IS THERE INDIGENOUS KNOWLEDGE IN THE MIDDLE EAST?

TOWARDS A REASSESMENT OF KNOWLEDGES IN
MANAGEMENT OF COMMON POOL RESOURCES

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1. Introduction

An important insight established in Common Property studies is that local communities' capacity for fair and sustainable resource management relies on practitioners' situated knowledge. In the context of CPR studies such knowledge is most commonly conceptualized as traditional ecological knowledge (TEK) or indigenous knowledge (IK). Yet, IK and TEK are almost totally absent from scholarly work on the Middle East. In this paper I discuss reasons for this absence, but also invoke a more fundamental discussion of scholarly approaches to the role of knowledge in resource management.

IK and TEK are typically either implicitly or explicitly contrasted with science. Paralleling this contrast is an academic partitioning of tasks that in effect mean that different bodies of theories and scholarly work focus on IK/TEK and science respectively. In this paper I take issue with this partitioning of the field of social studies of knowledge. I argue that not only the "content" of the various traditions of knowledge, but also the contexts within which conceptualizations such as IK or "science" work and that make possible their existence should be examined. If we focus too much on IK/TEK as the contrast to modern science we risk ignoring, suppressing or failing to acknowledge many kinds of practical knowledge.

I question how, and why, IK/TEK has achieved prominence in some socio-geographical locations and not in others. With regard to studies of the Middle East, it is notable that there is not only a lack of attention to IK/TEK, but that the whole field of natural resource

management[1], and especially locality based rules and practices of common property resources is marginalized. Middle Eastern authorities themselves do not employ labels such as IK or TEK in their approach to natural resource management. The lack of studies on natural resource management, IK and TEK in the Middle East stands in stark contrast to a pronounced academic interest for – and partly also a managerial focus on – TEK and IK in for example Africa, India and North America. There seems to be close parallels in research interests in IK/TEK and CPR (see figure 1).
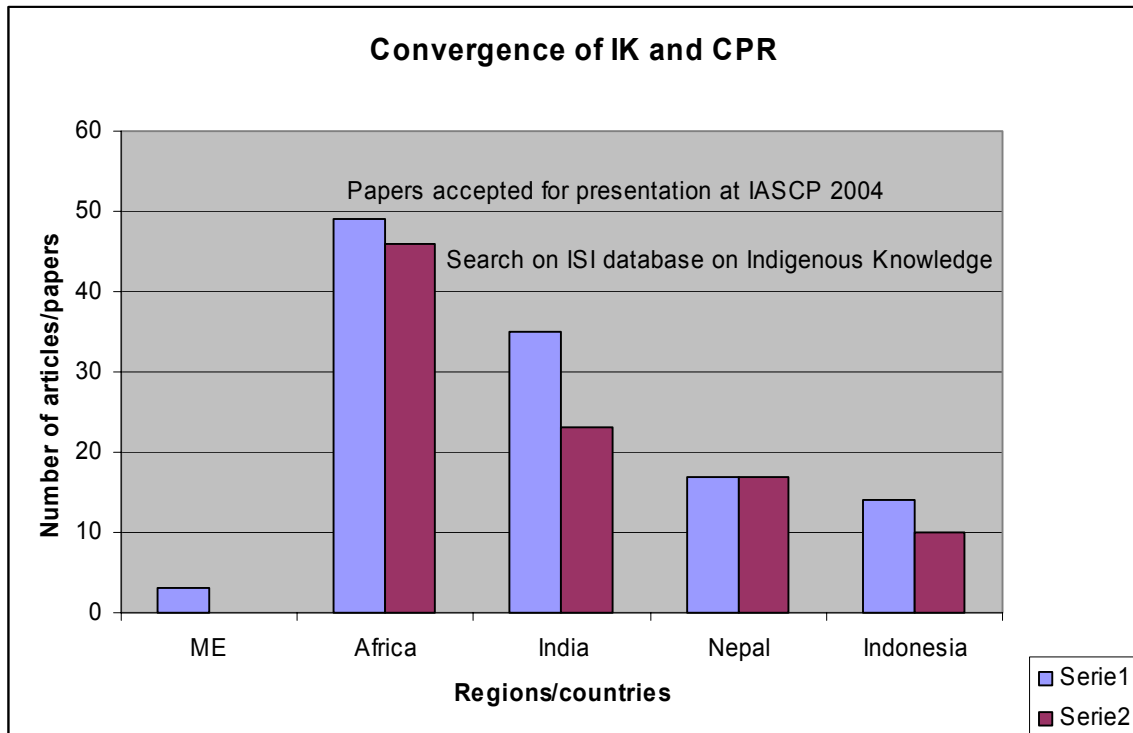

Figure 1. Convergence of research interests in CPR and IK.

I have done fieldwork among fishermen and marine scientists on the eastern Black Sea coast of Turkey since 1990 and studied, among other things, adaptational strategies, resource management, and common property in the Turkish Black Sea fisheries. In relation to this I have sought to analyze different ways to know the sea and the fish. Early in the research process it became apparent that it would be difficult to employ categories such as IK or TEK to characterize fishermen's knowledges. Fishermen do not belong to a "marginal" indigenous group. They are ordinary Turks. Neither is it appropriate to describe their dynamic knowledge and use of advanced technology as "traditional" (in the conventional meaning of the word). Yet, it is apparent that fishermen's knowledge is constituted and organized in ways that differentiate their knowledge from scientific knowledge. I have, therefore, strived to develop conceptual tools that can identify both differences and similarities between fishermen's, bureaucrats' and scientists' knowledges without resorting to labeling fishermen's knowledges IK and TEK.

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[1] The only natural resource management concern in the Middle East that has recently received substantial attention relates to management of water resources, especially at the level of inter-state relations.

2. Science, indigenous knowledge, and "other" knowledge

It appears that there are two distinct ways in which state bureaucracies relate to local practices and knowledges in resource management: (1) local knowledges will sometimes be acknowledged as IK, TEK or the like; and, more commonly, (2) resource management is approached through science and technology while local knowledges are completely ignored. In the first case knowledges and practices are assumed to be embedded in a particular social group. Each such group is thought to be knit together by a shared identity that simultaneously differentiates it from the larger society, from the majority population in modern nation states. Such groups are typically "natives", indigenous, marginal and peripheral. The perceived challenge of science in cases like this is primarily to map, translate and archive the knowledges of these peoples[2]. In the second approach, science is accorded the role, and authority, to generate rational and "synoptic" knowledge that can guide modern management and replace "backward" and development inhibiting traditions. Scholars commonly make a distinction between IK/TEK and science. Academia can therefore be said to largely support this hegemonic discourse.

There are, in principle, important differences between IK and TEK. TEK is primarily used to refer to "eco-friendly" traditional knowledge that small populations, typically employing simple technology, use in their relation to their natural environment. This kind of knowledge is commonly romanticized in the western discourse. IK points more towards a politicized context in which minority groups with distinctive culture, identity and knowledge are opposed to majority population and national state. IK and TEK are, however, often used interchangeably. Fikret Berkes, one of the primary spokespersons for TEK, describes TEK as "indigenous knowledge in ecology" (1999:4), hence categorizing TEK as a sub-category of IK.

IK, and to a certain extent TEK, is supposed to be tightly knit to a people's "way of living" which frequently attains an iconic position in their "culture" and identity. This is often strongly related to politicized conflicts over identities and resources. Hence, natural resources, way of living, knowledges and identity are seen to overlap or even constitute a totality. An assault on one of these is therefore easily seen as a threat to the whole complex. In such situations, scholars – in particular anthropologists – often take on important roles on the side of the indigenes. Models and theories associated with IK and so forth are unquestionably important tools in such identity politics. The motives behind academic and political elaboration of and defense for IK and TEK are virtuous: alternative knowledges are accorded authority and the daily practices and livelihoods of marginal peoples are given a better chance of survival.

IK and TEK are both epistemologically grounded in anthropology. Such knowledge is sometimes presented as – in relativistic-idealistic spirit – ethnoscience, ethno-epistemology, or "native" science. The use of these concepts now stretches far beyond anthropology and have they have become key concepts in "environmental management"

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[2] See e.g. Berkes *et al* 2001. For a discussion of the problems inherent in such an approach, see Agrawal 1995.

(see Berkes *et al* 2001). I contend that the IK/TEK research agenda entails several problems:

a. **Wide ranging assumptions about "indigenous knowledge" and "indigenous culture".** A way of living and culture is essentialized and reified (cf. debate about "tradition" (Handler & Liennekin 1984) and "kastom" (Keesing 1989)). This may imply that a heterogeneous and dynamic resource management regime is essentialized and fossilized. At the same time IK becomes polysemic in that it can refer both to a particular *kind* of knowledge and to political aspects of encounters between ethnic minorities and national states (Brush 1993).

b. **IK and TEK are often romanticized and sacralized[3].** It is often assumed *a priori* that IK, TEK, "eco-cosmology" and the like are "eco-friendly" and represent values that lead to actions that are ecologically sustainable. Whereas this position has been criticized within anthropology[4] (Brosius 2000, Kalland 2000), it seems to prevail in some other disciplines and within parts of the public discourse about environmental problems and indigenous populations.

These two issues have been discussed extensively elsewhere and are not my main concern. I will discuss in more detail the following issues:

c. **The science vs. IK/TEK dichotomy is excessively simplistic**. What about those people who cannot mobilize the rhetoric and politics of IK and TEK to legitimize their knowledge, guard their way of living, and protect the natural resources upon which they depend for survival? This is the predominant situation in, for example, the Middle East and in Europe. Which theories and concepts are we to use in studies and analyses of their knowledges?

d. **The narrow focus on the contrast between IK/TEK and science**. This design results in knowledge not being problematized beyond the challenge of "translating" IK/TEK to schemes or models compatible with the scientific discourse or the needs of managers (see e.g. Ellen et al 2000 for a critical discussion of this). One effect of this is that the academic literature on IK and TEK is not much concerned with the social construction of knowledge, nor the role of history and power in the formation of knowledges[5].

e. **Significant geographical bias in description and analysis of IK and TEK**. It is common to employ labels such as IK and TEK in studies of some regions, for instance in Sub-Saharan Africa, Americas, South and South-East Asia. In studies of other regions, such as Europe and East Asia, it is less common to focus on IK and TEK (see table 1). Below I discuss in detail the almost total absence of these

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[3] It is telling that Fikret Berkes' (1999) book subtitled *Traditional Ecological Knowledge and Resource Management* carries the main title *Sacred Ecology*.
[4] Yet, is still reproduced, see for example Århem 1996.
[5] For a recent exception, see *International Social Science Journal*'s special issue on Indigenous Knowledge (No. 173, 2002).

concepts in the academic debate about and in state approaches to resource management in the Middle East.

3. IK and TEK as blinders (issue c)

Although there is currently some attention globally to IK and the like in academia, public discourse and governmental management, it is much more common that local knowledges are ignored or regarded as a problem. It is not uncommon to conceptualize technologically simple fisheries in peripheral and marginal regions of the world as TEK[6]. It is, however, quite uncommon to use terms like TEK when researchers describe and analyze the knowledge of fishermen who participate in technologically advanced industrial large scale fisheries in the North Atlantic. Yet, such fishermen clearly depend on non-scientific practical knowledge and skills accumulated and developed through the generations[7]. In "modern" societies the knowledges of the industrial worker, the civil servant, peasant and fisherman are rarely studied as IK or "practical wisdom". When there is no political reason for defining a situation as a case that involves IK or TEK, their knowledges are, rather, understood as (rational) bureaucratic practice and/or technology and technical knowledge. Science is thereby authorized as the legitimate experts in these fields. This science/technology/bureaucratic rationalism complex is most elegantly united in econometric practice, for instance in bio-economic models in fishery management.

I claim that too much focus on IK and TEK as representing the antithesis of science blinds us to a much larger and more important question: why is so much everyday local knowledge – peasants'', forest dwellers', fishermen's, nomads' and craftsmen's knowledges – not acknowledged and accepted by the authorities? Rather, it is ignored, suppressed or efforts are made to supplant it. At the same time as much local knowledge is ignored, those possessing that knowledge are, paradoxically, often stigmatized as ignorant (Knudsen 2003a). Local, practical wisdom is not visible to the states' and ruling classes' synoptic views and is easily marginalized in relation to schemes for modernization and development (Scott 1998).

There exist alternative concepts and models to describe and analyze the knowledge people employ in natural resource use and management. Some of them, such as "local knowledge", "practical knowledge", and "practical wisdom" have already been used in this text. Others include "folk knowledge", "everyday knowledge" and "situated knowledge", as well as attempts at creating new concepts, such as *techne* (Ingold 1993), *metis* (Scott 1998) and "citizen science" (Fisher 2000). Most of these concepts are broader and more general, as well as less romanticizing and politicizing than IK and TEK. Still, most are constructed in contraposition to science. I think "local knowledge" is an acceptably broad and general term that has the advantage of requiring additional information and analysis to make sense: What is the degree of formalization and inscription? How is the knowledge socially organized and institutionalized? What is its history and relation to other traditions of knowledge?

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[6] For an example, see Berkes *et al* 2001.
[7] See Pàlsson and Helgason 1998 for one of the few studies of traditional practical knowledge in modern industrial fishing.

Latour (1987:229) has claimed that science is only one kind of local knowledge, implying that the difference between modern science and other traditions of knowledge is more a question of difference of degrees than of character.

4. Towards a symmetrical approach to knowledge (issue d)

The theoretical grounding of IK and TEK is relatively shallow. The most important defining characteristic is, actually, its underline difference to science[8]. IK and TEK are typically seen as personal, bodily, situated, tacit, non-scriptural knowledge, while science is characterized as general, formal, distanced, systematic and scriptural. Within the humanities and social sciences there has evolved a partitioning of work whereby different scholarly traditions focus on IK/TEK and science respectively.

Science and Technology Studies (STS) and Sociology of Scientific Knowledge (SSK) have been rapidly growing fields of study during the last 20-30 years. Work within these traditions has especially concentrated on studies of advanced science in Western societies and has generally employed a social-constructivist perspective. SSK and STS can trace their roots through Kuhn back to Ludwig Fleck who, inspired by anthropology, studied how the development of a blood test for syphilis was related to contemporary ideas within diverse "thought collectives" (Fleck 1979 [1935]). Fleck believed that all knowledge - including science - was socially constructed and emphasized cultural and historical dimensions in the establishment of traditions of knowledge (Gonzales *et al* 1995, Nader 1996).

Studies of IK and TEK have their intellectual roots in Malinowski's studies of "native science" among the Trobriand (Malinowski 1922). Out of this grew the ethnosience tradition that particularly focused on classificatory systems. Through a detour via structuralism (e.g. Levi Strauss 1969) this tradition evolved, among other things, into studies of "indigenous knowledge systems". Studies within this school have primarily striven to document and analyze the cognitive or cultural "content" of "Their" knowledge and have mostly used models for classification and cognition derived from linguistics. From around 1980 this tradition has been partly appropriated by a new development discourse in which a central tenet has been that the success of developmental projects depends upon local participation and knowledge[9].

Anthropology was an important source of inspiration for both STS and IK/TEK research traditions. Fieldwork, including participatory observation, is still among the methods of preference in both traditions. Despite these similarities there is today hardly any dialogue between them. There is almost a total ignorance of STS and SSK among those studying IK and TEK, even though science is often held in contrast

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[8] Or, alternatively, IK and TEK may be given quasi-scientific legitimacy by elevating them to ethno-science, thus construing such knowledge as a sub-category of science. In any case, definition revolves around science.

[9] Prominent scholars within this discourse, such as D. Brokhensha, D. Warren and R. Chambers all contributed to an incorporation of IK in the development discourse. See Berkes 1999:5 and Ellen 2000:13. For an example of how IK is now incorporated and implicated in the discourse about development and aid, see Brokensha 2001.

when IK and TEK are defined. STS has been theoretically braver and more innovative, but has still largely focused on "Western" science. This partition of work, especially the categorization of certain kinds of knowledge as indigenous, results, as Pàlsson (1995:5) has noted, in the reproduction of the distinction between "Us" and "Them", of the myth that we live in different, incommensurable worlds. Why has this common kind of "Us-Them" construction not been much used in studies of the Middle East?

5. Marginalization of IK and TEK in the Middle East (issue e)

In the Middle East resources such as water and pasture have often been managed by clans, segmentary desent groups or villages in accordance with customary law, often outside of Sharia and State law (Attia 1985, Barth 1964, Gilles *et al* 1992). Yet, the documentation of the customary management of natural resources in the Middle East is, overall, limited and it is, therefore, difficult to paint a general picture of local level forms of resource management in the Middle East. Most studies of natural resource management in the Middle East were undertaken during the 1950s to the 1970s. This was a period when kinship, social organization, economic processes, household dynamics and resource management were central topics in anthropological studies in the region. A majority of the studies focused on pastoralism because this was the prevalent way of living among tribal groups - the primary object of study in this period.

Many nomadic pastoralists - with their own specific way of living, identity and use of definite natural resources - embody characters that should easily lend their knowledge for analysis as IK or TEK[10]. The academic tradition focusing on pastoralism, kinship, local social organization and so forth had, however, passed its age of glory <u>before</u> it became common to conceptualize local knowledge in resource management as IK or TEK, even before "local knowledge" itself was set on the agenda in academic literature and in development policy. The early research agenda for the Middle East, with its focus on tribes, economy and ecology, lost momentum and has not articulated much with newer agendas related to sustainability, environment and development. This is clearly demonstrated by a search on the article data base ISI (Table 1).

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[10] And, surely, some recent studies of Bedouins in Egypt have focused on their indigenous knowledge. But this is an exception rather than the rule, and such studies are not represented at the forefront of the academic agenda (see table 1.).

	Ecological Knowledge	Indigenous Knowledge	Natural[11] Resource Management	Environmental Management	Journal *Human Ecology*[12]	Religion	Religion + Politics	Religion + State
Africa	10	46	50	65	46	208	43	18
Indonesia	3	10	9	13	10	31	4	4
India	1	23	17	31	16	261	38	32
America	6	5	22	34	15	612	120	23
Canada	13	11	4	48	4	108	8	6
Japan	1	0	0	25	1	99	4	11
Middle East	0	0	0	0	1[13]	51	15	7
Turkey	0	0	2	2	0	33	9	16

Table 1: Results from search on the article database ISI, December 2003 (all databases: science, social sciences, arts and humanities, http://isi3.isiknowledge.com/portal.cgi?DestApp=WOS&Func=Frame).

	Middle East	Africa	India	Nepal	Indonesia	Thailand	China	America	Canada	Japan	Brazil
Digital Library of the Commons (1998-	3 (109)[14]	129	91	18	27	78	20	125	191	9	24
Comprehensive Bibliography of the Commons	< 1000 (5105)[15]	5879	2689	1293	738		535	7917	1511	345	469
Papers IASCP '04	3	49	35	17	14						

Table 2: Results from search and survey of literature on CPR (http://dlc.dlib.indiana.edu/, http://www.iascp2004.org.mx/indexeng.html).

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[11] Search of Morocco, Yemen, Afghanistan: 0, Pakistan: 2

[12] Search of all articles in all volumes of the journal *Human Ecology*.

[13] This is an article on Mongolia, but with a comparative note on the Middle East.

[14] A search of "Middle East" yielded 109 references. However, the database catalogues references with regional grouping "Middle East & South Asia". A detailed survey of the 109 references discloses that the main bulk of the papers concerns India, Nepal and Sri Lanka. Only three are studies of Middle East situations! Search of individual countries yielded the following results: Morocco (1), Algeria (0), Tunisia (2), Egypt (0), Iran (0), Pakistan (1), Yemen (2), Lebanon (0), Syria (2, two versions of the same paper), Saudi Arabia (0), Iraq (0), Turkey (2, but both were only references to Fikret Berkes' work in Turkey).

[15] This is mostly "South Asia", see previous footnote. Search of individual countries yielded the following results: Morocco (48), Algeria (11), Tunisia (26), Egypt (62), Iran (37), Pakistan (267), Yemen (15), Lebanon (34), Syria (33), Saudi Arabia (11), Iraq (7), Turkey (52).

The Middle East is also conspicuously absent from the scholarly debate on CPR. Searches on The Digital Library of the Commons, maintained by the Indiana University (http://dlc.dlib.indiana.edu/) and a survey of papers accepted for presentation at this conference, reaffirm the tendency indicated in table 1 (see table 2).

Why has natural resource management disappeared from the dominant academic debates about the Middle East, and why have IK and TEK not been included in discourses about the Middle East? Below I discuss and assess five possible reasons.

a) The academic emergence of Islam
Reconfiguration of political relations between the West and the Middle East, together with a perceived "Islamic awakening" in the region itself, has brought Islam to the forefront of scholarly attention. For social scientists and historians Islam has emerged as the main challenge for societies in the Middle East and for our understanding of the region. While Islam was a marginal topic in social scientific studies of the Middle East during the 1960s (Gilsenan 1990:237), political agendas, funding institutions and the media have together stimulated the emergence of Islam in academic discussions during the last decades. Relations between religion and politics is the "hottest" agenda at the academic frontier of Middle Eastern research (see Table 1). Underlying this is a widespread assumption that Islam may be an obstacle to democratization. Thus, studies of Islam in the Middle East are often coupled with agendas such as democratization, civil society, human rights and the state.

Islam and its relationship to politics and the state is now regarded to be of more immediate importance than, say, local knowledge in natural resource management. That Islam and politics have attained such dominant roles in the public and academic discourse concerning the Middle East is probably the single most important reason for the marginalization of IK and TEK in Middle Eastern studies. "West-Islam" now functions as the dominating "Us-Them" construction and pushes aside alternative images, such as "The West/science vs. IK/TEK".

In the applied science of aid and donor organizations and among some native scholars natural resource management in the Middle East is still an important area of concern. Yet, politicians, bureaucrats and academicians increasingly regard the Islamic organizations' or movements' involvement in politics, as well as the states' often brutal response to or, alternatively, appropriation of the Islamic forces, as the most immediate challenge to development and modernization. Increased attention, internationally, on democratization, civil society, NGOs, participation, empowerment, farmer-first and bottom-up and so forth has, as mentioned, furthered interest in IK and made it into a politically correct concept. The Middle East does not, however, figure much in the international academic discourse about development aid and participatory development strategies. While certain countries in the region, in particular Egypt, Jordan, Lebanon, Israel and Palestine, receive considerable aid, this appears to be tightly knit to the Israeli-Palestinian conflict. In the context of this politicized identity conflict, "indigenous" is obviously a problematic term to apply.

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It is striking that when IK is mentioned in studies of societies in northern Africa, reference is made to the importance for IK in development in Africa[16]. In the academic discourse about development and IK it is apparently suitable to consider northern Africa as sharing characters and challenges with the rest of Africa, and not with the Middle East. Perhaps Middle Eastern studies are overdetermined by the "West-Islam" construction? On another level, one may also say that most people in the Middle East are "indigenous Muslims". They are therefore not easily described as indigenes; rather, they are a majority population in the region and part of a global Muslim civilization.

b) Critique of orientalism and crisis of representation in anthropology

I noted above the early anthropological focus on local social organization and strategies for adapting to natural environments among tribal societies in the Middle East. During the 1970s this tradition came to be challenged by both a "meaning and reality" camp and a "political economy" camp (Gilsenan 1990). They criticized the anthropology of the Middle East for focusing primarily on assumed ahistorical yet typical tribes and villages. While anthropologists had directed their attention primarily at nomadic tribes, these constituted only one percent of the total population of the Middle East. Before anthropological research on the Middle East came to grips with the challenges and developed an approach more sensitive to historical dimensions and social complexities of city and state societies, it was paralyzed by two related critiques within the humanities and social sciences: the postmodern or reflexive turn and the critique of orientalism.

Thus, conventional anthropological knowledge was progressively disputed, first by the interpretive turn and the Marxist critiques during the 1970s, such as the "political economy" critique of Middle East anthropology mentioned above. The subsequent crisis of representation was foreshadowed in the humanities, exemplified with Said's work on Orientalism (Said 1979) and the general postcolonial critique. In the crisis of representation in the late 1980s, postcolonial critiques merged with the critiques of the potential for language to refer and represent. This was heavily influenced by postmodernism and deconstructivism in, among other things, literary studies. The two critiques - of postcolonian/orientalism and representation - were at times fused, for instance in Stephen Tyler's strong statement that "the whole ideology of representational signification is an ideology of power" (1986:131).

After this critique and others in the same vein, the ethnographer's presence in the field was no longer sufficient to sustain the authority of ethnography. The possibility and legitimacy of representation was questioned. Clifford, one of the major proponents of what came to be termed the reflexive turn in anthropology, suggested that anthropological studies should…draw attention to the historical predicament of ethnography, the fact that it is always caught up in the invention, not the representation, of cultures…" (1986:2). In the wake of these critiques new ways of writing were explored. Especially polyvocality was used in an attempt to re-establish authority of the ethnographic text without, seemingly anyway, depending on the politically problematic authority of the anthropologist, the spokesperson.

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[16] See e.g. Ahmed 2002, Ilahiane 1996.

According to Lindholm (1995) anthropology of the Middle East tried to meet the challenge of the orientalism critique and the reflexive turn by giving "voice" to the "others" in texts that are intended to articulate natives' narratives (e.g. Abu-Lughod 1993, for an early example, see Crapanzano 1980). Yet, all in all, there is good reason to assume that the amount of anthropological work in the region declined during the 1980s and 90s. In effect, the Middle East was marginalized with respect to the larger anthropological project.

The two first issues discussed here, the academic emergence of Islam and the collapse of Middle East anthropology, concern dynamics within academia and the frameworks through which scholars study and represent the Middle East. These two different, we may even say opposing, trends have probably had dissimilar effects in different disciplines. But I believe that both of these developments are important causes for the lack of attention on IK, TEK and resource management in the Middle East. I find, however, that it is insufficient to isolate explanation for the lack of IK and TEK in Middle Eastern studies to trends and assumptions within academia alone. Rather, I think it can be fruitful to re-engage the agenda of political economy and historical anthropology on the Middle East and discuss processes of social change in the region. Many of the arguments made below are tentative or indicative rather than conclusive. There is clearly a need for further elaboration and discussion of these complex issues. This paper should be read as an invitation to further study of these issues.

c) Ignorance of Customary Law in the Middle East

Discussing social change in the Middle East with a view to local knowledges I have found it fruitful to adopt a comparative approach on the development of law, especially the status of local or customary law. There seems to be some correlation between legal pluralism and high formal/state acknowledgement of customary law, on the one hand, and the articulation of IK and TEK on the other. Reification or formalization of local practice, rules and litigation as "customary law" obviously facilitates codification of terms such as IK and TEK. Earlier studies in the Middle East documented widespread use of customary law in local level natural resource management[17]. Yet, legislation in Middle Eastern states acknowledges this only to a very little extent. Why is there presently so little attention paid to customary law in the Middle East?

Islamic law acknowledges custom and customary law (*adat, urf*). Ethnographic studies of the Middle East have, however, paid scant attention to local customary laws. The lack of such studies is striking if we compare with ethnographic studies in e.g. Indonesia. Organized, political Islam was regarded by the colonial power as one of the greatest potential threats to its control in Indonesia. This was likely the primary reason the colonial regime choose to support leaders who ruled according to local, "traditional" laws and stood in opposition to Muslim leaders. Even though the concept *adat* stems from the Arabic-Islamic tradition, in Indonesia it came to signify non-Muslim practices and non-

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[17] See for example Barth 1964, Bates 1974, Grønhaug 1974, Serjeant 1968, 1980.

Islamic law with a more local character[18]. The Dutch tried to some extent to control the colony through indirect rule. Where this was the case, they prepared comprehensive studies of local practices which henceforth became essentialized and reified as *adatrecht* - "customary law". *Adatrecht* became an important "scientific" tool for classifying, managing and controlling the cultural complexity within the colony.

In the young Indonesian national state, established in 1949, *adat* was not ignored. Rather, the *adatrecht* movement was reinvigorated when the Indonesian Supreme Court in the late 1950s "...claimed that the revolution had propelled Indonesians towards a new, national kind of adat law..." (Bowen 2003:13). *Adat* gradually became essentialized and folklorized, but was simultaneously presented as authentic Indonesian native law. It was regarded as a bulwark against foreign impurities of every kind: Western positivism; Middle East dogmatism; and Indian feudalism (Geertz 1983:229). In Indonesia there came to be established a structure of law that, in addition to Western "universal" law, included religious law (primarily Islamic) and *adat* law. *Adat* and *adatrech* have become touchstones all political ideologies and programs in Indonesia must relate to.

The continued pervasive use of this in the new Indonesian State has been criticised for stimulating reification of local practice and "invention of tradition". However, based on a very detailed ethnography of *adat* (village institutions) and *dinas* (Indonesian state), Carol Warren (1993:299) concludes that "[a]*dat* institutions in Bali offer a legitimate frame of discourse and an organisational base through which power can be asserted at local level in the ongoing negotiations or relations between village and state". The inclusion of *adat* and *adat* law in Indonesian constitution and judiciary does not mean, however, that the State always acknowledges and actively encourages custom, customary law and associated forms of local and traditional forms of resource management. While the Indonesian Law of Agriculture (1960) recognizes *hukum adat* (customary law) and *hak uyalat* (communal territorial rights) as the legal basis for rights to fields, there is no mention of such laws and rights in the Indonesian Law of Fisheries (Bailey and Zerner 1992:12).

It was to a large extent the experience with colonialism that stimulated the codification of customary law in Indonesia and sub-Sahara Africa. How do developments in the Middle East depart from developments in other regions? At a general level, customary law and Islamic law have to a much lesser extent than in, for example, Indonesia been separated in the Middle East. It is difficult to find unambiguous reasons for this, and this paper can only accommodate a superficial discussion of four interrelated issues. First, the Middle East was penetrated by colonial powers to a lesser extent than the other regions mentioned here. Where Western powers did establish colonies, they did not stimulate a project comparable to the *adatrech* movement in Indonesia[19]. They did not articulate customary law as an alternative to Islam. Rather, Islam and tradition were generally merged in the colonizers' picture of the societies they administrated in the Middle East. In a study of systems of law and practices of conflict resolution, June Starr speculates

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[18] For summaries of the debate about *adat* in Indonesia, see Geertz 1983, Warren 1993, Benda-Beckman 2001 and Bowen 2003.
[19] With the possible exception of Morocco.

about the possible reasons for the non-codified status of customary law in Turkey. She argues that in Africa, and we may add Indonesia, it was the experience with colonial rule that stimulated the codification of "customary law". "Because Turkey was never colonized, local actors never had to maneuver to safeguard their leadership positions, and no localized "law-ways" developed as a preserve of local leaders that paralleled the preserve of African colonial leaders, namely customary law" (Starr 1992:179-181). This may be part of the explanation, but not the full story.

The lack of differentiation between custom and Islam in the Middle East is not a product of Western influence and colonialism alone. As a second issue, we may thus note that Muslim scholars in the Middle East have not elaborated *urf/adat* as something in itself, but regarded these more as an appendix to Islamic law. Sharia legitimized use of customary law when written sources and "interpretation" was insufficient to give a ruling on a case (Messick 1993: 182-83). According to this position there can be no *urf/adat* law independent of Sharia. That Sharia has increasingly incorporated and formalized customary law (Stewart 2000:888) can be interpreted as Sharia colonizing custom, thereby contributing to formalization and standardization of custom. Custom has to a large extent become Islamized.

This relates to a third issue: State initiated standardization projects in the Middle East are not a result of colonialism and modern statehood alone (see below). The Middle East cannot be characterized as having been a heterogeneous hodgepodge of local traditions before the West attained influence in the region. The Ottoman State, in particular, was a modernization force in itself. In Muslim courts in the Ottoman Empire Muslims judges enforced both Sharia and secular law (Shaw 1976:135). These secular laws were at the outset based to a large extent on *adat* (ibid.:120) or "ancient" law/tradition (Tezcan 2000) and, therefore, varied accordingly from place to place in the empire. The first comprehensive collection of all customary law within the empire (1499) included chapters that pertained exclusively to specific groups (Imber 2002:249). Yet, already from the 16th century forces within the Ottoman Empire sought to standardize laws. This process resulted in the gradual marginalization of customary law. Thus, it was an endogenous process within the Ottoman Empire that resulted in the establishment of a universal standard that little by little came to exclude codification of local, customary law. The law book from 1499 was in itself an expression for the desire to collect and standardize local secular law into one single "Ottoman Law" (Imber 2002). The Ottoman State retained control and influence in large parts of the Middle East even after modernization processes had begun to make their imprint on the region. Many places in the Middle East the first reforms towards state standardization and bureaucratization were actually implemented under Ottoman rule.

Thus, contrary to what Scott seems to imply in his discussion of "transformative state simplifications" in *Seeing Like a State* (1998), standardization of laws, measures, space and the like was not a phenomenon that first developed in new European states and then were exported to new contexts[20]. In the Ottoman Empire, and most likely in other empires such as the Chinese, there was a high degree of state imposed standardization

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[20] Scott primarily draws his examples from France, Russia and Germany.

that both ignored and transformed local traditions. Bousquet (1960:170) has claimed that "Law" – be it Sharia or Western codes of law - has gained prominence in most Muslim countries at the expense of custom. When the Turkish Republic was established in 1923, the introduction of a secular universal code of law was innovative in that the law excluded Sharia and religious authorities. But, one cannot say that the law was a novelty in terms of its ideals of universalism and standardization.

The forth issue concerns developments in the postcolonial period. In the first phase of this period most of the regimes in the Middle East, including those never colonized, pursued a modernistic development policy that to a large extent privileged techno-scientific knowledge and imported Western models (see e.g. Mitchell 2002). At the same time, many of the new national states in the Middle East have implemented a more militant policy of cultural standardizations than has been the case in Indonesia. The strong identification of custom with Islam, at an ideological level, has often resulted in the conception of custom as a problem in states with strong secularizing policies, such as Turkey, Egypt or pre-revolutionary Iran. As a case in point, one may note that among the 20 national centers for Indigenous Knowledge globally there are two in Indonesia, but none in the Middle East[21].

There is, moreover, reason to believe that states that incorporate Islam in their ideological framework, coming to depend upon Islamic authorities and symbols, privilege a modernistic and universal form of Islam which seeks to standardize local and religious variation and heterogeneity into one authoritative norm. This might happen, for instance, when a national or universal code of proper Islamic dressing displaces a multitude of local traditions of dressing that each by itself is regarded, by the locals, as decent with respect to Islamic norms. When states mobilize Islam in the standardization of law, knowledge and identity to try to increase the state's influence and control, those aspects in the Islamic cultural tradition that provide space for local heterogeneity are liable to be marginalized.

To summarize this survey of issues relating to custom and customary law, I will make the point that external and endogamous dynamics have worked together to either incorporate custom in universal law (Islamic or other) or marginalize customary law. In the modern Middle East customary law generally does not have the status as a thing in itself.

d) Few indigenes?

Endogenous standardization of law, together with colonial policies and postcolonial modernization efforts, has probably resulted in some loss of cultural plurality. Most populations in the Middle East are affected by modern nation building projects, and some states have been through tough processes of enforced homogenization. In addition, a consequence of economic and ecological change is that the connection between identity and ecological adaptation is often not as strong as it once was. Many people whose ancestors were pastoral nomads can no longer relate their identity to a particular way of

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[21] Over time there has been some variation in this list. Other Muslim countries have also been on the list, notably Bangladesh and Iran. For reference, see www.nuffic.nl/ik-pages/addresses.html or www.panasia.org.sg/iirr/ikmanual/address.htm. See also Berkes 1999:18-19.

living. Can one therefore conclude that the Middle East retains fewer "indigenous groups" than for example Africa and Indonesia, and that this is a primary reason for the lack of attention to IK and TEK? I find it difficult to answer this in the affirmative. Although there may be less cultural heterogeneity in the Middle East than in South East Asia or in Sub-Saharan Africa, the Middle East is nonetheless characterized by substantial ethnic and religious heterogeneity; the ethno-ecology retains its complexity and has partly moved to new sectors. Occupations such as construction work, factory work or entertainment may, many places in the Middle East, be characterized by an ethnic division of work.

Yet, groups that depend on forestry, pastoralism or sedentary fishing and so forth have, admittedly, become increasingly fewer and more marginal and should therefore constitute less of a threat to the identity policies of those nations in the Middle East concerned about common heritage and culture. I endeavor to speculate, however, that "local, traditional or customary culture" have been found less fitting as frameworks to further group interests and protect ways of living in the Middle East than they has been in, for instance, Indonesia (*adat*) or Oceania (*kastom*, see Keesing 1989, 1992). In the Middle East political initiatives and influence are to a lesser extent channeled through, or legitimized by, reference to collective identities. Networking and personal relations, usually with a basis in kinship relations and clans, but often also criss-crossing ethnic boundaries, may be the preferred way to organize politically and forward one's interest both in the society at large and in relations with the state.

e) Isolation from global environmental discourse
The Middle East does not figure very prominently in the global discourse on environmental protection. Environmental groups, generally with a basis in Western societies, have been active in rousing concern about IK in tropical areas such as the Amazon and Borneo (cf. Brosius 2000). The interest in IK in those places is related to the global challenge of stemming the greenhouse effect. In the Middle East there are no natural resources of global importance that can mobilize environmentalists and international organizations (UN organizations and donor agencies) and their discourse of "indigenous knowledge". When it comes to the Middle East oil, a natural resource with truly global importance, it is surely difficult to associate this with "traditional ecological management". No population, no indigenous group, can argue that their particular way of living is strongly related to extraction of oil.

Related to both this issue and the first concerning the increasing academic focus on Islam, is the fact that Islam is generally not accepted among environmentalists and other alternativists in the West as an oriental "eco-centric" alternative to Western culture. Islam appears as too theo-centric, monotheistic and transcendental to constitute a "holistic" alternative to Western materialism and individualism.

In sum, a complex set of factors has caused the lack of IK and TEK approaches in policies in and studies of the Middle East: the rise of Islam in political-academic discourse on the Middle East; crisis of representation in Middle East anthropology; past

and recent endogenous processes towards standardization of law in the Middle East; character of colonial policies; and lack of natural resources with global importance "protected" by native population. I do not think that lack of indigenes is a major cause.

My own ethnographic project on Turkish Black Sea fisheries[22] has to a certain extent been forced to relate to the kind of epistemological space outlined above. Studies of Turkey typically focus on Islam, women, politics, state and international relations. The state does not recognize localized ethnic minority populations. Ethnical heterogeneity and, in particular, indigenousness, are highly problematic notions in the still young national state. Moreover, the Turkish Republic has pursued a very elitist development policy in which tradition was to a large extent seen as an impediment to modernization and progress.

6. Establishment's ignorance of tradition in Turkish fisheries

Writing in a popular overview article about fisheries in Istanbul Professor Öztürk, a leading Turkish marine scientist, asserts that Turkish fishermen, "unlike fishermen in European countries or in Japan, have absolutely no tradition for protecting the fishing grounds or controlling fishing areas" (Öztürk 2000:81). Elsewhere I demonstrate that his claim is incorrect (Knudsen forthcoming). Historical sources provide evidence of very detailed and locality-specific customary rules for the protection and control of fishing grounds in Ottoman fisheries, particularly in Istanbul. Fishing was a quite important industry and fishing grounds suitable for large fishing weirs or seining were farmed out to supply income for the State or granted as privileges to secure political support. In effect, there existed formally acknowledged locality-specific management forms in the fisheries at the close of the Ottoman era. Furthermore, ethnography (Berkes 1992, Knudsen 1995, 2001) on contemporary fishing in Turkey shows that, although of more limited scale and scope, there are also living traditions for customary, locality-based restrictions on access.

One might envision that attention to indigenous or traditional ecological knowledge together with co-management might have constituted useful management tools in the Turkish fisheries. This could have built on the traditional framework of privileged fishing rights, rented from the State and still partly in place when the Turkish State undertook to develop the fisheries from the 1950s onwards. However, that did not happen. During the 1930s and 40s state elites articulated radical "high modernism" (Scott 1998) ideals for a complete restructuring of the fisheries into industrial enterprises owned by fishermen and the State. When fishery development policies at last began to be implemented after 1950, the idealistic discourse continued and "traditional" fishing was ignored. To the modernizing and westernizing Turkish State, production and providing proteins came to be the main concerns and challenges in the fishery sector.

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[22] I have followed developments in these fisheries since 1990 and in the period 1990 to 1998 conducted approximately one and a half years of ethnographic fieldwork among fishermen and, to a lesser extent, marine scientists. During these years I have followed closely events in one particular fieldwork site, the small town Çarşıbaşı near the city of Trabzon in the eastern Black Sea region. For the historical narrative I draw upon a range of sources, most of it in the original Turkish, ranging from Ministerial reports, laws and marine science textbooks to travel accounts and encyclopaedic entries.

The growth of Turkish marine sciences was intimately intertwined with developmental ideals that instilled in scientists and other state elites, such as bureaucrats and managers, the idea of a decisive break between past traditions and new developments. Science became part of a moral project related to the Turkish nationalism and civilization effort. I survey (Knudsen 2001, forthcoming) the embedding of "high modernism" ideals in development plans, laws, bureaucratic structure, the growth of marine science as well as in policy initiatives such as the establishment of the state controlled Meat and Fish Foundation. Instead of securing taxes, fisheries became increasingly subsidized. What is common to these policy initiatives is that fisheries are squarely framed within an "agriculturalist" approach that conceives fish not as catch but as "water produce".

The vision of knowledge supported by the Turkish State is a version of the model that differentiates between indigenous or traditional knowledge on the one hand, and scientific knowledge on the other. Yet, "traditional" knowledge is mostly seen, by educated state representatives, as an impediment to development. Traditional culture is thought to hinder not only successful fishing, but also effective social organization, for example the working of fishery cooperatives. In effect, the Republican State has not acknowledged the existence of local "traditional" institutions, local culture and a structure of cooperation, let alone fishermen's knowledges or TEK. Yet, would a change in policy that identified fishermen's knowledges as TEK or IK be appropriate?

I find that conventional understandings of indigenous knowledge (IK) and traditional ecological knowledge (TEK) are unable to account for the character and complexity of the knowledge of Turkish Black Sea fishermen. I argue that a rendering of these knowledges as TEK vs. science is simplistic and insufficient to grasp their social and cognitive complexity. The big trawl and purse seine fishing boats certainly employ very advanced technology and have undergone rapid change in fishing practices. Neither can the small boat fishing sector be characterized as static or backwards. There has been a large expansion in the number of small fishing boats during the last decades. Many of these boats display significant technological development and involvement in new fishing practices.

Furthermore, fishermen's, managers' and scientists' knowledges are intertwined. The fishermen's and scientists' different understandings of the sonar, for instance, are not totally independent of one another. Interestingly, it was fishermen who owned and supported the use of sonars that in 1988 persuaded marine scientists at the University in Trabzon to undertake a study of the effect of sonar on fish - a contested issue among fishermen (Knudsen 2003b). Scientists relied on the practical knowledge and equipment of the fishermen when conducting the experiments. The results from the scientists' work on the sonar have entered popular oral discourses about Turkish fisheries. All parties accept that experimentation is the right way to test an idea. Thus, fishermen's knowledges are complex, multifaceted and intertwined with other groups' knowledges. Nor is fishing knowledge particular to any group with a shared identity. Fishing is one of many ways to make a living within the complex and dynamic communities of "ordinary" Turks along the Turkish Black Sea coast.

Along with growth and development in the fisheries evolved the concept of free and unrestricted access to the sea and fish. This was an ideal created, however, not by the State alone. It was likely also in the interest of the skippers and owners of the big fishing boats to support a concept of "open access" to seascape and fish. The change in the hegemonic conception of the sea and humans' relation to it took place at the interface between state representatives and powerful fishermen. The "knowledge" that the "sea is free for all" is not either IK/TEK or scientific knowledge: it is a hegemonic discourse shared by a variety of stakeholders, including scientists and many fishermen.

The Ottoman and the Japanese State of the 19th century managed fisheries in very similar ways and basically pursued the same interest: taxation (and corvé labor in Japan) and distribution of privileges (Ruddle 1987, 1991, Kalland 1996). Individual and "feudal" privileged rights to fishing were discontinued in Japan after the upheaval and reforms in 1868. This resembles the change from Ottoman to Republican approaches to fishery management, but in the case of Japan the traditional privileges were reintroduced after a few chaotic years. Traditional privileges and rights were subsequently incorporated in the first Japanese Fishery Law (1901) and sustained in modified form in the second Fishery Law (1949). The laws to a large extent upheld the coastal communities' privileged access to fish in their immediate coastal territories. Fishing cooperatives were allocated substantial responsibility and authority in the management of the fishing rights. Hence, the Japanese fishery cooperatives explicitly incorporate tradition and modern management in the Japanese coastal fisheries has to a large extent leaned on local traditions and practices.

This contrasts with developments in formal aspects of fishery management in Turkey. State authorities also sought to organize Turkish cooperatives, but here tradition was perceived by the state representatives as an obstacle to development. Fishery cooperatives were therefore constructed according to a "European" model and in opposition to local, traditional practice and culture. The Turkish State chose, for example, not to give any practical or symbolic role to local traditions for collective work (*imece*) in the establishment and running of fishery cooperatives (Knudsen 1998, 2001). Relying on a framework that assumed there was a decisive break between traditional fishing practices and modern fishing, bureaucrats and scientists came to think that there was little use supporting traditional practices. In Turkey concepts and models for tradition and customary law (*adat/örf* and *aneane/gelenek/görenek*) were only to a small extent elaborated and developed to give legitimacy to local practice and law. The extreme futurism in Turkish developmental ideology made attempts at syncretism between living tradition and ideal modernity irrelevant.

In practice, "tradition" at the level of codes for interaction has continued to play an important role both in the fisheries and in Turkish society at large. With the emergence of political Islam and the parallel politicisation of cultural expressions, tradition is being reinvented and to a certain extent challenges the secular, western model for development and modernization (see e.g. White 2002). There is, however, little to indicate that the revitalization of tradition promoted by Islamic activism brings more legitimacy to and secures more relevance of *adat*, *örf* and the like. To the extent bureaucrats, politicians

and scientists now talk about transferring management rights in the fisheries to villages or cooperatives, they refer to "auto-control" - a concept derived from the Western academic discourse. Yet, this position is marginal. The discourse about fishery management in Turkey is presently dominated by bio-economic thinking. The focus is on stock assessment, total allowable catch (TAC), quotas and so forth. Neither scientists nor bureaucrats, not even fishermen, refer to models such as IK or TEK.

7. Conclusions

If we are to explore the conditions under which management of CPR takes place in a globalizing world it is insufficient to limit the framework for study of resource users', managers' and other stakeholders' knowledge to the dichotomous design of science vs. IK/TEK. The approach advanced in this essay allows a broader analysis of the role knowledge plays in the management of common pool resources than provided in much of the contemporary CPR debate that tends to focus narrowly on institutions and rules. I am not content with deconstructing this dichotomy and have tried to explore alternative approaches. Several related issues are involved.

First, reliance on the simplified matrix science-IK/TEK causes much knowledge to remain invisible while scientific knowledge and technology are constituted as a-cultural and "neutral". On the other hand, it is common to consider as important the cultural aspects of local knowledge, IK, TEK and the like: people with IK "…perpetuate legacies of cultural knowledge…" (Brush 1996:1). To avoid this, SSK/STS and students of IK/TEK should talk to each other (Gonzales et al 1995, Nader 1996, Leach and Fairhead 2002), not only to bring new perspectives into each tradition ("social constructivism" to IK/TEK, "cognitive content" to STS), but, more importantly, to open the field to studies of all the knowledges that are situated between these extremes. A symmetrical approach that does not differentiate between "Us" and "Them", between traditional and modern (Latour 1993) would imply that our studies situate different traditions of knowledge in the same world and analyze them with the same theoretical tools. It is disturbing that knowledge held by people that occupy a marginal position or identity relative to modernity and the nation state are, *a priory*, assumed to harbor certain qualities (local, cultural, situated, non-scriptural, informal, eco-friendly, animistic etc.). Yet, it is at least as worrying that we often do not explore such aspects of the knowledge of "common, mainstream" people, of the "regular" citizen in modern nation states[23].

If I had chosen to limit my analytical framework to TEK/IK (as a counterweight to a science that would then have withdrawn from attention) I might very well not have been able to explore many important aspects of knowledge in Turkish fisheries. Situations where IK and TEK are acknowledged and articulated in public discourse and possibly

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[23] The agenda for a symmetrical approach to knowledge converges with the agenda of Political Ecology (Greenberg & Park 1994). Escobar (1999), one of the most important spokespersons for this direction, however, limits anthropological approach and method to only certain kinds of actors and knowledges ("organic nature") - typically IK/TEK situations, thereby reinventing the dichotomy between science and IK/TEK.

also in a state's juridical-political framework, such as in Indonesia, should also be studied using this broad perspective[24].

The second issue involved here is the role IK and TEK play in national and global discourses about knowledge and identities. Brush has argued that indigenous people are populations that are vestiges left after colonial histories have brought majority populations to a new territory. Therefore, he maintains, the label "indigenous" fits best for the New World and not for the larger parts of Asia and Africa (Brush 1996:5). Nevertheless, IK is regularly employed in these regions (see Tables 1 and 2). Why? What makes it appropriate to talk about IK in Sub-Sahara Africa and in South and South-East Asia, but not in the Middle East? I have given some partial answers to that. But there also remain other related questions to be asked, such as: why has local level management of coastal marine resources in Japan not been studied as IK or TEK?

At the same time as political and power aspects are to a large extent ignored in studies of IK and TEK, the label IK is very politicized. We should examine not only the "content" of the traditions of knowledge, but the context the labels work within and which enable their use. What useful work does the application of concepts such as IK and TEK effect in national and global discourses about knowledge? Perhaps a limited acceptance of some marginal populations' knowledge as IK and TEK makes it easier to maintain sciences' hegemony at the larger stage?

Naturalization of the nation state as the dominant or hegemonic spatial identity over most of the world, including post colonial areas, conceals or covers up the fact that those identities that are included are often instable and contested (cf. Gupta 1992:75). Within this picture references to "native" or "indigenous" populations emerge as rhetorical-political measures intended to pigeonhole and delimit "untidy" or disorderly elements that threaten to destabilize the master narrative about a world of nations.

There are parallels in the master narratives about identity and knowledge: indigenous populations/natives and IK/TEK are both tools to manage heterogeneity, plurality and ambivalences to create order and stability: the normal/common versus the marginal/peripheral. Underneath this ripples unpleasant remnants of evolutionary thinking. I think this demonstrates that the prevalent association of identities with knowledges is highly problematic. I contend, therefore, that knowledge should be analytically decoupled from identities.

Third, my arguments parallel Agrawal's call for studies of CPR to "…a) attend more carefully to processes of subject formation, and b) investigate common property arrangements and associated subject formations with greater historical depth" (Agrawal 2003:234). I have engaged comparative material to discuss the ways in which regions such as the Middle East, Japan and Indonesia were differently positioned with regard to colonialism and processes of modernization and globalization. The different histories have both conditioned the acceptance and continuity of local practitioners' knowledge, and has simultaneously affected the way scholars approach knowledges in these regions.

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[24] Bowen 2003 is a good example of the kind of study I propose.

My excursion into possible reasons for the lack of attention to IK/TEK in the Middle East has carried me precisely in the direction Agrawal proposes, and in the short presentation of my own ethnography concerning fishing in Turkey I have tried to provide greater historical depth. I have not limited my study to a preconceived body of "fishermen's traditional knowledge", but have studied fishermen's, scientists' and other stakeholders' knowledge as complex, dynamic and open traditions that interact and overlap within a context characterized by different subject positions, power arrangements and historical trajectories.

Thus, I argue that not only institutions and rules in CPR management, but also the larger historical and ideological context of Turkish Black Sea fisheries, as manifest in, for example, state modernization policies, the practice of marine science, and styles of seafood consumption (Knudsen 2003c), should be accounted for to explain the current management regime. For instance, the hegemonic discourse about "the sea is free for all" can be shown to be precisely that: a hegemonic discourse, evolved through history as ideology, technology and the economy changed. The nature of the resources, the ascendance of a mobile and capital intensive fishing fleet that preferred an "open access" regime, and the idealistic bent of Turkish modernization ideology have worked together to establish the idea that access to the fish commons is free and open.

Alternative approaches to knowledge, such as STS, Foucault's historical analyses and Scott's discussion of "high modernity" ideals and states' will to standardization (Scott 1998) stimulate us to look for aspects of knowledge often ignored in the research traditions of IK and TEK. Scott asserts that much practical knowledge is being excluded, suppressed or sought transformed by state programs and initiatives at the same time as the states' projects depend upon such "invisible" practices to succeed. A narrow, but potentially influential, new direction in studies of the Middle East emphasizes, in a Foucaultian vein, textual analysis and the investigation of state authority[25]. These studies typically discuss the role of the state in relation to different traditions of knowledge, but (except for Mitchell 2002) resource management is largely absent from these studies.

Although I would like to see more studies of natural resource management in the Middle East in the vein suggested above, I think that there is much of value to retain in the partly discontinued anthropological research tradition from the 1960s and 70s. The micro-sociological focus on local level everyday practices, culture and rules should be reinvigorated, yet set within a wider research agenda that does not see villages and tribes as static and bounded, but as dynamic and with a history. Thus, titles such as "Tribes, State, and Technology Adoption in Arid Land Management, Syria" (Rae et al 2002) and "Environmentalism in the Syrian Badia: The Assumptions of Degradation, Protection and Bedouin Misuse" (Chatty 2004) are promising, but too few.

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[25] See e.g. Eickleman 1985, Mitchell 1988, 2002, Messick 1993.

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