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# Moral Talk: the ontological politics of sustainable development<sup>1</sup>

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## Abstract

Recent research suggests that the transformation of rural places has much in common wherever it is taking place (Turner and Wiber 2009). This paper explores why that might be so. It focuses on resource exploitation in two separate field sites, the Moroccan Souss and the Canadian Maritimes. We consider both technological innovation and the issue of moral translation processes (Latour 2003, 2005; Law 2004), in order to examine the ontological politics of sustainable development. In both case studies, successive waves of technological innovation have led to normative pluralization, as the relative merits of different modes of production are debated in what we describe as 'moral talk'. These debates take place among local actors, and between local actors and state or transnational actors. In the process, values such as environmental sustainability, economic development, family relations, and social equity are fiercely contested, with several different versions of possible future realities at stake. The resulting outcomes reveal the complex nature of globalization, the real impacts experienced both for the environmental and for social equity, and the role that legal pluralism plays in rural property transformations.

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*“Morality that seems totally absent from the engineering dreams of ANT, may be very abundant if we care to take it also for a certain type of circulation.”*

(Latour 1999: 24)

## **Introduction**

This paper examines two cases of transformation in rural property and access to resources, one in the development context (the Moroccan Souss), one in the developed West (the Canadian Maritimes). With a common background in the anthropology of law, we share an interest in tracing out the mechanisms whereby transnational-local interaction transforms rural property relations and resource management. In a recent paper, we argued that transnational interdependencies involve paradoxical conjunctions (Turner and Wiber 2009). International conventions and transnational law play an increasingly important role in the direction and intensity of social change but have both intended and unintended effects, creating at the same time a tendency towards homogeneity and plurality. In addition, the ways in which transnational regulation transforms and/or merges with local legal forms of regulating access to scarce resources varies considerably.

In this paper, we will further explore how ongoing change in rural property relations is related to transnational projects, and in particular through responses to technological innovation and its connection to normativity. Our research suggests that a language of moralization is a key to understanding the transscale repositioning of property relations and of access rights to natural resources. Moral talk legitimizes normative change that results from technological innovation. One may see this increasing emphasis on the moral argument in what has been called ‘rights talk’ (Mamdani 2000), or the trickling down into various local settings of transnational normative standards such as universal human rights and/or gender, indigenous and minority rights. This process has led to an emergence of a whole wave of rights-claiming NGOs and civil society associations (Comaroff and Comaroff 2006; Edelman 2005; Mamdani 2000). It also entails the message that claiming rights at the local scale involves the acceptance of commitment, duties, obligations, and responsibilities. In response, a variety of local perceptions are deployed to confront this illusory universal morality and the supposed cogency with that morality of transnational governance institutions. The normative power of the resulting moral talk is reflected in what has been called ‘ontological politics’ (Law 2004: 65) and in the possible future realities constructed by those politics.<sup>4</sup>

Comparing our two case studies gives rise to several empirical questions and suggests that several issues need further research. Despite a growing anthropological literature on morality (Edelman 2005; Carrithers 2005; Zigon 2007, 2008; Fassin 2008; Stoczkowski 2008; Sykes 2009),

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<sup>4</sup> This parallels the politics of transformation and creation of identity that Agrawal (2005) describes with the notion of environmentality, which in our approach is broadened in scope towards the moral. Li (2007: 41–51) also shows how experts instruct people to achieve ‘the better way of life’ in connection with what she calls ‘ethical rule’.

there has so far been little attention paid to the increasing role of morality in discourse over resource access and property rights – of the rights and wrongs of specific constellations of property rights – for the individual (for their personal character), for the society (leading to desirable versus undesirable forms of interpersonal relations), or for the environment (for human interaction with nature). First, we recommend this moral talk as an object of research in order to illuminate the processes that give rise to competition for scarce natural resources. Second, we want to draw attention to the ways in which these disputes are characterized as property disputes, and to the way that these have changed in terms of moral content over the past twenty years, especially in development discourse and in local responses.<sup>5</sup> Third, we want to draw attention to moral discourse in political talk. By political talk we do not refer only to what Latour (2003: 144) has called “regimes of enunciation” that serve as “the source of coordination” for social groups, nor do we reduce moral talk to an instrumental discourse seeking the high moral ground in political debate. Instead, we focus on what Law (2004) has called “ontological politics” and Carrithers (2005) the “cloud of alternative possibilities”. Different agents imagine a different future reality and direct their actions to achieving these different outcomes. Finally, we want to draw attention to actual outcomes of all this moral talk – both social and ecological.

Several types of moral talk appear to have contributed to the processes of change in rural property relations. Morally loaded interventions sometimes appear as religious activism, sometimes as an environmental imperative, or as Hache and Latour (2010) put it, as ecological morality, and sometimes as protecting human rights. In the Moroccan case, agents of change rely on a transnational political Islam or on other faith-based development intervention. In the Canadian case, intervention relies on conceptualizing nature as an object of moral maximization strategies.<sup>6</sup> These trends have shifted focus from the local user to the global citizen, with local rights subordinated to safeguarding selected global benefits from the natural environment (Ingold 1993). This emergence of a new global vision for rural resources, including cultural heritage and nature conservation sites, has tremendously affected the repartition of local property relations.

While earlier discursive strands emphasized moral aspects in rural development and property relations,<sup>7</sup> we focus on the recent shift in moral talk such that powerful actors such as global governance institutions (World Bank, International Monetary Fund, United Nations) and transnational religious activists (US-based Faith Based Organizations/FBO, Evangelical, Pentecostal, Islamic missionary movements) have been able to further neoliberal agendas of globalization.<sup>8</sup>

In the dominant discourse for rural change, this connection between the moral and the neoliberal has two audiences and two directions. First, the global consumer is bombarded by concepts of responsibility and accountability that find expression in economic solidarity and fair trade. The rural producer, on the other hand, hears demands for good conduct and compliance to new legal

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<sup>5</sup> There is an ongoing debate about the impact of moral and faith-based considerations in the development context and with respect to nature conservation, see Belshaw and Caldrisi (2002); Harper (2000); Quarles van Ufford and Giri (2003); Taylor (2005); Tomalin (2006); Tucker and Grim (2001); Tyndale (2006).

<sup>6</sup> When is maximization of resources moral? Carrier and Miller (1999: 30–31) refer to Bernard Mandeville’s *The Fable of the Bees* (1714) in their exploration of the central paradox that underlies economics. Mandeville argued that the private virtues of modesty and restraint slowed the economy while the pursuit of luxury and excess circulated wealth and generated prosperity. Carrier and Miller (ibid.: 31–32) argue that this paradox was foundational for Adam Smith and the emerging discipline of economics, as: “ethical judgments must be concerned with consequences: if private vice can lead to public benefit, then even actions that induce present misery can be good if they lead to future happiness.”

<sup>7</sup> Cf. e.g. Franz von Benda-Beckmann (1989) on the role of law as a steering instrument in development politics and Quarles van Ufford and Schoffeleers (1988) on development as a form of religious discourse.

<sup>8</sup> For an anthropological analysis of moralities in economics, see Browne and Milgram (2009).

frameworks that draw on universal templates and the normativity of ‘good’ technology (e.g. scientific, sustainable, gender neutral). Both the new technology and the universalistic ideas of accountability are woven into scalar arrangements that link local to global. But it is also important to note that there are real questions about the relationship between the new technology and the environment, such that local producers often find support for their own moral talk in the lack of fit between the two. We thus also draw attention to the various ways local actors who are facing such moralization from above – the moral order of the global age – creatively update their own moral talk.<sup>9</sup> In our two case studies, we find many alternative repertoires of moral talk, which collectively keep open a cloud of possible futures.<sup>10</sup>

As our data comes from two widely separate geo-political locations, the cases may be characterized as fundamentally different. The first case study comes from what might be described as the developing south. It involves the introduction of new gendered methods of forest exploitation in a nature conservation area in the Moroccan Souss that have resulted in competition over that resource among users who pursue different exploitation strategies. The second case comes from what might be characterized as the developed north. It involves the introduction of finfish aquaculture and the resulting competition for ocean space in the fisheries of eastern Canada, which also takes place in an environment that has been targeted for protection. While these two cases have significant economic and political differences, the relevance of these differences is an empirical question. We have found that both in terms of our methodological approaches (focus on actors, projects and arenas, on alternative conceptions of property rights, on the deployment of contradictory normative orders) and in terms of outcomes (transformations of rural access to resources), the two cases illustrate comparable patterns. These include: the introduction of successive waves of technological change; efforts by local people to control the normative implications of these technological changes; efforts by external agents to promote universal ends through transnational normative means; and a considerable moralization of resource management issues. Finally, both cases illustrate loss of local control over resources and continued environmental degradation.

This suggests a structural comparability despite the fact that the two settings are distinct from each other in various ways, including politics and form of government, democratic standards, processes of decision making, diffusion of knowledge within constellations of actors, the room for manoeuvring of individual actors, social welfare and living conditions. Such distinctive power differentials and contrasting agencies of stakeholders are not neglected in our methodology. On the contrary these differences are taken into consideration as they allow us to demonstrate the equalizing capacities of the entanglements between global governance institutions and technological innovations, which generate change under varying political and economic constellations.<sup>11</sup> The crucial point is that the structural similarities can be compared in their effects with respect to these markers of distinction.

We begin with a brief discussion of our foundational concepts, including a note on scale, on defining the rural, and some discussion of the key characteristics of rural transformation. We then

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<sup>9</sup> Santos (2007) deplors moral and cultural imperialism in the wake of neoliberal globalization in contexts also addressed in our article, such as knowledge production and biodiversity.

<sup>10</sup> See Sykes (2009) for an example of the growing literature referring to the ethnographies of moral reasoning. See Hache and Latour (2010) on the objects of the moral and on inclusion in and exclusion from the moral sphere.

<sup>11</sup> As Latour (2005: 72) notes: “objects are suddenly highlighted not only as being full-blown actors, but also as what explains the contrasted landscape we started with, the over-arching powers of society, the huge asymmetries, the crushing exercise of power”. Holifield (2009: 645) expands on this approach and discusses its relationship to Marxist critiques.

move on to conceptualizations of property, and contextualize this with a discussion of legal pluralism. We focus here on the normative power of technological innovation and its transmission in ontological politics through moral talk.

In a second step we present the Moroccan case study wherein some comparative strands are anticipated. Then we contrast the Moroccan case with the Canadian example. Cross-referencing between the two empirical sections allows us to highlight the comparative aspects. We then come back to the question of moral talk, and examine how this talk endows both technological and legal innovation with legitimacy. Finally, we conclude with some suggestions about neglected dimensions of transformative processes of rural property relations.

### **Foundational Concepts**

Our previous analysis of transnational-local interaction (Turner and Wiber 2009) began with a discussion of some highly contested concepts. We return briefly to these basic conceptual issues as they serve as the foundation of our comparative perspective.

#### *Scalar Arrangements*

Spatial and scalar issues are central to our work. We refer here to the concept of scale as not merely a natural metric but a social construct that allows us to analyze interactive processes interlinking various levels, including the transference of scale-bound framings and issues (see Turner and Wiber 2009: 4f). In our previous work, we queried the boundaries between rural and urban, imperialism and development, traditional and modern, modernization and hegemony, sophistication and parochialism, moral economy and immoral capitalism. It is clear now that these concepts fail to capture the complex interactions between scalar places and active agents. An activist carries local realities of hunger and lack of access to nutritious food into international arenas, and there describes them as a failure of food security and of universal human rights. Fishermen find fewer lobsters present on their fishing grounds in the spring fishery, and a scientist at a regional conference explains this by reference to changes in sea water temperatures as a part of global warming. Peasants find their traditional rights in arable land blocked by new rules and an economist at a national seminar characterizes this as changes in real estate markets linked to foreign investment and global market integration. We cannot ignore these scalar phenomena. We will illustrate how our two separate field sites have in common such transects across scalar boundaries and how these are linked to the moral tone in the discourse at both local and international arenas.

#### *Conceptualizing the Rural*

Since both areas analyzed in the paper are defined in national and international policy documents as rural, we must conceptualize this category in order to allow for comparison across cases. Defining the rural and clearly distinguishing it from non-rural spaces, however, has been debated for several decades (see Bruun and Narangoa 2006: 6; Deavers 1992; Hoggart 1990). According to Haugen and Lysgård (2006: 176), the main body of rural sociology remains ‘functional’ in tone and ‘policy-oriented’ in focus, with the rural defined by criteria such as population density and a lack of social services. But a growing number of sociologists view the rural as “floating, changeable and contextual” (ibid.). In either case, the rural is characterized through a set of rhetorical devices that

contrast it with some imagined opposite, as with traditional (sometimes read as backward) versus modern, or place of production versus place of hedonistic consumption, or natural versus man-made landscape. We concluded that any sharp divide between the rural and urban spaces is a problem, since in our two case studies people move around while remaining connected to many types of places. Thus, we do not view the rural as a parameter distinguishing our field sites on the basis of a number of common traits but instead emphasize the consequences such categorization may entail in terms of normative and moral framing in human scalar interactions.

Rather than predetermining the nature of a place through contested boundary-making, then, we prefer to follow Latour (2005: 108) and to trace out how various ideas, materials, technologies and normative conceptions are ‘translated’ as they pass from one actor to another. Translation is used here to refer to “a connection that transports (...) transformations” and “generate(s) traceable associations” (ibid.). It is important to be precise here, however, as Latour has been criticized for leaving out local re-interpretations of technological innovation and their repercussion in scalar interaction (Rottenburg 2009), as well as for “overlooking crucial processes and relations generating environmental inequalities at broader regional, national and global scales” (see Holifield 2009: 641–642). Therefore we do not claim to follow one strict conceptual line when operating with the notion of translation; instead, we combine various approaches (Latour 2005; Law 2004, 2009a; Rottenburg 2009).

What we find interesting and want to draw attention to is that the concept of translation focuses on agency within networks. Networks are thought of as interactive webs that are always transforming themselves (see also Holifield 2009: 647). The point is that agency effects the translation of a given issue, program, model, concept, moral code, technology, into a social context differing from the originating one and generates something different from the original template (new template). The concept of translation helps to sensitize us to the ways in which an actor (in the Latourian sense, technology included) receives the action of another actor and is stimulated to respond in relation to that action. Translation thus means an innovative process of sense-making (interpretation). As Law (2009a) puts it, translation is both about making things equivalent and about shifting things. All relations within a network involve translations (epistemic, e.g. knowledge; normative, e.g. law, moral; material, e.g. technological). Thus change takes place in all the components that are involved. Technological innovation (the material order) speaks for itself and generates its own moralities and rules (the normative order). These integrate in turn through the translation process and affect knowledge (the epistemic order). In our cases, the integration of new technology into pre-existing normative orders entails a transfer of moral standards that are objectified in this technology. These moral standards then interact with law and power differentials to form new moral readings of knowledge. Thus the realms of the different orders are distinctive but overlapping. The concept of translation, therefore, comprises the repercussions that the translation process provokes within the setting of origin for the translated element. Translations are concrete, negotiated, discernable, and reveal operational schemes as our case studies show. Finally, our empirical analysis confirms that translation generates something different from a single coherent reality (Law 2009a).

As we will demonstrate, a wide range of local reactions have been evoked by transnational intervention and state monitored integration of local places in global structures of governance. The result does not lead to standardization, but instead to various contested mechanisms of resource

control. The interaction of local actors, fishermen and peasants, in lopsided power constellations, results in an outcome that was never intended by anyone.

It is also important to note that translations sometimes involve meta-explanations for the conditionalities of new rural configurations. For example, sustaining rural nature as a reservoir for the non-rural is characterized as building ecological responsibility among rural citizens. Or urban concerns about healthy foods might require new standards for the use of pesticides and fertilizers in the production of cash crops. Thus the grand social explanations such as ‘sustainable development’ or ‘participation’ have their contours shaped or transformed in the translation process, and as Holifield (2009: 644) argues, serve as “circulating accounts aiming (and often competing) to establish the right composition of society, social intentionality, and social action”. Confronted with local parameters such as demographic growth and resource scarcity, meta-explanations may become reduced to a simple tool in the everyday political business. This inspires us to focus attention on the moralizing that seems to pervade such translation processes and on the normative power of such moralizing among the parties involved.

For us, moreover, there are several reasons to sustain a focus on the local and the rural as a research space. First, we are interested in the link between livelihoods and their source in natural resources, typically through primary production, but also through the commodification of nature via tourism or the gentrification of the countryside (see Bessant 2007; Burchardt 2007; Havnevik, Negash and Beyene 2006; Hillyard 2007; Homewood 2005; Tovey 1998). For Tovey (1998: 22), dependency on natural resources gives rise to a specialized knowledge about them, which may incline rural actors to organize themselves around different issues. A second and related reason is that the rural is a lively arena for social struggles. Tovey notes, for example, that rural space is shaped by “a hierarchy of spatial organization” that is urban-centered, and since rural residents may resist this hierarchy, rural spaces become “a terrain on which different social groups within society as a whole can display and realize different identities and social projects” (Tovey 1998: 30).

### *Conceptualizing Property*

Many conventions and agreements<sup>12</sup> developed in multinational forums have recently favored a particular property ideology, and have promoted this within the policy regimes of member states (see De Soto 2000). While such ideology is not new, it gained momentum in the wake of neoliberal market integration. The stated aim is to develop a strong, uniform and well-functioning state legal system for controlling natural resources, one that will encourage rural residents to participate in wider economic markets and enhance access to rural resources for those with capital to invest. While property has always been contested, under these conditions it is often contested in qualitatively new ways. New types of property have been generated in various domains and new actors have begun to demand access to resources in the name of these property concepts.

As we have argued elsewhere, tracing out property issues can bring a focus to these diverse interactions. However, property is also an unstable term (Hann 2007), with widespread debates about its character and its role in economic development. Here we follow the anthropological tradition outlined by F. and K. von Benda-Beckmann and Wiber (2006), where property is that which gives form and substance to the relations between people with respect to valuables. These relationships are comprised of three elements: the social units (individuals, lineages, corporations, states) that can hold property rights and obligations; the valuables that are conceptualized as

<sup>12</sup> In our case studies, The UNESCO Man and the Biosphere Programme provides an example.

property objects; and the different sets of rights and obligations held in such objects. All three are set into and vary across time and space. Property becomes visible in three quite different arenas: within ideological rhetoric, within institutionalized rules, and within actual relations between people. Property, therefore, cannot be reduced to one of these levels, just as ideologies about sharecropping, or legal rules about the behavior of sharecropping partners, can be vastly different from the actual relations pertaining between two individuals who happen to be sharecropping partners. The extent to which agents in rural spaces are actually constrained by property ideologies, by legal institutions or by actual relations with others with respect to property objects varies considerably.

### *Law, Legal Pluralism and Transnationalization*

When we define property in part by the institutional rules that define property holders, values and rights, we involve the law. But the law also turns out to be a contested concept, particularly as relates to its universality and close connection with the state. It has long been recognized that in many situations more than one legal regime is operating in one locality (F. von Benda-Beckmann 2002; F. and K. von Benda-Beckmann 2007), however, we are still learning about the potential impact of this on access to resources.

Ironically, legal pluralism often originated in the colonial efforts to create normative universality. Historically, colonial authorities attempted to recreate their European legal systems within the framework of the colonial state. The invention of colonial governance and its normative order, however, gave rise to complex processes of transnational translation within the nomosphere. The mere imposition of colonial legislation on top of or instead of existing normative orders proved impractical so that colonial authorities tolerated some local regulation of life according to local standards of customary practice and religious beliefs. But whatever concessions were made to the variety of local legal reasoning, one thing remained vital; resources considered important at the time were under European control.

In the recent past, new universalizing tendencies have arisen from international agreements on human rights, on rules of good governance or of mercantile conduct, and out of the operations of international non-government organizations (NGOs). When members of religious communities cross state boundaries and transfer new religious interpretations or arguments throughout their international membership, or when development agents from one nation implement the same type of projects in numerous different developing states, we can speak of a transnational process. Powerful transnational agencies such as the International Monetary Fund, the World Bank, the United Nations, UNESCO, the European Union and national development agencies will only provide services and resources to local places when their standards of behavior are endorsed. Ironically, agents of these organizations sometimes compete with each other and pursue different, often incompatible agendas in the same rural spaces, giving rise to complexity in the resulting 'globalization'. Environmental protection, sustainability, efficiencies in resource exploitation, economic growth, technological innovation, participatory governance, and food quality standards are good examples of these somewhat contrary tendencies. The 'commodities of globalization' legitimize this transnational intervention, and include: democratization, good governance, encouraging civil society, regionalization, administrative decentralization, sustainable development, and the protection or safeguard of biodiversity (Jenson and de Sousa Santos 2000).

It does not matter whether the rural area is located in the developed north or the undeveloped south, international discourse affects local developments in production patterns, tourism, economic investment, political decentralization, transparency, good governance and civil society. Transnational initiatives, whether spearheaded by the European Union in Eastern Europe, or by development agencies in Africa or Latin America, address poverty, corruption, rural exodus and the threat of uncontrolled immigration into wealthier (often urbanized) locations.

It is difficult however to predict how these influences will unfold in any one place or time. On this question, it is useful to pay some attention to the tripartite play of relations between the transnational, the rural and the state. State actors at different levels of the governmental hierarchy may transmit their particular and differing interpretations of concepts or ideas having international currency into the local arena, with varying levels of success. Some local actors may approve, others may reject such state involvement. Transnational actors, on the other hand, may try to implement projects directly in rural areas, bypassing the state if state agents do not cooperate in the appropriate time frame. The ability of actors from any of these levels, the local, the regional, the national and the transnational, to affect the behavior of others cannot be assumed in advance, despite many different layers of normative ordering.

And here again, one other transnational tendency is apparent from our case studies. Increasingly, there is a moral component to the transnational discourse in the sense that it is based on conceptions of the right, the good, the ethical, the honest, the decent or the just and principled actor. This tendency arises not only from formal religious movements that cross national boundaries, but from environmental or human rights activists, from economic entrepreneurs and from various forms of civil society organization. Their projects have sometimes resulted in new local standards of what constitutes values, or property objects, of who constitutes proper owners, and of what rights and obligations can or should be attached to valuable objects. Such changes in economic status can in turn motivate local push back and even violence, as rural actors organize resistance, sometimes in cooperation with outside agents, sometimes very much against them (see Edelman 1999; Mésini 2004; Moyo and Yeros 2005; Woods 2008). One of the interesting points of contention here is equity in access to resources, in order to meet the needs of local welfare. A nation-state, for example, that is seen to renege on welfare obligations may also be held to have no right to regulate local property regimes, leaving actors from community-based groups, NGOs or FBOs (see Hefferan 2007; Marshall and van Saanen 2007), or to local chapters of global religions to fill the gap.

In addition, the transfer of technology aimed at realizing such ends becomes morally framed so that the subsequent legal order emanating from that technology and its use appears morally justified. Thus a moral claim to interfere in rural affairs is justified as is the corresponding web of property regimes and relations. The prize for global economic integration is paid in legal concessions to the transnational governance institutions.

### *Technology, Morality, and Norm Generation*

Borrowing from science and technology studies (STS), we proceed from the insight that technology cannot be regarded as socially and politically neutral or innocent, especially when it interlinks various places (Rottenburg 2009). Thus another source of inspiration for our analysis has been actor-network-theory (ANT), where connections between technology, the environment, the social and the political or moral are addressed (Hache and Latour 2010; Latour 1999, 2005; Law 2004).

Our data illustrates how complex transscale interactions are triggered by plans to introduce technological innovation and how subsequent events oscillate between the establishment of a relationship of dependency between those who control that technology and those who would adapt it to local circumstances, and local attempts to emancipate themselves from external intervention. In the process the connection between technology, moralization and norm generation comes to the fore. Technology has the power to (re)form social practices; thus, it establishes norms and maintains a close relationship to transnational projects of property transformation. The ways in which such potential transformation is presented to local actors often takes the form of moral talk. Focusing on this moral talk reveals how technology becomes endowed with meaning and social significance and how technology transfer is subjected to translation. For example, we will show how potential beneficiaries morally assess the possible consequences of technological innovation, and seek to ‘translate’ technology into channels acceptable to their own morality. The focus on property and resource access seems to us especially suited to analyze how technological innovation may be connected to ontological politics through moral talk.

### **Case 1:**

#### **Sharecropping and its Alternative: nature conservation in the argan forests of Morocco**

Peasants in the Souss plain in southwest Morocco have limited access to productive natural resources, particularly agricultural land and water as these resources are for the most part under control of large landholders and exploited for cash crop production, especially citrus fruits and vegetables.<sup>13</sup> As a result, the argan forest has long provided an essential zone of agricultural activity and means of livelihood for large parts of the local population (see, for example, El Aich et al. 2005; Nouaim 2005). While the forest is state property (*forêt domaniale*), people living in communities near the forest are entitled to usufruct rights on individual plots within the forest, traditionally used for production of rain-fed barley. The forest has also long served as pasture for livestock, wherein local peasants compete for space with mobile camel herders coming from the Moroccan south. There is even access to water in the forest, in the form of privately owned wells. The most prestigious product from the argan forest, however, has long been argan oil, extracted from the kernels of the fruits of the tree. Unlike agricultural production, which is undertaken by both men and women, oil production was largely a female concern.

Beginning in the mid-1980s, the introduction of tomatoes as a cash crop changed both the local use of the argan forest and arrangements of production. The introduction of adapted varieties of tomato seed and of technologies such as irrigation, fertilizers and pesticides proved suitable to small-scale production.

The first step in this development was the adoption of new irrigation technology by the cash crop sector of large farms, where local peasants were employed as day laborers. This new water-saving drip irrigation technology was much less labor intensive than the former traditional gravity irrigation. So while local peasants learned about this technology during their work, its introduction

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<sup>13</sup> The people and places to which this section refers have been kept anonymous. Fieldwork on the transnational moral impact on local access to natural resources and rural property regimes was carried out for several weeks each year between 1996 and 2005. Data from different settings and concrete constellations on the Souss plain is included in the analysis. Since 2001, the fieldwork has been part of a project on “Sustainable Development and Exploitation of Natural Resources, Legal Pluralism, and Transnational Law in the ‘Arganeraie’ Biosphere Reserve” within the Project Group Legal Pluralism at the Max Planck Institute for Social Anthropology in Halle/Saale, Germany,.

led to a loss of employment. The goal of the rich farmers was to save water and labor costs, and simultaneously get rid of discontented workers; but this had consequences. The drip irrigation technology offered opportunities as well for the unemployed peasants, who soon realized that this technology was also ideal for small-scale cash crop production. The irrigation technology freed peasant labor and enabled them to work on a piece of land large enough to make cash crop production profitable.

But getting access to the necessary additional resources required reviving and modifying sharecropping arrangements that had disappeared during the era of the French protectorate (1912–1956). The new technology made reasonable the revitalization and adaptation of an ancient normative arrangement. Sharecropping had the reputation of creating dependency and exploitation, but given the new opportunities, it enabled locals to participate in an export market (Turner 2003, 2009). Current sharecropping arrangements are based on cooperation between those with production inputs (water, land, capital) and those with surplus labor. Usually a farmer who has sufficient resources to assume the role of an investor cooperates with a peasant, who invests the labor of his extended family, women included. The result has often been upward mobility for peasants, who in their turn subsequently play the role of investors. This mode of production is nowadays perceived as ‘traditional’, but in fact is a combination of local and external components. As we will see this development may be paralleled with the introduction of new fishing technology in Canada which also had social and legal consequences. What differs is on whose initiative those developments have taken place. In Morocco it was the peasants’ incentive to develop a mode of production allowing them to participate in the cash crop market while in Canada it was an initiative of state institutions as will be further illustrated below.

Part of the local contribution to this production complex is a legal framing based on local popular Islam. Local legal arrangements are necessary for several reasons. Sharecropping is not sanctioned by the Moroccan state, which views it as an ‘outmoded’ and ‘backward-looking’ relic of the past that resembles Oriental ‘rentier capitalism’. Moreover, the state-run agricultural agencies are expressly in favor of preserving the concentration of landed property in the hands of the rural elite that emerged after independence in 1956. Consequently, they have not adopted measures favorable to the survival of small agricultural producers (see also Turner 2003). Further, orthodox Islamic law does not provide legal protection for modes of production based on ‘risk’, which is viewed as an ‘illicit’ and ‘immoral’ speculation. Accordingly, sharecroppers operate in a state of legal insecurity. In response, the people in the Souss region have reinforced sharecropping contracts with local repertoires of social and religious values, thereby creating trust between socially and economically unequal partners. In this way, resource management and cooperative production is rooted in a moral conception of popular Islam that in turn has led to a positive reevaluation of ‘local religious morality’.

But the success of such sharecropping led to the expansion of tomato cash cropping, and this in turn led to ecological impacts. Frequent field rotation required for soil fertility soon made it necessary that tomato production expand into the forest where barley plots were turned into irrigated cash crop fields. Water sources within the forest were hooked up to ingenious irrigation systems, grazing expanded as cash income was invested in animals, and manure was found to be an indispensable prerequisite for irrigated fields. This development also had an impact on the regulation of access to forest plots and led to the emergence of a market for the trade of access rights.

The argan forest, however, is an unparalleled ecosystem formed by the emblematic tree of the region (*Argania Spinosa (L) Skeels*), an endemic relict of the Tertiary period. In this semi-arid region, these trees make up the only forests that are able to curb progressive desertification. Unfortunately, the area covered by them has significantly declined in the last 50 years, and this in turn attracted the attention of international agencies focused on the environment. In 1998, some time after the expansion of cash crop production into the forest and while competition between nomads and sedentary peasants accelerated (Turner 2006b), the entire *Arganeraie* region was declared a UNESCO Biosphere Reserve (MADR 2001). As we will demonstrate, the same transnational conservation approach was also applied in the Canadian setting, so that we can compare the normative and moral means by which both areas were integrated into global natural conservation areas. In the Moroccan case, the state was the official nominee in conformity with the regulations of the UNESCO Man and the Biosphere Programme (see <http://www.rbarganeraie.ma/>).<sup>14</sup> But in fact, the application originated through the intervention of transnational development agencies engaged in nature conservation and was submitted despite the concerns of some Moroccan state agents who worried about the long-run consequences and costs for the Moroccan state. Here, as we will see there is a contrast with the Canadian situation because while in the Moroccan case the initiative was taken by an external development agency, in Canada local actors promoted the Biosphere Reserve.

Different transnational actors have been attracted to the *Arganeraie* for two reasons: the uniqueness of the ecosystem and the possible conjuncture of nature conservation with other development goals. Having identified the argan forest as a promising field of intervention for transnational donors, projects were established to safeguard the natural environment, to modernize agriculture and to fight rural poverty. Thus, the Souss region attracted an armada of development agencies, among them the *Gesellschaft für Technische Zusammenarbeit* (GTZ – German Association for Technical Cooperation), the US Agency for International Development (USAID), Oxfam Canada, and the *Agence Française de Développement* (AFD), in addition to powerful donor organizations such as the World Bank, the International Monetary Fund (IMF), the European Union (EU) and UNESCO. The basic set of transnational regulation brought to bear was laid down in the UNESCO Man and the Biosphere Programme. A wider framework included international conventions such as the Rio Conventions of 1992 and the Convention to Combat Desertification (PAN/LCD)<sup>15</sup>.

We argue that the common agenda laid down in this transnational normative framework relies on combining objectives that do not necessarily have a logical connection with each other. For example, the ideal ‘sustainable development’ supposes that ecological ‘sustainability’ can be achieved harmoniously alongside of ‘economic development’, leaving aside parameters such as demographic growth or climatic change. Moreover, the agenda presupposes that the codification of these normative standards would materialize such goals with due consideration for local conditionalities.

The development actors mentioned above were tacitly involved in a project to alert the Moroccan population to the ecological dangers of their production process. They were not alone in their high

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<sup>14</sup> Biosphere Reserves are areas that are recognized within the UNESCO Man and the Biosphere Programme (MAB), and have two somewhat contradictory functions, contributing to the conservation of biodiversity and fostering sustainable economic development. The official UNESCO website is: <http://www.unesco.org/mabdb/br/brdir/directory/biores.asp?mode=all&code=MOR+01>

<sup>15</sup> See CNUED-Rio 1992, at <http://www.cbd.int/> and CCD-Paris 1994, at <http://www.unccd.int/>; see also Turner 2006a.

moral principles. In 1999, another transnational actor, the Islamic Salafiyya movement, which commands a return to the basics of Islam, began missionary activism in the Souss region (Turner 2008). These Salafis – that is the adherents to the Salafiyya movement – also criticized the Souassa, but in this case, for violations of Islamic prescriptions. They propagated a universal Islamic vision of the management of property and of the regulation of access to natural resources, which stood in direct opposition to both neoliberal development ideals and to local religious morality. For example, the Salafis rejected the local model of pious solidarity, which they viewed as pagan. While cash cropping, new technology, environmentalism, neoliberal ideology and the Salafi mindset were all triggered by external connections, the Salafi approach turned out to be *morally irreconcilable* with other transnational impacts.

Expansion of the export-oriented, irrigated cash crop into the forest was of concern for both development agents and the Salafis, although for different reasons. Environmental actors considered both tomato plots and animal grazing to be the cause of forest degradation. They advocated a strict application of forest law and of the international normative standards of environmental protection to which the Moroccan state was a signatory. Following their own internal logic, however, conservation activists were also in favor of revitalizing traditions such as closure seasons in the forest that would harmonize with rain-fed cultivation and the collection of argan kernels but that would preclude irrigated cash crop production.<sup>16</sup> The implementation of programs for the revitalization of ‘good traditions’ has become one of the principal strategies of transnational actors, an approach that entails that these actors themselves define what is and is not a ‘good tradition’. In other words, the process by which transnational legal standards are implemented in local projects tends to progress through the instrumentalization of those elements of local regulation of resource management that seem compatible with the normative requirements of environmental protection and sustainable development. Accordingly, the definition of ‘tradition’ eclipses all those practices and regulations that are categorized as detrimental to the intervention of transnational activism.

Perhaps because the development workers knew nothing about the socio-religious basis of cooperative agricultural production in the Souss region, external agents did not seem to realize that when they argued against sharecropping they also implicitly criticized the religion-based legal underpinnings of this local mode of production. The fact that relations between members of local communities rest upon the cross-linkage of distributive obligations and shared rights escaped their attention, so that they took a strong moral stand against the devastating effects on the forest of this mode of production. The Salafis, meanwhile, were so focused on the field labor arrangements – which they considered threatening to the morality of household women – that they ignored the incompatibility between sharecropping arrangements and the prohibition in Islamic law against risk oriented economic strategies.

In place of sharecropping tomatoes and livestock grazing, agents from the GTZ, Oxfam Canada, and other development organizations promoted an alternative economic strategy that relied on the creation of women’s cooperatives for the production of argan oil for the global organic market. In development discourse, this model had its own list of morally ‘right and proper outcomes’, including: (a) supporting the UNESCO Biosphere Reserve, (b) a focus on ecology, (c) the wish to fight poverty, and (d) the empowerment of rural women. A number of different competing

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<sup>16</sup> On the issue of revitalization of tradition in the context of development cooperation, see F. von Benda-Beckmann et al. (2007).

variations of cooperatives were proposed. After 1998, therefore, the Souss region underwent an explosive growth in women's cooperatives of different types, which were initiated by different developmental partners, and all of which claimed to be based on 'traditional practices' (Turner 2005).

The traditional argan oil production was a laborious household process that involved women as independent producers. As a result, a rhetorical traditionalism permeated the formation of these cooperatives, and moral claims were made both for and against the traditional production technology and both for and against the participation of women.

One has to emphasize, however, that despite this rhetoric, the operations of the various cooperatives were based on normative models that were unfamiliar to local actors. At first, some cooperatives retained the traditional methods of hand-made oil production in combination with high eco-standards but failed to adopt externally sanctioned ideas of gender-based cooperative production. Others, operating with the new technology of mechanical oil refinement, were much more open to normative innovation.

Moroccan NGO activists introduced the oil pressing machines. They did so with the support of some transnational funding agencies but against the moral stance of others, who argued for the preservation of traditional methods. The Moroccan activists also made moral arguments, emphasizing that the new technology would relieve the women in the cooperatives from the most laborious part of the oil processing. At the same time, the new technology guaranteed a high transnational standard of hygiene and purity necessary for a global marketing of the ecological product. Thus, traditional female labor did not serve as the basis for successful cooperative production. All steps of the production process that could be mechanized have been so that the role of the women has been reduced to the monotonous cracking of the argan kernels with a stone. The introduction of modern oil extraction machines and factory production methods reduced the role of independent local producers to paid employees. There has been a similar outcome in the industrial scale aquaculture that has been promoted in the Canadian Maritimes, as a replacement for family-based small-scale fishery production.

In sum, the technology introduced into the argan forests came connected to various normative repertoires. As has been said, meeting the normative standards for global market integration was one thing; the other point was the introduction of an externally introduced model of collective production. The women in the cooperatives were told that they were all equal members and owners of the modes of production; however, they quickly identified familiar hierarchical structures in the new setting. They wanted, for instance, to get a greater share of what they were told they cooperatively owned, but this was refused so that in one case women even organized a strike against their own cooperative. As it turned out, even the methods for sharing the benefits of collective work differed considerably from local standards.

The mechanized cooperatives were nevertheless particularly successful in attracting financial and logistical support from various development agencies and other donors. The European Union, for example, was keen to find a promising investment in Morocco that met the twin goals of 'nature conservation plus sustainable development'. Moroccan partners, however, such as the responsible department of agriculture and rural development, were quite reluctant. In 2003, the European Union finally convinced the Moroccan government to accept a substantial investment in the project, and to match these with Moroccan state funds. The EU contributed 5.4 Mio € and the

recently established Moroccan agency for social development (*Agence de Développement Sociale – ADS*), added another 4 Mio €.

With these levels of funding, it is perhaps not surprising that nowadays 77 cooperatives produce argan oil for the world market of bio products. All cooperatives are civil society organizations united in a network under an umbrella NGO.<sup>17</sup> They are said to give work to 4,000 women who otherwise would have no income.<sup>18</sup> Annual production is said to top 4,000 tons. While some political circles in Morocco praise the cooperatives as an example of successful empowerment of rural women and the perfect combination of social with environmental and economic objectives, others express reservations (Lybbert et al. 2002). As we will show, this second wave of technological innovation in the form of oil processing corresponds with a similar second wave and its legal concomitants in the Canadian fisheries case.

The establishment of these cooperatives also led to a remarkable input of transnational law of which the achievement of the coveted ‘bio-label’ for the argan oil products is just one example. To achieve this bio-label, local production had to be done under different and somewhat contradictory sets of rules that all meet the ‘ecological’ criteria of the western agents. One of these prescriptions was the requirement to contribute to a reforestation program. In other words, this mode of production was associated with reforestation measures that the cooperatives had ‘charged themselves with’ as a moral commitment. From the point of view of the locals, however, such reforestation could not fail to affect property relations, for when saplings are planted on privately-owned land, the state forestry department could then regard this land as state (forested) domain. Alternatively, the forest rangers could declare some plots in the forest as reserved for reforestation and thus withdraw them from the usufruct holders. As a result conflicts broke out about reforestation among all the partners involved, including the transnational agencies, the members of various and competing Moroccan state institutions and the local actors.<sup>19</sup>

In return for reforestation efforts, the development agents helped to organize an international bio-product marketing campaign. But ironically, in order to approach full capacity, cooperatives working with modern equipment made huge demands on available argan kernel supplies. They drew these not only from the area where cooperatives had been established, but from anywhere they could get them. Furthermore, women who worked in cooperatives often invested their earnings in grazing stock. The result was that this alternative model of utilizing the forest placed additional stress on the resource.

Given that the cooperatives required reforestation measures to meet international standards, villages where cooperatives were planned should also be integrated into the wider context of nature conservation. But the translation of such plans into practice met many hiccups, largely expressed in a kind of dueling moralities, leading to quite different ‘ontological politics’ (Law 2004: 162). The resulting debates revealed certain incompatibilities in the competing moral priorities. One example of such an encounter between development actors and the peasants in the Souss will make apparent the local understanding of the morally or religiously loaded messages of transnational actors, as well as their alternative framings. This constellation matches to a large extent the type of negotiations fishermen associations in the Canadian example participated in with agents of various

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<sup>17</sup> The *Association Nationale des Coopératives d’Argane* (ANCA).

<sup>18</sup> See <http://admin.projet-arganier.ma/publications/229FGPA-Bilan%20Projet%20Arganier.xls.pdf>

<sup>19</sup> The reforestation business, in turn, was monopolized by commercial tree nurseries as beneficiaries of transnational funding. Local attempts at sapling production were largely neglected by external agents, especially as these relied on local adaptations of the new drip irrigation. The forestry and development agents argued that these were ‘not natural’.

state institutions, each of whom believed they alone had the mandate to protect the environment through support for “sustainable” technology.

Advice to development workers entering a new field situation in rural Morocco usually involves addressing the council or assembly of a village; this arena is viewed as the most suitable for both moral and practical reasons. Development workers can at one and the same time support open democratic decision-making and bring forward concerns to convince the local inhabitants of the need to act. In the Moroccan mid-Souss, the informal village council (*jma'a*) is the main decision-making body in local legal affairs. Locals view this council as successor to the traditional former village representative body, whereas the Moroccan civil law and transnational legal standards recognize it under the category of *Association de Développement Local* (ADL).<sup>20</sup> As such, the council enjoys connections to the official sphere and actions taken by the council have quasi state sanction. All families and households of the village send male representatives to the council. Thus the composition of the council itself reflects both the internal differentiation of the village community and partisanship with various external actors, as will be seen in the case described below.

Such councils can accumulate more duties and responsibilities in the course of time with the result that they can be powerful financial institutions. In the study village, for example, the council collected contributions from every household for water and the maintenance of water system equipment. It controlled the regular support payments for the religious infrastructure, the mosque and the *fqih*, the religious clerk. Furthermore, the *jma'a* had taken over the neglected duties of the officially-elected local representatives, including the distribution of state-subsidized staple food and had a say about the regulation of access to natural resources. All important decisions at the village level were reached in council negotiations.

Through the agency of their influential local brokers, a development organization arranged a meeting with such a *jma'a*, in order to suggest a village reforestation program. Within the framework of an international project to combat desertification, they proposed that the villagers should plant argan saplings and care for them to ensure their survival. From the point of view of the development organization, the village had been ‘chosen’ and could consider itself fortunate to be incorporated into the program. However, at that time almost half of the members of the local community were adherents of the Salafiyya. Those council members with a positive attitude towards the development agency, including several recognized intellectuals who acted as development brokers, were in the minority. Not surprisingly then, the villagers, always cautious with external offers, rejected this status as ‘chosen people’ and queried the advantage for them. This seemed to disappoint the development actors who had expected more gratitude. In answering the question about local advantage, they and their local brokers referred to the responsibility of the locals to safeguard their forest environment.<sup>21</sup> The locals responded quickly that their responsibility lay primarily in securing the livelihood of their families. This being so, they would cut trees and not plant them, if such were necessary for their needs.

<sup>20</sup> Roque (2004); see also Benyahya and Bouachik (2002) for the legal aspects, and Venema with Mguild (2002) for comparable data on informal village councils in the Middle Atlas. All forms of institutionalized collective action in Morocco such as citizens’ initiative groups and committees are today called NGOs (fr. *ONG*) with reference to the transnational buzzword. Almost all villages in the Souss today have their own ‘NGO or ADL for rural development’ (*jema'iyya at-tanmiyya al hadariyya*), and informal village institutions have transformed themselves into ADLs. In this regard, they are far more responsive to the global governance advice than are rural communities in Canada.

<sup>21</sup> See Hache and Latour (2010: 312). From their perspective, there was an effort here to sensitize local villagers to their global responsibilities and: “it would seem to be of interest to explore the mechanism whereby the list of beings able to place us under moral obligation to them is either shortened or lengthened.” (ibid.)

At this point, moral messages proliferated. The development agents cited global environmental problems and the need to secure the livelihood of future generations. As the need was global, so should the response, which is why an external development agency was willing to invest in Morocco and expected that local peasants would also take up some share in environmental responsibility. The villagers responded that they had trouble believing this considering the degree of environmental degradation in industrialized countries and given the commercial interests that individuals from industrialized countries had in cash crop production in developing countries. Further, they wanted to know what real advantages the plan offered for the development agency. The forestry supporters mentioned the satisfaction to be gained from contributing to environment sustainability, making a better world, and fighting rural poverty. Such altruistic motives, however, were met with distrust, a feeling that was intensified when no satisfactory answers were given to the question of what would happen when the project failed and the trees planted by the villagers died. Would the development agency want their investment back?

As the discussion proceeded, further moral ambiguity was generated by discussion of the appropriate uses of the argan forest. The development agents took a hard line on sharecropping and livestock-raising in the forest. Both were viewed as destructive to resources upon which the villagers depended, and both were thus neither reasonable nor justifiable. The villagers, meanwhile, argued that they had no other option, at which point the development agents recommended the production of ‘natural forest products’ such as ‘biological’ argan oil for the international market. The villagers, however, found it morally reprehensible to replace male work (in sharecropping and herding) with primarily female work (in argan oil production).

After intensive debate, the village council reached a decision that appealed to yet another moral standard. The offer to participate in the tree planting program constituted a sort of risk-based contract as it depended on uncertain success, and it was therefore *haram* (forbidden). Particularly influential were the arguments of the Salafi that risk management, neoliberalism and Christianity were all different names for the same thing. In sum, such ‘sensitizing of the local population’ in development jargon only revealed the deep moral and religious risk according to local actors. As a result, the development agency changed its strategy and began to offer recompense for those villages that were willing to participate in the forestry program.

But in adding the state to the above constellation of actors,<sup>22</sup> we should note that all such actors had their respective relationships with various institutions of the state, and these various state institutions in turn had differing agendas. Indeed, the state is not a homogenous unit and state agencies send out contradictory signals, as we will see again in the Canadian case. State actors often are ambivalent with respect to the transnational agenda. For example, some central authorities seem to endorse the gender aspect of the program for the setup of cooperatives, hoping for an improved international reputation that leads to more tourism. On the other hand, other state agents resented such intrusion by external agents into Moroccan handling of rural affairs, and feared any long-range financial engagement in environmental projects. This gives additional complexity to the relationship between various state institutions and civil society, a relationship that enables the state to be an active participant in civil society affairs, beyond its legislative capacity to impose order.

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<sup>22</sup> This constellation of actors included the council representing peasants and sharecroppers, male relatives of women working in cooperatives, adherents of an Islamic movement, and development brokers, on the one hand, and representatives of various development agencies and donor organizations on the other.

Representatives of the regional forest administration<sup>23</sup> are a good example of this state ambivalence. On the one hand they are involved in these development initiatives, but on the other hand they are concerned that they may lose control of the forest because of them. Such ambivalence is also felt towards the cooperatives. Some criticize the cooperatives for their impact on established gender relations, that is, for making women the main breadwinner for a household. In former times, women involved in the production of argan oil at home had the right to use the small earnings they made exclusively for their own purposes; this money was not considered part of family income. Now, as members of a cooperative, their earnings serve the needs of their families. The proponents, on the other hand, argue that the cooperatives support particularly those divorced or widowed women who have no other source of income. Meanwhile, representatives of other state run agencies such as the *Office Régionale de la Mise en Valeur Agricole-Souss/Massa* (ORMVA-SM) which is involved in the development of irrigated and export-oriented cash crop production in the region, regard the argan boom with ambivalence. They approve of the close connections between the 'modern' agrarian sector in the Souss plain and other boom regions of the country. The forested periphery, on the other hand, was seen as a reservoir providing the developed sector with manure and other byproducts. Thus, the integration of the argan forest into the transnational arena of nature conservation and sustainable development has led to a new debate about jurisdiction between various state agencies such as forestry and agriculture. The consequences for rural property regimes and the regulation of access to natural resources for local actors are manifold and far from being homogenous.

Moreover, the women's cooperative movement attracted the interest of commercial producers of edible oil. The result was the establishment of argan oil enterprises in areas external to the region. Such enterprises relied on kernels already prepared for refining, which these external factories bought up in the small local markets in the Souss region. Accelerated competition for the collection of argan fruits has further complicated property relations and rules of access to the forest plots where local residents have usufruct rights. In addition to the market for renting irrigable surfaces for cash cropping, usufruct grazing rights have also become increasingly incompatible with oil production from the forest. What then was the outcome of these development interventions? When we focus on the interactive and translation processes triggered by oil kernel exploitation of the argan forest, it becomes obvious that the cooperatives did not lead to a reduction or even replacement of the traditional sharecropping and pasturing in the forest. On the contrary, a new wave of competition over increasingly scarce resources took place. As we turn to the Canadian case study, we will find many attributes of the translation process in common with this Moroccan experience.

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<sup>23</sup> *La Direction Régionale des Eaux et Forêts du Sud-Ouest* (DREF-SO), see <http://www.dref-so.ma/>.

## **Case 2: Aquaculture Site Licensing in the Bay of Fundy**

The area of coastal New Brunswick<sup>24</sup> that lies along the Bay of Fundy is a complex marine environment, with unique tidal waters<sup>25</sup> and estuaries hosting several important commercial species (lobster, scallop, herring, groundfish, gaspereau). These rich coastal waters have historically supported a multi-species fishery that has long been the economic mainstay for coastal communities. Boats of less than forty-five feet in length work the inshore waters with differing kinds of gear at various times of the year (lobster traps, scallop rakes, nets). There is also a unique weir fishing industry, utilizing weirs fixed to the ocean bottom and into which tidal currents guide schools of migrating herring. The inshore fishery is primarily family-based. Sons often follow their fathers into the fishery. Thirty years ago, wives and daughters were also heavily involved, working to process the catch and to repair nets, tend to paper work and help with sales. For this region of the Bay of Fundy, there are now approximately 325 lobster, 200 ground fishing and 217 herring weir licenses (Southwest New Brunswick Marine Resources Planning Board 2008). However, many of the commercial fish stocks that support this multi-species fishery are currently in decline. Groundfish (cod, haddock, pollack) stocks have effectively collapsed and lobster is now the primary catch for most small fishing enterprises.

As in the Moroccan argan forests, a stepwise introduction of technological innovation and normative change has significantly transformed the fishery. This transformation has been turned into a simple story, one that identifies local inshore fishermen as environmental culprits, and that justifies reallocations of resource rights. In the Bay of Fundy, rapid change was first introduced through a government-sponsored program of boat and gear modernization that was represented as the solution to coastal poverty. Larger engines and new bottom trawling gear that scooped fish into nets was to replace the labor intensive baited hooks on long lines. However, modernizing the fishing fleet required significant new capital investments. Some fishermen were supportive of modernization, but many others were concerned that the high investment costs would lead to corporate concentration and destroy the family nature of the fishery. Responding to pressure from fishing communities, the government designed regulations to protect the “owner operator” nature of the fishery; to obtain a license to fish, the owner of the boat had to be the operator of the fishing enterprise. However, under-the-table partnership agreements and financial arrangements between fishermen and processors rapidly proliferated. The new technology also created much higher catch levels, so that the old approach to family-based processing no longer sufficed, and many fishing wives became employees in industrial assembly-line fish processing plants.

Larger boats and engines also led to different fishing patterns, including trips that lasted multiple days and reached deeper offshore waters. This in turn led to the development of mid-shore and off-shore fleets capable of following stocks to their breeding grounds. Most fishing nations modernized their fleets in this way, and new normative rules followed that nationalized lucrative fishing areas, such as the extension of national exclusive economic zones (EEZs) to the two hundred mile limit.

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<sup>24</sup> There are three Maritime Provinces in eastern Canada: New Brunswick, Nova Scotia and Prince Edward Island. The participatory research project from which this data is drawn is investigating the role of community in integrated coastal and ocean management in all three of these provinces (see <http://www.coastalcura.ca>). I am grateful to the Social Sciences and Humanities Council of Canada for funding this research, and to the Max Planck Institute for Social Anthropology for supporting the writing of this paper.

<sup>25</sup> With a 17 meter tidal range, the Bay of Fundy is tied with Ungava Bay for the highest vertical tidal range in the world.

Globally, stock declines in commercial fisheries followed closely on the heels of these changes. Many of these new technologies (including bottom trawling) and fishing patterns are now implicated in the widespread marine ecological crises.<sup>26</sup> As with many other nations, the Canadian government responded to the crises by introducing quotas to control the volume of fish landed. However, it was the modern and efficient mid and offshore fleets that received the bulk of these new property rights in fish.

Despite this allocation, it has been the traditional, small-boat inshore sector that has taken much of the blame for stock declines (see Wiber and Kearney 2009). The problem, according to fisheries economists, was a classic commons dilemma, with too many 'self-interested' fishermen chasing too few fish (see Wiber 2005). As in Morocco then, government policies were biased in favor of large-scale producers. Fisheries regulations were designed to 'stint the commons' by systematically reducing the traditional sector (see Wiber 2000). While these programs took thousands of Canadian inshore fishermen out of the fishing industry and destroyed the economy of many coastal communities, they have not noticeably slowed the stock declines. Ironically, it is the small inshore sector of the fishing industry that has most successfully survived stock declines, and lobster is now the primary mainstay to the inshore fishery.

In the Bay of Fundy, as in the Moroccan Souss, various interests have responded to stock collapses and other marine ecology problems, some of them using a moral argument about ecological responsibilities and some of them linking to international agendas. For example, an international designation as a UNESCO Biosphere Reserve was sought for the upper Bay. As the Bay is the primary feeding area for threatened right whales and of many migratory bird species, it is a favorite tourist destination. A local group of marine scientists and tourist-based businessmen formed around the idea of the UNESCO designation in 2000, and managed thereafter to gain both sufficient local support and the needed government funds to further the effort. The federal government announced the reserve in September 2007. The impact of this designation on environmental issues in the Bay has yet to be determined. Other efforts have formed around the international agenda to increase the number of marine protected areas.<sup>27</sup>

It is in this ecological and economic context that the fisheries departments of both the federal and provincial governments have promoted aquaculture as a potential replacement for the declining capture fishery.

As in the Moroccan case, technological innovations transformed the potential for local resource use, and as each new technology was introduced, property transformations multiplied. In 1979, for example, when the first aquaculture sites were developed in southwest New Brunswick (Anderson 2007), they were small, family run operations established on privately held herring weir sites. Placing aquaculture cages on former weir sites eased the introduction of this new industry since it did not initially create new spatial demands in the crowded coastal marine environment. Soon, however, the high capital demands of the industry and fierce international competition in the finfish sector made family operations vulnerable, and most were quickly bought out and the industry was consolidated into the hands of a few international businesses. In order to compete in a context of expanding global supply, these operations began to expand operations.

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<sup>26</sup> See [http://www.seas-at-risk.org/news\\_n2.php?page=174](http://www.seas-at-risk.org/news_n2.php?page=174) (accessed March 2009).

<sup>27</sup> For more information on marine protected areas and the role of the 2002 Johannesburg World Summit on Sustainable Development in promoting these, see <http://www.fao.org/fishery/topic/4400/en> (accessed May 2010).

While many coastal communities in southwest New Brunswick initially welcomed aquaculture as a new source of economic growth, the industry soon sparked considerable conflict. In part, this is a result of the dramatic growth. One study found that between 1970 and 2000, world wide aquaculture had grown at an annual compounded rate in percent of 8.9 per year, compared with 1.4% for capture fisheries and 2.8% for terrestrial farmed meat production systems over the same period (Tacon 2003).<sup>28</sup> Near shore production in open net cages accounts for over half of this growth, and is the dominant form of aquaculture practiced in the developed north. New Brunswick has followed this growth trend. By the mid 1980s, for example, the southwest New Brunswick coast had become a primary site for salmonid (largely *Salmo salar*) aquaculture in open net cages. By 2005, provincial aquaculture production was valued at \$205 million for a volume of approximately 37,000 tons. There are currently 97 aquaculture site locations along the Fundy coast of southwest New Brunswick, including licenses for finfish species (Atlantic salmon, cod, halibut) as well as bivalves (mussels) and aquatic plants (Anderson 2007). As with the Moroccan cooperatives, aquaculture is touted as having created employment, nearly 4,400 direct and indirect jobs in rearing, harvesting, food processing, and cage and net manufacturing (New Brunswick 2007). In addition it has been endowed with the character of a more ecologically sustainable food resource (remarkable given some of the issues we recount below), while the traditional fishery has been castigated as rapacious and destructive.

After an initial period of rapid growth, however, the industry experienced several problems, including: overstocking in cages, large bouts of disease (particularly Infectious Salmon Anemia), sea lice infestations, market gluts with resulting profit declines, and questions about the safety of their product. Increasingly, both federal and provincial levels of government have been investing considerable public resources to keep the industry viable (New Brunswick 2007). In the past year, the growing problem of sea lice infestation has led some aquaculture operations to deploy chemicals not approved for use in an effort to control these invertebrates.<sup>29</sup> These chemicals resulted in the death of many lobsters in adjacent waters (Rayner 2009, 2010). It is becoming increasingly clear that the environmental impacts of finfish aquaculture are difficult to control, but this has had little impact on the moral tone of the arguments of the industry itself, or of government regulators. It has, on the other hand, fueled the moral arguments of the inshore fishermen.

In late 2008, following the sharp economic downturn in global markets, dropping lobster prices threatened the economic survival of those remaining New Brunswick fishermen in the inshore sector. They began to cast about for partners in their political efforts to support their industry. As in Morocco, there are numerous government agencies involved in regulating natural resources, including the federal and provincial departments of fisheries, of the environment and of local development. These agencies have become increasingly involved in moral talk, with fishermen, with aquaculture operators, and with coastal residents. A forum to address the impact of aquaculture on the traditional fishery was recently established in southwest New Brunswick called the Traditional Fisheries and Aquaculture Working Group. Fishermen want this group to fund research to adequately assess the impact of aquaculture on traditional capture fisheries. The provincial bureaucrats that attend such meetings, and the aquaculture industry itself, often respond that aquaculture is an efficient way to use the natural resources of the region to create jobs. They

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<sup>28</sup> The United Nations Food and Agricultural Organization (FAO) recently called for aquaculture production to double again (Jowit 2009).

<sup>29</sup> Sea lice are a global problem affecting finfish aquaculture operations wherever they are found. For a recent account of Norway's problems see Hoelting (2010).

also suggest that to continue to tax the deeply stressed natural stocks is environmentally immoral. Agents of the Federal Fisheries and Oceans Canada, a bureau responsible both for promoting the fishing industry and for protecting coastal and ocean waters, have argued that they ‘speak’ for the natural stocks, and that they have the legal mandate to protect stocks by controlling fishing effort. Fishermen respond by pointing to past failures on the part of regulators to protect stock health, and calling on both the province and the federal government to protect ocean habitat from what they perceive to be the harmful effects of aquaculture.

Other problems are created by conflict for marine space (Wiber 2004). As with the expansion of possible (conflicting) uses for the argan forest, there has been a significant expansion of human uses of coastal areas; aquaculture is one more industry elbowing for room in the near shore marine environment. Conflicts have erupted when boats transporting materials and workers to and from aquaculture sites cut the buoys from lobster traps, leaving traps irretrievably on the bottom, where they continue to catch lobster until key components rot. Lights and noise from aquaculture operations deflect herring from herring weirs, and serves as a nuisance for coastal land owners. Water quality changes around aquaculture sites are linked to rapid starfish population growth, and these starfish are said to decimate commercial scallop beds. Diseases or parasites among caged salmon can infect wild fish stocks. Public beaches are littered with garbage from aquaculture operations (feed bags, discarded netting). Waste from aquaculture operations (fish faeces and food pellets) promotes green algae or seaweed blooms that foul lobster gear and beaches. Poor water quality may also be implicated in recent scares over paralytic shellfish poisoning in lobsters that have arisen as a result of traceability requirements and that have closed some international markets for Bay of Fundy lobster. Such issues have added to the conflict over management of coastal zones, and have created considerable public resistance to aquaculture developments.<sup>30</sup>

As in the Moroccan case, the proliferation of this type of conflict has led to some state agents supporting transnational sustainable development approaches. For example, the 1992 Rio Declaration (Agenda 21, Chapter 17)<sup>31</sup> particularly endorsed ‘integrated management planning’ in order to find the right balance between environment and economics.<sup>32</sup> It also addressed good governance standards by promoting public involvement in planning. Canada subsequently used the language of integrated management and of public consultation in drafting the 1996 *Oceans Act* (Canada 1996).

Mindful of this, the province of New Brunswick introduced a new policy in 2000 for the approval and licensing of near shore sites for finfish aquaculture<sup>33</sup> that mandated a public consultation process so that community ‘stakeholders’<sup>34</sup> could provide input to the site selection process. However, the policy also attempted to limit problems of disease and sea lice infestation by

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<sup>30</sup> See the online site for “Friends of Port Mouton Bay” at <http://www.friendsofportmoutonbay.ca> for an example of community resistance.

<sup>31</sup> For the relevant text, see [http://www.un.org/Depts/los/consultative\\_process/documents/A21-Ch17.htm](http://www.un.org/Depts/los/consultative_process/documents/A21-Ch17.htm) (accessed March 2009).

<sup>32</sup> Integrated management has since taken on many meanings. For an early definition see GESAMP 1996.

<sup>33</sup> The responsible provincial department introduced the *Bay of Fundy Marine Aquaculture Site Allocation Policy* and the *Bay of Fundy Marine Aquaculture Site Allocation Application Guide*. In March 2007 the required legislation to mandate the policy was passed.

<sup>34</sup> The term stakeholder was developed to refer to community members who are affected by policy or management decisions and who thus have a ‘stake’ in the outcome. But it has become increasingly contested for reasons that will become apparent in this case study.

requiring that aquaculture operators maintain a separate site for each of three production stages.<sup>35</sup> The result was to significantly increase the required number of aquaculture sites that were required. In a region that is considered by many users to be overcrowded, the required expansion of aquaculture sites has not been readily accepted.

One group that is concerned with aquaculture expansion is the Fundy North Fishermen's Association (FNFA). The FNFA was established in the mid 1980's as a not-for-profit fishermen's organization that represents license holders as well as crew members in southwest New Brunswick. The association has approximately 75 members,<sup>36</sup> and participates as a 'stakeholder' in all consultations affecting the fishery in their area of coastal New Brunswick. As most of the province's finfish aquaculture is located in traditional fishing grounds off the coast of southwest New Brunswick, FNFA has concerns about the impact on wild stocks and on fishermen's access rights. The organization participated in the new site selection process in the hopes of making their concerns known. Like other recognized groups with a stake in such decisions, the FNFA viewed this as an opportunity to promote a more participatory and transparent approach to marine planning, and one that would place some constraints on new environmental demands; however, their experience did not quite live up to this expectation (see Curtis, Wiber and Recchia 2008).

As in the Moroccan case, Canadian fishermen want normative security; but they are confronted with many overlapping normative orders and jurisdictions in managing natural resources. In the Canadian regulatory environment, international conventions, federal regulations and provincial policies all interact. And as in Morocco, the objectives of these various policies are not often in alignment. Even within one department, conflicts can exist, as with the somewhat conflicting mandates of the federal Fisheries and Oceans Department. When the federal government and various coastal provinces recently signed agreements to devolve regulation of the aquaculture industry to the provinces, environmentalists protested that this allowed the federal agency to ignore the tension between environment and economics. Many provincial governments addressed the problem by regulating aquaculture as if it was land-based agriculture. This arrangement has been recently challenged, however, by a 2009 decision of the British Columbia Supreme Court, which ruled that the provincial regulation of aquaculture was *ultra vires* (beyond its powers).<sup>37</sup> Justice Christopher Hinkson stated categorically that aquaculture was a fishery and not agriculture. As such, it fell under federal regulation. While it is unclear how this will affect other provinces where aquaculture is found, the resolution of such multiple and often conflicting levels of jurisdiction is a 'good governance' goal that remains elusive.

Fishing and aquaculture must share marine space with many other users, including industrial and recreational shipping, tidal power, tourism, and marine protected areas. Each of these activities has a corresponding supportive bureaucracy. Increasingly, fishermen are being squeezed out as other (mostly industrial) users are given priority for ocean space. As a result, there has been considerable push back from coastal communities when new projects are proposed. The resulting discourse has a

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<sup>35</sup> The policy specified that operators keep only one generation of fish per site in a three year cycle; year one, salmon smolts are moved to open water, year two, fish grow to adult phase and year three, salmon are harvested and the site must remain fallow for the year. Each of the three sites must be located in a separate Bay Management Area (BMA) (Anderson 2007).

<sup>36</sup> Some fishermen choose not to join fishing organizations, although they benefit from negotiations and agreements between FNFA and the local office of Fisheries and Oceans Canada/provincial regulators. Fishermen with multi-species licenses may also hold membership with other organizations such as the Fundy Weir Fishermen's Association.

<sup>37</sup> To read the decisions, see [http://huffstrategy.com/MediaManager/Media/Text/1234219693\\_Motion.pdf](http://huffstrategy.com/MediaManager/Media/Text/1234219693_Motion.pdf) (accessed March 2009). See the Atlantic Salmon Federation website for more information on its potential impact: <http://asf.ca/news.php?id=334> (accessed February 2009).

moral tone that is comparable to the Moroccan case, and events unfold with similar translations among the various agents involved. Fishermen are blamed for environmental degradation and they protest in turn that industry (including aquaculture) is the real problem. Meanwhile, good governance models raise countervailing tendencies; stakeholders protest lack of government transparency in decision-making. The government, meanwhile, argues that the important stakeholders are consulted, and important decisions cannot be made by consensus as this allows economic growth and regional development to be held hostage by a few local dissenters. Even the settings for consultation are disputed in moral tones. The formal consultation sessions are never sufficiently clear of the taint of the influence of power. Not all stakeholders are equally influential. For example, proposed tidal power installations on the southwest New Brunswick coast resulted in town hall style consultations in coastal communities to discuss alternative site locations. But given the political connections of the tidal power proponents, many residents of coastal communities felt that formal hearings would make little impact on government decisions. And indeed, the provincial government allocated several experimental development sites before the community consultation process was completed.<sup>38</sup>

Fishermen found the formal consultation process on the expansion of New Brunswick aquaculture sites equally unsatisfactory. There is a committee that was supposed to facilitate coordination between federal and provincial agencies with regulatory authority in the marine environment. When fishermen were invited to attend and present their comments and concerns to this inter-agency advisory body they expected an open process of debate and discussion. But the formal process was not set up to encourage moral talk. Invited stakeholders were only given 20 minutes to make a presentation to the committee, the presentation was not done in front of other stakeholders, nor did stakeholders hear each other's presentations, so there was no opportunity to debate the conflicting moral values that were driving decisions. As a result, many parties have turned to other informal arenas to make their case.

The fishermen, for example, were very concerned about the Maces Bay area, which was being considered for three new aquaculture sites, but which fishermen consider to be an important nursery area for commercial stock. Knowing this, an official from the local office of the federal Fisheries and Oceans Canada gave the fishermen a map on which they had identified six sites said to be suitable for aquaculture development. They suggested that if the fishermen could identify three among these sites that would least impacted their fishery then it might be possible for the local office of the federal agency to obtain an exclusion zone somewhere else in Maces Bay area. FNFA held meetings with its members to consider this proposal, but the membership wanted an exclusion zone to protect all of Maces Bay and a moratorium on further aquaculture growth until coastal resource management plans had been completed, scientific studies had been conducted on habitat areas of concern, and specific aquaculture – fisheries conflicts (e.g. gear loss) had been addressed. Other fishermen's associations and fish processors in the region were then contacted to organize political resistance and media campaigns. This led to direct meetings with representatives of the aquaculture industry.

At first this industry-to-industry consultation promised better outcomes than involving the government. An example will help illustrate the point. After many years of petitioning the relevant provincial departments to require that all aquaculture boats have cages on their propellers to

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<sup>38</sup> This is according to the individual that was asked to facilitate these consultations (Arthur Bull, personal communication).

prevent damage to lobster gear,<sup>39</sup> FNFA finally went to the press and also sent letters to their local politicians. Soon after the story appeared in the press, the largest aquaculture operator agreed to meet with fishermen. The fishermen prepared for the meeting by manufacturing an example of the sort of propeller cage they wanted to see installed. After the group adjourned to the parking lot to examine the prototype, the aquaculture operators agreed and have now installed such cages on their vessels. However, this promising beginning was blighted when site licensing and sea lice chemical issues were also leaked to the press. Aquaculture operators felt unfairly stigmatized.

Outstanding issues remain to be addressed including the fisheries request for an eight year moratorium on aquaculture development to develop a joint industry growth plan, site buoy markings for vessel traffic, and the tendency for operators to increase overall site size when relocating sites. Unfortunately, the technological innovations that have been introduced in successive waves keep triggering unexpected ecological ramifications, and as moral talk proliferates about how to handle these, the alternative property distributions, the most sustainable technological responses, and the potential ontological outcomes also proliferate. Focusing on the moral talk that translates ideas, technological innovations and political terminology into a desired future outcome allows us to trace the connections that may or may not be successful in achieving those outcomes.

### **Moral Talk in Property Transformations**

#### *Whose Moralities?*

A comparative lens enables us to unpack an entanglement of patterns common to both case studies as well as contrasting features. For example, in both case studies some actors seem eager to engage in a conversation about values and morality (Moroccan peasants of the Souss, fishermen of New Brunswick) while others want to talk down to educate others on the correct moral stance (development agency officials, environmentalists, bureaucrats). Scalar issues of whose morality arise in both cases. In the Moroccan case the transnational actors anticipated that the peasants, villagers, and women engaged in oil production would not necessarily share a common moral ground with them. Similarly, environmental activists assume that local Canadian fishermen will not support a global agenda of marine protected areas. In both cases, external agents attribute this difference in the moral assessment of environmental issues to different horizons of experience and overviews of global phenomena. The locals in turn ask how their local interests are to be acknowledged in this global moral discourse on responsibility. They view the moral approach of external actors as ignorant of local living conditions and of the moral quality of local economic arrangements. Thus, despite the differences – in Canada there are no international development interveners, although there are international ecology agents – there are significant congruities in this entanglement of attitudes.

In both cases there is a top-down approach coupled with an informational bias and lack of information appears to contribute to moral talk. In the Moroccan case the locals are suspicious of international agents as they do not have ready access to full information in order to assess their motives. The Canadian fishermen, while on the surface much better positioned in this respect, are

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<sup>39</sup> It is important to note here that the moral talk around damage to lobster gear is not characterized solely as a financial issue for individual fishermen. Lobster ‘ghost traps’ have been characterized both as an economic and an ecological problem by affected fishermen.

equally suspicious of a government and aquaculture industry that appear to be working so closely together. They suspect that both have more information than fishermen do, and that this information is being kept from them.

There are differences, however, in the way that local actors challenge moral talk, and these differences reflect the differences in the constellations of actors and the differences in information flow. The Moroccan encounter resonates with the typical top down expert talk where local participation is meant to follow the suggestions of experts while the Canadian constellation shows stakeholder participation that on the surface indicates more room for manoeuvre for locals. For example, fishermen can address a public that has proven to be sensitive to environmental problems that may affect their food sources and their health. And some fishermen are better informed about the interests and strategies of their counterparts than the Moroccan villagers. But not all fishermen are in agreement about how to respond to such pressures, and there is a similar incoherence among the respective Moroccan camps. The diversity of transnational intervention is reflected in the diversity of moral discourse at the grassroots level. There are villagers who act as partisans of development agencies while others adopt the counter perspectives of transnational Islamic activism. Finally, a third major group seeks to maintain a local version of morality in a critical discussion with the others.

The comparison of state involvement also shows comparable and contrasting features. In both cases, for example, there is no evidence of a coherent state concept and strategy for the management of resource exploitation and the regulation of access. And both cases show competing structures of governance that include various entanglements with external, economic actors. In the Morocco argan zone, however, entanglements between civil society organizations and state agencies enrich these features of governance differentiation and network building. Large parts of Morocco's civil society are state monitored. They react to signals sent by state authorities. In so doing, the expectation is always to find within the thicket of inconsistent signals those that best reflect the 'authentic opinion' of the central political power and to be in conformity with those. These variations in the composition of networks, in the relationships of dependency, in the degrees of loyalty of experts towards state policies and global governance policies contribute to different degrees of legal insecurity that occur within the two settings.

In both cases the external actors follow a logic of morally legitimized interventionism; in the context of development cooperation, there is little evidence for what Quarles van Ufford et al. (2003: 25) have called agents "sensitive to the necessity of non-involvement". What the comparison clearly shows is that those who invest do so within a highly focused ontological vision – whether it is the government in Canada investing public resources to keep the aquaculture industry viable or the transnational donor community identifying argan oil production as the best investment to match all development goals.

#### *Technology, Normativity and the Moral*

As Latour (2002: 251) argues: "(...) it is more adequate to speak about technologies in the mode of the *detour* than in that of instrumentality. Technology is the art of the curve, or what (...) I have called 'translation'." Our case studies reveal the interconnections of technological innovation with moral assessments and legal repertoires, and of all of these with translations. The local Moroccan legal model for sharecropping that reflects local notions of reciprocity, solidarity and moral commitment is the consequence of local adoption and adaptation of technological innovation. This

allows peasants to participate in the world market economy as self-determined producers through the production of cash crops that meet the expectations and needs of Western consumers. However, whereas this technological innovation was praised for its positive environmental effects in other circumstances – water saving drip irrigation technology – it has been criticized in the case of peasants in the Souss because it allows for the exploitation of a protected forest area for cash crop production. In the Canadian case, new boats and equipment for the fishery in the Fundy Bay was initiated through a government program that was supported by economic advisors because it allowed for maximum utility of available species. On the other hand, many fishermen challenged the new technology as unsustainable, which it appears to have been in the long run. In both cases, then, the normative and ecological consequences were a significant influence on further rural transformations. As Latour (2002: 252) notes: “(...) we have *changed the end in changing the means* (...)” (emphasis in original)

The second wave (or curve) of technological innovation in both cases also shows a mixture of similarities. The transformation of traditional weirs into aquaculture farms and the transformation of traditional oil processing in Morocco into mechanized cooperative production displays similar features of industrialization and wage labor practices.

So, ontological politics matter, we argue, when the normative power of technological innovation is put in the centre of analysis. Technological attempts to reduce the ‘inefficiency’ of traditional resource exploitation was in the Moroccan case undertaken by Moroccan NGOs whose members were enthusiastic about connecting the forest with transnational issues, the empowerment of rural women and participating in an economy of solidarity. In the Canadian Maritime it was government institutions that developed programs for a more efficient exploitation of ocean resources. In both cases, however, technological innovation is accompanied by moral talk and has an effect on normative registers that refer to working time, working conditions, property relations, and many other issues.

The second wave of technological innovation, for example, relies in both cases on local people serving as employees in transnational businesses and reflects external notions of ecological responsibility. In the case of argan oil refinement, machines allow for the implementation of the transnational legal model of production in cooperatives. However, the same technology paved the way for a commercial production that led to quite different normative patterns and that competes with the cooperatives for scarce argan nuts. Similarly, in the Canadian case, aquaculture has become industrial fish farming on a scale not envisaged by those weir owners who first introduced it to the Bay of Fundy. And now both herring weirs and traditional fishing practices are competing for space with expanding fish farms.

Both models reflect moral standards and position actors in moral relationships that involve many scalar interactions. The cooperative model may forge new local moral ties through an alternative ‘solidarity economy’ (Allard et al. 2008), but also promotes new ones between the western ‘fair trade’ consumer who buys expensive argan oil and the female workers in Morocco they hope to support. And the decisions taken by rural actors in Morocco on the appropriate way to combine their livelihood requirements with the demands of transnational ontological politics are informed by a rudimentary transfer of knowledge about the attitudes and sentiments of the client to be attracted.

Similar alternative futures and arguments about cross scalar linkages can be seen in the Canadian case. While in the Moroccan case, mechanized cooperatives raise the moral claim for economic

solidarity in the global marketplace, the Canadian case seems to be working in the opposite direction. Consumers are presented with ‘consumer advice cards’ developed by transnational environmental organizations. Here the moral choice is between eating fish caught by the capture fisheries or those raised in aquaculture cages. These cards rank seafood according to the environmental damage associated with their harvest and generally lump all capture fisheries together, ignoring differences between old and new technology. They generally support aquaculture as more ‘ecofriendly’ and fail to recognize the problems with actual local aquaculture practices. The remaining inshore fishermen respond by launching media campaigns that focus on the iconic nature of the traditional fisheries, and by appealing to the marketplace to ‘buy local not global’.

In both cases it can be noted that the downwards-directed moral talk of international actors is not attached to any responsibility for the resulting rural transformation, especially given the seeming inevitability of their preferred ontology. All subsequent and unexpected outcomes can be blamed on intransigent locals. In this interaction the moral agency of various actors is or is not linked to the cloud of possibilities generated by alternative choices.

#### *Property Relations and Access to Resources*

We have argued that the methodology that considers the intersection of technology, morality, and normativity will help us to analyze ongoing changes in rural property relations through better understanding of transscale interactions. In both our research sites, environment and food production are part of the comparative frame. Livelihoods are dependent on access to local resources, given local production methods of small boat inshore fishing (Canadian Maritimes) and of farming (the Souss). In both cases much of the local production takes place in commons that are considered state property. In both sites, these production methods are viewed as traditional and backward by agents with new economic or political agendas. In both areas, external links first facilitated amendments to production inputs through technological introductions such as boat materials, engines, nets, new productive varieties of tomato seeds or fish breeds, rubber hose for irrigation, fertilizer and pesticides, oil processing machines and aquaculture cages. Both areas developed links to access credit or public dollars, and both developed new markets. Increasingly, rural livelihoods are diversified using such links to other places. This is particularly noticeable when the products the rural has to offer change or became differently defined by those who have the power to do so. Rural valuables (some of them monetized) are not only the products of rural production such as fish, meat, cheese or grain, but also include nature conservation areas such as marine protected areas, forest and watershed reserves for urban uses, coastal amenities for local tourism, or world heritage sites. In both our research areas, UNESCO Biosphere Reserves have emerged. In both areas, alternative technologies and the agents that have introduced them are often favorably viewed as a modernizing alternative. At the same time, and paradoxically, nature has not only been recast in both our research sites as a measurable commodity, but also as an immeasurable (and threatened) spiritual and moral category.

As a consequence, in both our cases, access to what might be termed a commons has been dramatically changed. In the argan forest, individually-held fields for rain-fed barley production were easily turned over to common grazing land after harvest. But those same fields took on a different meaning when turned into sharecropping sites for tomato production. Individual access rights to plots in the forest became a tradable good and the associated bundle of rights and

obligations has been rearranged. With the setup of argan oil cooperatives, reforestation has tremendously disturbed power relations within the constellation of actors who are involved in the management of the commons and has weakened the access rights of the most vulnerable. Meanwhile in Canada, fish in the ocean were turned into quota that could be allocated by government to their preferred industrial partners. And sites for weir fishing took on a comparable property transformation when turned into aquaculture sites, whose owners then pushed for ‘tenure in the sea’. These and other competing uses for ocean space have weakened the access rights of local fishermen. In the Moroccan case, when traditional production (argan oil) was linked to international markets for bio products, competition increased over access among those who held traditional usufruct rights in the protected forest. And the creation of Biosphere Reserves in both locations has added to the complexity. The development of qualitatively new ways to create property rights (Hann 2007) and the creation of new resources, as mentioned in the introduction, thus materialized in our case studies in the form of fish quota, bio-labelling (fish, argan oil), and fair trade standards for rural production. These in turn are now connected to a new western dominated industry of certification and traceability. This appropriation is compatible with the moral standards on the consumers’ side, as moral criteria increasingly also affect the choice making of consumers.

## **Conclusion**

Our analysis shows that sometimes one ontological reality prevails at the expense of another – and individual property owners (inshore fishermen or peasants) become employees in someone else’s business (aquaculture companies or argan oil cooperatives). In the dominant ontological politics, there is no place for peasants in the argan forest or for a small inshore fishery in the Fundy Bay; in fact, getting rid of former traditional property relations appears in both cases a consequence of the integration of rural space in transnational economy of the commons. Thus we come to what Law (2009b) calls ‘collateral realities’, emphasizing the power differentials and the political in the ‘doing’ of realities. Collateral realities in our examples appear enacted by practices resulting from an assemblage that includes the translation of technologies, the moral talk accompanying such processes and the transformative capacities of their normative reading. The collateral realities enacted by local practices are designed to represent on the one hand sustainability, environmental protection, and an appropriate way of exploiting resources, while on the other hand livelihood, normative security and so on.

Carrithers (2005: 440) talks about “the ceaseless action and reaction of people upon each other” which matches quite well with the approach of Latour (2003) and Law (2004). Under certain conditions, perhaps moral talk is the precursor to finding common ground and steering a common future? But we find that we cannot forget power in making these observations. We must draw attention to the real on the ground outcomes of this moral discourse and resulting political realities. Are any of these production methods really any more ecologically sustainable than the others? The question about impacts on equity and on local labor practices is also important to reiterate here. These real implications link us back to points we made already earlier (Turner and Wiber 2009) about transnationalism, legal pluralism and rural property transformations. We returned to these points in this paper as the basis of comparison.

In considering our two case studies, then, we see four main points that emerge from a comparison of property transformations in our field sites. First, a focus on actors/projects/arenas allowed us to trace out the connections and resulting translations between scalar levels. Second, it is obvious that these actors increasingly carry moral arguments into the debates about defining access rights to resources, sometimes through their links to transnational religious movements and sometimes through other moral framings (ontological politics). Examples include ‘good governance’ being characterized as ‘participatory’ and ‘transparent’; ‘sustainability’ being defined as stewardship to address global environmental problems; and ‘economic development’ being tied to ‘gender equity’. Third, we must acknowledge the real impacts of these various property arrangements in terms of changes of access to needed resources and in terms of resulting debates about equity, social justice, and ecological sustainability. Ontological politics has serious consequences. In both our research sites, ecological destruction continues apace. Technology may be the trigger, but the outcome has not been intended by any actor.

In this sense, our final point has to do with the observation by many actors that rural spaces are increasingly “over-regulated and under-governed” – the battle between high modernism (the wide perspective, the big plan, the technological fix) and truly participatory decision making is ongoing. It would appear that high modernism is continuing to have an impact in many instances, but the consequences are not what we were promised. In providing illustration of each of these points, we have shown how the impulse to realize technological potentialities is continually measured against moral standards and potential outcomes. In the politics of the possible, rural property transformations seem to have a great deal in common, wherever they are experienced.

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