered at what time so that the pond lives on." (Mishra, 1993: 69-70)

⁹This Hindi word for lake is alternately written in English as *talab*, *talaab*, or *taalab*. We will use here the form *talaab*, as in Mishra (2001), and as in Nawre (2013).

The fact the people chose to tattoo this image on their bodies indicates the intimacy and importance they must have felt towards water and their water system. The *Talaab* signifies deep and symbolic relations between humans and nature. From the drop in the center, waves reach the edges of the pond, enabling the growth of the flowers and trees, the beauty and fragrance of life. There is a continuous movement between survival and the aesthetic and spiritual aspects of life, which give life meaning, beauty and pleasure. Moreover, it reflects humility and deep relation with Nature, a non-anthropocentric attitude (Montaut, 2001: 16).

4 Reclaiming the Water Commons

4.1 Commons and Disintegration

According to Mishra, the 19th century with the strengthening of the British colonial rule in India introduced far-reaching changes that led to a partial disintegration of Rajasthan's water traditions and infrastructure. Two main contributing factors were structural changes that took place in the management of natural resources, as colonization led both to privatization of property and to growing control of the State, and the rapid growth in population which created a growing demand for water (Montaut, 2001: 14).

The British colonial rule was characterized by strengthening central authority ("top-down"), contrary to Mishra's characterization of traditional management of natural resources as decentralized ("bottom-up"), where local communities determine their own affairs (Mishra, 1993: 72). Water management was part of the collective responsibility of the Rajasthanians, not only the Maharaja's (state) responsibility (although the Maharaja did provide annual funds for maintenance of ponds; Mishra, 1993: 74).

According to Mishra, the British did not understand the traditional system. They failed to find government records regarding water management and conservation, and tried to gather information in the villages. Eventually, they decided to centralize the water systems. In 1863 the Public Works Department (PWD) was founded, dispossessing the authority of local communities. This Mishra describes as act of enclosure, as dispossessing the people of their rights: "Since *the ponds belonged to people* so even despite curtailment in the state aid and also cessation at times, the society kept maintaining them. ...But then 32 years later PWD department was made for the first time in 1763 with the result that all the ponds were *grabbed from the people* and handed over to it" (1993: 74. *italics added*).

Apparently, the "top-down" management by the PWD was inefficient, leading to poor maintenance of the ponds, and reduced the water resources available to local communities which, in turn, gave up their traditional role as guardians of water infrastructures. Consequently, water lost its social significance as commons, and the corresponding socio-religious practices began to disappear (1993: 74-75).

Mishra's narrative of the effects of British "colonial hydrology" follows lines of arguments that some environmental historians describe as being overly simplistic. According to the view criticizing the colonial hydrological policies (e.g., Agrawal & Narain, 1997), "traditional water harvesting systems in India declined or were substantially degraded by a range of colonial actions for rule and profit by instituting private property, commodifying land, commercialization, pursuing highly extractive revenue agendas and dismantling community control over natural resources", causing impoverishment of rural populace and the decay and destruction of indigenous water harvesting systems (D'Souza, 2006: 623). In Bihar it seems indeed to be a case of deliberate destruction of traditional irrigation structures (Sengupta, 1980). However, D'Souza (2006) surveys other voices that present a more complex picture, which see colonial hydro-practices as promoting new technologies, innovation, and creating economic dynamism (ibid, 622). D'Souza also quotes

research indicating that Rajasthan's unique water harvesting systems, Mishra's own concern, were not displaced but instead "were 'overlaid' or coexisted with new types of modern hydraulic technologies, introduced by the British" (ibid, 624), although British hydraulic interventions certainly "radically transformed a vast spectrum of precolonial hydraulic relationships" (ibid, 625).

According to Mishra, India's independence made little difference. In fact, the notions of "development" and "modernization" reinforced centralized governance and private property, and further weakened the bonds between communities and their resources. The Indian government encouraged and initiated massive water projects such as damming of rivers (and hydro-electric plants), water reservoirs and massive canals leading water from the Himalayas. Overnight, modern techniques replaced traditional ones. Government bureaucrats, alien to local cultures, customs and practices, were given absolute authority over Rajasthani water economy, relying exclusively on Western knowledge and expertise. No attempt was made to consult or use indigenous knowledge and engineers. These traditional professionals, the engineers and builder of traditional ponds and wells, were considered uneducated, and their skills were not respected. They lost their jobs, economic security, their sense of dignity and identity and their relationships with the community (Montaut, 2001: 14-16).

Modern management have had mixed results. Big cities-the industrial centers, receive secured quantities of water, though their quality is often poor. In rural areas, however, modern methods failed to cope with the hardships of the Rajasthani desert. According to Mishra, "Some time back, a certain department launched a new project according to which it was decided to innovate upon the *kundis* by replacing *phog* (desert shrub) with cement. Those who were experimenting must have thought that this modern *kundi* would be stronger. However it did not turn out to be so. The cement domes of this ideal *kundis* could not withstand such strong heat and caved in. Even the inner walls of those *kundis* instead of being coated as usual with sand and lime were coated with cement. Numerous cracks appeared on them too. To rectify them, tar was used to fill up the cracks; however under the blaze of the desert, the tar melted away. All the water collected during the rainy season evaporated" (Mishra, 2001: 59).

A similar critical argument is made by Mishra with regard to the way international aid is given. He says that in Botswana, Canadian organization helped building *kuins*-like structures (1975-1981). Built in a square shape (with foreign aid and materials), these *kuins* suffered from pressure on their structure and tended to break. Mishra claims that experts agree now that Indian-style round *kuins* are better. For Mishra it is a paradigmatic example of how international aid with expensive "ready-made" foreign solutions cannot improve local conditions, which require local solutions and expertise, adapted to local conditions (ibid, 109).

4.2 Re-Visioning Localism and Local Knowledge

Mishra's emphasis on localism and local knowledge recurs in modern social-environmental thought in India. Rajni Bakshi (2012), for instance, develops a notion of "cosmopolitan-localism", which highlights the importance of acting locally, both from social, cultural and ecological perspectives, while acknowledging globalization. She argues that when climate change becomes the organizing principle of world economy, localism will emerge as the principle that will enable society to moderate and stabilized economic systems. Emphasis on localism enables local markets (local societies and cultures) to better address their own unique needs, promote social cohesion and rediscover the "bazaar" mind-set (197-213).¹⁰

¹⁰Bakshi contrasts the "bazaar" with the free market economy. The bazaar is a place of trading but also of meeting, socializing and changing views. It manifests the human tendency to gather, interact and to cooperate, unlike the "free market" which is a non-place, an abstract, detached and mechanistic apparatus for allocating

Vandana Shiva (1993, 1993a) makes a similar argument to Mishra's with regard to biodiversity, cultural diversity and agriculture, which she sees as fundamentally connected. Multiple and diverse eco-systems create different cultures, which are based on different life experiences and knowledge systems. Indigenous communities develop sophisticated and specific ecological knowledge, manifested as agriculture, medicine, and acquaintance with plants and animals, codified in cultural laws to preserve nature. In contrast, modern Western knowledge system regards itself as universal, situated above all cultures or political systems. Shiva argues that this is the "inner logic" of economic globalization. This alleged universalism provides the legitimacy to turn the world into a single homogenous culture, creating "Monocultures of the mind", with little room for biological or cultural diversity, which deprive local communities of their authority and expose them to an undemocratic devaluation (1993, 60-62). Likewise, Shiva and Singh (2015) argue that traditional "organic" agriculture creates more "wealth" per acre, and have contributed to social and ecological resilience of local communities, more than industrial western methods have.

It is easy to note that Mishra's description of the water commons resonate the same insights and logic. He depicts local knowledge and communities as being, by their very nature, sustainable, just and democratic. In this he echoes claims made in other places of the globe regarding the importance of traditional knowledge in general, and water in particular (Rose, 2005; Walkem, 2007; McGregor, 2012; Water Challenges, 2010). Scholars argue that indigenous governance of water is needed from social and environmental points of view (von der Porten & de Loë, 2013), as well as a means to ensure water as a human right (Risse, 2013). Mishra's work parallels these arguments in their principal aspects, from his distinct Indian perspective.

Mishra shows that only rediscovery of traditions, with all their respective aspects, can restore and create just and sustainable livelihoods in India and globally. In this sense Mishra is part of the Indian (and anti-globalization¹¹) criticism against Western mindset and practices. Moreover, Mishra's discourse is by itself an act of "reclaiming the commons", a demand which resonates in academic and social circles (and appears as titles or sub-titles in numerous books and papers; Mishori, 2010: 115), concerned with the threats of enclosure or destruction of commons as a result of environmental degradation, market forces, privatization or state usurpation (Mishori, 2014).

5 Concluding Remarks: The Significance of Mishra's Work

All things are connected and interdependent. This precept of modern ecology best describes the water philosophy of Anupam Mishra who poetically ("Radiant Raindrops") describes the art of creating and sustaining the principle of life in the desert: water. Mishra describes the drops as *rajat*, which means in Hindi "radiant", as well as "silver" and "ivory" (2001: 5). The drop is the unit of measurement, not millimeters nor liters, indicating the importance of every drop in arid regions. Every drop is precious for life, and this insight vibrates throughout Mishra's work.

His philosophy is rooted in *Gandhism*, in Gandhian philosophy and values (Mishra, 1995), including the pursuit of Truth as both a personal and a collective enterprise, perceived in spiritual and religious connotations. He opts for self-reliance, even autarchy, as well as for empowerment of individuals, local communities and for local-level solutions for environmental and social challenges. Truth and knowledge, including ecological wisdom, are found everywhere, provided they are not suppressed by the gigantic forces of the Market or the State. Following Gandhi's praises of simple livings (which were manifested in his personal dressing code: the Khadi

goods and determines their monetary value (Bakshi, 9-17, 56-62).

¹¹"Anti-globalization" is a negative description, by its critics, of a world-wide movement that resists current institutions of global economics such as the World Trade Organization (WTO) or the International Monetary Fund (IMF). This movement depicts itself as struggling for "global justice" or as a pluralist international "movement of movements" (Mertes, 2004).

[homespun cloth]), Mishra opts for simplicity, manifested in preference for traditional practices and modesty, implicated by the small-scale water ventures he promotes. In this he is a true disciple of Gandhi, and a living proof of the relevance of Gandhi's teaching in the 21st century.

Mishra shows that water is a product of culture and society, when working harmoniously with nature. It is not merely a resource, waiting to be mined from the earth using aggressive and obstructive technologies. Therefore he elaborates on the social, cultural, religious and spiritual significance of water practices in Rajasthan, and strengthens their importance by showing the calamities that occurred once the old ways were replaced by modern industrial logic and foreign methods of water conservation. In this, Mishra provides a compelling argument for "localization" (Hines, 2000), in the sense of celebrating local cultures in their unique diverse social and ecological settings while embracing international cooperation and mutual-learning.

Mishra's vision is dialectic: he does not endorse a nostalgic wish to return to an idyllic past, but preaches integration between old and new, an added advantage of his water philosophy which makes it valuable and applicable in diverse places and circumstances. Presently, the world is believed to be facing climate change and environmental degradation, including desertification in various regions. Resilience and adaptation to the coming changes will require diverse knowledge and skills, which Mishra both describes, prescribes and recreates.

No wonder, then, that Mishra's work gave world-wide inspiration to water activists. In India, the non-governmental organization *Tarun Bharat Sangh*, founded in Rajasthan (1975), working on ecological research, land development and clean water, was influenced by Mishra's work in implementing traditional water practices (Mishra, 1993:16). This NGO, which follows the "Gandhian approach of *Gram Swarajya* – village self rule"¹² built, according to their web site, more than 8600 water harvesting structures.

His relevance extends beyond India. For instance, the "Radiant Raindrops of Rajasthan" was translated to Moroccan and had a strong impact, followed by Moroccan engineers and activists arriving in India to learn water techniques, especially the *kuin* (Levi, 3.10.14). Mishra himself views Rajasthan's water practices as relevant for various deserts of the world, especially in Asia and Africa (Mishra, 2001: 107).

This relevance is probably perceived from the technological point of view. Mishra teaches small and medium scale technologies, applicable to rural communities and to the less privileged sections of society. In this he indeed made a substantial and widely-acknowledged contribution. However, we believe that no less significant is his general philosophy, which interprets technology in terms of social realms, and social realms in terms of spiritual and moral virtues, which are themselves culture-specific. Mishra suggests that these virtues gave Rajasthani society its resilience, and made large-scale human settlements in the desert possible and sustainable. Ethics and spirituality become efficacious and practical. They are not merely second-level structures of social realities, above the basic level of material existence, but the very fabric of which social realities are made, particularly with regard to management of environmental resources. Moreover, such ethics and spirituality are always culture-specific, a fact which adds to the argument for localism.

Mishra shows the interdependence between communities and their commons. A commons is an intersection of society, culture, religion and history, whereas a "resource" is a raw material in the modern economic sense. Mishra shows that water is best managed as a commons, not as a resource. In doing so, Mishra shows that some things should be the property (or rights) of the community; that state-usurpation or privatization (enclosure) may be inferior in many different respects to local knowledge and community involvement. In this, he contributes to the evolving discourse on the vigor of the commons, as a separate sector in society, beyond the Market and the State (Barns, 2006; Bollier & Helfrich, 2012). The State still has an important role in securing

¹² *Tarun Bharat Sangh* web page, accessed 22.2.15: <http://tarunbharatsangh.in/our-mission/>

and preserving the commons, under the "public trust doctrine".¹³ The commons, in turn, form principal tools for empowering communities and bring about sustainability and justice. Mishra's insightful work contributes both as case studies of local knowledge and viable commons, and as a philosophy of localism which contributes to articulating alternatives to the dominant worldview and economic forces, in a world facing complex social and environmental challenges. Mishra's work is an example and an inspiration of such alternatives.¹⁴

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¹³Barnes (2006) as well as Weston & Bollier (2013), argue that in some cases the State should act as trustee of the commons, following the "public trust doctrine" (Sax, 1970).

¹⁴This paper is based on a PhD research on modern Indian environmental thought, carried out at the Porter School of Environmental Studies, Tel-Aviv University, under the supervision of Dr. Daniel Mishori and Dr. Dani Raveh.

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