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DEV ODG

New Literacies, New Demands and New Technologies: The Changing Literacy Practices of Bangladeshi Fishing Communities

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New Literacies, New Demands and New Technologies: The Changing Literacy Practices of Bangladeshi Fishing Communities

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Abstract

This paper presents ethnographic insights on the literacy practices of Bangladeshi fishing communities.[1] The paper notes a distinction between literacy and schooling. There are often tensions between fishing communities and formal schooling. These reflect issues such as social and physical marginality, child labour and migratory lifestyles. Schooling, its values and curriculum may not be thought relevant to prepare children for a future in fishing, and formal educational qualifications are rarely required to enter the labour market. Literacy, on the other hand, is another matter. There is a good deal of evidence to suggest that vernacular and official literacy practices are central to the lives and livelihoods of many fishing communities. This seems to be increasingly the case, as fishing communities respond to globalised markets, co-management of resources, and the challenges of environmental protection. In addition to communicative practices, literacy can assist people to access new (non-traditional and non-schooled) knowledge required for co-management and for environmental sustainability.

The ethnographic discussion shows that literacy use is a distinctive feature of fishing livelihoods in Bangladesh, and an important resource for social and economic development. The paper applies Barton and Hamilton's (1998) distinction between vernacular and official literacies, to describe local uses of literacy. These practices include written records of credit, new digital literacies, and the role of literacy in the communicative interfaces associated with co-management. The paper shares the results of a recent study of how fishing communities value and use literacy. It concludes by arguing that building on existing literacy practices and on opportunities for mobile 'M-learning' can strengthen strategies of social and economic development, and environmental protection.

Introduction

This paper documents the role of literacy in the livelihoods and wider cultural lives of fishing communities, and argues that existing practices provide a foundation for further social and economic development. The topic of literacy and fishing has generated growing attention in recent years, but has been constrained by dominant assumptions of a deficit discourse. This reflects a wider tradition of presenting small-scale fisheries in terms of social and physical marginality.

In the ethnographic literature, fishing communities typically often operate symbolically as markers of 'otherness' – as exotic and distinctive and traditional forms of cultural practice. As Ram (1991) wrote in her study of Mukkuvar women fishers in South India; '*To write of the Mukkuvars of Kanyakumari is to write of difference*'

(p xi). A discourse of difference as marginality is foremost in her ethnographic account;

> '*The Mukkuvars are located on the outer fringes of an ancient civilisation. Beyond them is the sea, on which their livelihood depends, offering them a ready if provisional escape from the low status that caste society affords them. Their geographical location is a metaphor not only for the social and economic marginality of the Mukkuvars but for the possibilities of an independent cultural identity which this marginality provides*' (Ram 1991, pxiii).

This somewhat romantic representation of coastal fisheries is familiar to us in other contexts, highlighting distinctive occupational identities, lifestyle and economy. Within such representations, orality (and illiteracy) are contrasted with the literate traditions and schooling of the main-stream, and assumed to be the cause of under-development.

In many respects however, this discourse of marginality and otherness now appears tired and unsuited to contemporary conditions. Fishing cultures and economies are often vibrant. Globalisation integrates even the smallest fishing villages into large scale markets, and this increasingly involves the innovative use of new information and communication technologies. Fishing livelihoods play a significant role in terms of economic resources and food security, while discourses of ecosystem services, biodiversity, conservation and co-management re-position fishing communities as central actors in these processes. In addition to communicative practices, literacy may be necessary for people to access new (non-traditional and non-schooled) knowledge required for co-management and for environmental sustainability. These areas of technical knowledge are neither 'indigenous', nor are they necessarily acquired though the situated practices of fishing.

There are reasons to question the popular association of fishing communities with illiteracy or low levels of literacy. This is may in part be attributed to long-term trends in improved educational access. Raymond Firth's classic 'Malay Fishermen' (1966) noted the rapid rise of education and literacy in fishing communities. The widening of educational participation that he observed was part of the global trend toward mass literacy. Despite on-going inequalities, literacy rates have continued upward, with international commitments to universal primary education in the last decades. This is not always recognised in accounts of literacy in fishing communities, which argue that education is either under valued by fishing communities, or beyond their reach. Fatunla (1996), for example in her study of education of migrant fishermen in Nigeria argued that; '*Many children dropped out of school when they saw greater benefits in fishing than listening to a jack of all trades teacher who could not even inspire the pupils*' (p 51). A similar argument was made by Ram (1991); '*Most fishing households still regard fishing as the most reliable and readily available form of male*

employment, and to train the boys in the trade, begin their apprenticeship by seven or eight. The education of boys is therefore passed over in favour of their traditional training out at sea' (p223).   This argument seems to present illiteracy as an inevitable occupational hazard of fishing livelihoods, as fishing communities 'trade-off' education against livelihoods (Petersen and Bene 2008). While this argument appears reasonably convincing, it comes unstuck in relation to a couple of important details.

Firstly, the deficit argument fails to recognise the possible utility of literacy within fishing communities. Might it not be that an apprenticeship to fishing livelihoods involves acquiring abilities in literacy? If that was not the case in the past, it is clearly becoming necessary in many contexts.   The argument also appears to neglect possibilities that education is valued as a social good, or for opportunities of socio-economic mobility (i.e. occupational diversification). Secondly, the argument seems to fail when we look at the available research evidence.

'Since fishermen as a group are known to be backward, it would be expected that literacy rates would be lower than the populace as a whole. This however, is not quite borne out by the information available' (Gulati 'Fisherwomen of the Kerala Coast, p144).

There are few systematic studies of literacy in fishing communities. In a review of existing literature, I found that in Africa and South Asia (areas with the highest illiterate populations), fishing communities often had *higher* levels of literacy than their agricultural counterparts (Maddox 2007). Where in-depth studies have taken place, they often reveal well-established literacy traditions (e.g. see Doronila, 1996; Maddox 2001).

A further line of argument relates to the role of literacy in fishing communities and the vibrancy of literate environments. There is a strong case to be made that literacy practices are endemic in many fishing communities, being associated with written traditions involved in communication, credit, and religion.   Verrips' paper on 'Ghanaian Canoe Designs (2005) for example, provides insights into the literacy environment of fishing communities. The paper describes the markings and writing on Ghanaian canoes and notes that the complex adornment includes a wide range of iconography, pictograms, designs and written texts. These include names, sayings, proverbs from those with religious and moral content, to commercial associations, names and places, and those indicating sexual prowess and fertility;

'The texts are messages and statements, though sometimes cryptic ones, which are used to characterise and distinguish, to tease and challenge, to criticise and joke, to invoke and ward off. Together with the other decorations they turn the canoe – and this crucial means of production on which the lives of the fishermen and their families depend – into

a 'speaking' object, and entity with a 'voice', a 'messenger', or a vehicle of meaning with a particular identity' (Verrips 2005:59).

The canoe designs not only highlight a lively literacy environment, but also indicate an inter-textual link to broader practices of literacy within the communities. This level of ethnographic detail on the literacy environment is rare in accounts of fishing communities, which often contain rich detail on fishing technologies and the natural environment, but fail to recognise the what Barton (1994) describes as the 'ecology of written language'.

Textual Ecologies

In many fishing communities, there is a well established ecology of written language. This not only relates to processes of fish catching, but to wider aspects of markets, communication and culture.   Within the fishing literature, there are frequent references to 'literacies'. Many of these refer to literacy in a broad metaphorical sense, for example in terms of *ecological literacy, environmental literacy, ocean literacy, graphic literacy, legal literacy, marine literacy* and *sonar literacy*.   These terms illustrate the occupational character of fishing, the dynamics of production and technology. They also point toward particular forms of technology, knowledge systems and informal learning that are located within what Lave and Wenger (1991) would call 'communities of practice'. These terms illustrate the role of literacy in new forms of technology. Drouin (2001), for example, describes '*sonar literacy*' as the ability to interpret the images generated by fish-finding equipment, noting that '*you have to be able to read the screen*' (ibid., p 41). More broadly, the recent advance of digital technologies, such as in GPS, and Mobile phone based technologies have created 'New Literacies' (Street 2003), which are now integral to the lives of many fishing communities, including those of remote Bangladeshi fishing villages, described below.

As Abraham (2007) argues, mobile phone based facilities such as SMS texts are being widely used for personal communication, weather alerts and market information. While one should be wary of technological determinism, it is clear that digital technologies provide now kinds of communicative 'affordance' (Kress and van Leeuwen 2002), that are being used in fish finding, markets, marine safety and governance (Overa 2006; Abraham 2007; FAO 2007). They do however involve as yet under-researched issues relating to literacy use (e.g. script and language choice, modes of learning), that are described below. In often remote communities, they also provide new opportunities for mobile learning (or 'M-Learning'), which may be well suited to the informal and situated contexts of fishing communities, but which remain under-utilised by educationalists and fisheries management.

The key in improving literacy levels in fishing communities and responding to the potentials of these new technologies seems to be recognition of fishing communities as technological innovators, and the extent to which they have established literacy traditions. With this in mind, the following case study illustrates these issues in the context of fishing communities in the north of Bangladesh.

Literacy Practices in Bangladeshi Fisheries

The following case study is drawn from a series of ethnographic fieldwork visits to the North West and North East of Bangladesh (1997-1999, 2005, 2008), where I studied the literacy practices of fishing communities. The research was informed by the 'New Literacy Studies', which views literacy (and literacies) as a plural and diverse form of social practice that get their character and meaning from the social and institutional settings in which they are situated (Street 2003; Gee 2000; Collins and Blot 2003). 'New literacies' involve transformations in the way we learn, communicate, and access information (Lankshear and Knobel 2003), and are increasingly 'multi-modal' in form, located within interactive digital and audio and semiotic interfaces (Kress and van Leeuwen 2002; Gee 2003).

In the Bangladeshi context, despite widespread educational inequality, literacy practices are an endemic feature of fishing communities. That is, they are embedded within every-day social practice, and regarded as a requirement for occupational wellbeing (Maddox 2001). As practices, they have a distinctive purpose and character, being widely used for record keeping, particularly in financial transactions involving credit, which are integral to economic activity, and coping with seasonal fluctuations in income. Floodplain aquaculture of northern Bangladesh makes a significant contribution to food security and economic wellbeing (Mohsin 2007; Islam and Dickson 2007). However, it is subject to strong seasonality, and so credit, as income smoothing is a pervasive feature of economic life.

The literacy practices related to credit and financial management, range from informal record-keeping, often on scraps of paper or the back of cigarette packets, to formal ledgers in large-scale business. These can largely be described as '*vernacular*' literacy practices (Barton and Hamilton 1998). They are informally learned and used, and are not subject to external rules and standardisation by formal institutions. Often these texts are quite personal and often, can only be understood by the author. They are *normally* written in Bengali language and script, although this may be changing. Other languages and scripts are used in Bangladesh – Arabic (language and script) almost exclusively for religious purposes, and English, which is widely

used in the international NGO sector, and has an increasing relevance in higher education and in digital communication.

Genre and Process

The vernacular, every-day literacy practices in fishing are characterised by 'lists', associated with grading and distribution of fish for market, records of fish sold and their prices, and records of money lent and borrowed. These informal texts are typically written in pocket note books, scraps of paper or the on the back of cigarette packets. They involve a high degree of author agency, that contrasts with the formality of 'pass-books' for credit and saving schemes, where textual agency in production and use resides with the office holders of savings institutions.

A contrasting set of texts and practices are associated with the institutions of community-based fisheries management. In-land fisheries are increasingly subject to co-management processes. This is intended to increase yields, improve equitable access and improve ecological management. These priorities are associated with new forms of knowledge, discourse and literacy practice – e.g. on markets and yields; legal bureaucratic process of access, equity and rights; and on bio-diversity, resource management and sustainability. These processes involve the management of 'community-based organisations' and conceptions of 'group' and 'community' that co-exist and at times compete with traditional management systems and institutions. The texts and literacy practices associated with community-based management can be described, following Barton and Hamilton (1998) as '*dominant literacies*'. They are characterised by standardisation and institutionally produced and governed practices, with formal rules and textual norms. These often involve textually mediated interfaces with government and advocacy organisations. The genre of these 'dominant literacies' include narrative text, and formal language often containing technical terms and concepts. They include legal – bureaucratic texts associated with tender and lease arrangements, access and group membership; organisational rules and constitutions; and financial management; and literacy practices in technical training.

New Literacies and Mobile Technology

There is extensive discussion on potential benefits of new Information and Communication technologies in fishing communities (see for example, Abraham 2007; FAO 2007). This can be investigated in Bangladesh, where a 'cell phone culture' (Goggin 2006) has rapidly been incorporated into the daily life. The rapid application of mobile phones in fishing communities demonstrates potential for innovative

application of new technologies.[2] This change is widely observed, as mobile phones, and small note-books of names, phone numbers (and occasionally, notes of credit or debt) are now commonplace.

In my last fieldwork visit I was able to observe fishermen using mobile phones as daily practice. This had not been the case in my earlier fieldwork (1997-1999), when mobile coverage was less extensive. It represents a significant change in communicative practice, and one that has taken place largely through informal, rather than schooled learning. Mobile phones involve the development of new literacies, as people adopt SMS texts as a medium of communication. These digital interfaces are quite different to writing on cigarette packets. They use print text rather than hand-writing, and necessitate reading 'English' (Roman) letters and numerals. Where Bengali and Arabic scripts were previously dominant in fishing communities, 'English' script has been added to the communicative repertoire. At present many people use English script, and abbreviated text-talk incorporating English and Bengali are standard within more educated social groups. It is not clear how this will develop in fishing communities, where few people know English. Bengali text (and predictive text) is available, and may become more widely used as the technology is embedded.

The rapid development of cell phone culture in Bangladeshi fishing communities has created new opportunities for communication and learning, which are as yet under-utilised in the fishing sector. This ranges from simple text-based mailing of information, to more concentrated efforts to support what has become known as 'M-Learning' (mobile learning). The advocates of M-learning argue that it has capacity to support a wide range of learning (Kukulska-Hulme and Traxler 2005; Prensky 2005; Swan et al. 2005), and can support learning within socially disadvantaged groups (Mitchell and Doherty 2003; Harris 2008). This potential has in sense already been demonstrated, as fishing communities embrace new technology and new literacies.

Practices and Preferences

In research this year with World Fish Centre, Bangladesh and Karen Moore (Chronic Poverty Research Group) undertaken in the North-East of Bangladesh, we asked groups of fishermen and women to identify their uses of literacy, and to indicate the practices that were most highly valued. They identified a wide range of practices (about 15 in total), which included the literacy practices discussed above, and a diverse set of practices including reading prescriptions and the Koran, signing ones name, and helping children. The most valued included doing accounts, and a

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[2] When I began research on literacy and fishing in the north of Bangladesh in 1997 there was almost no use of mobile phones. Now their use is widespread, and in many ways they have replaced functions of written communication (especially informal letter writing).

'project' related literacy practices that are necessary for community-based management. It also included the need to help children with their learning. The picture that emerged was interesting. It supported the idea that a diverse set of literacy practices are integral to their livelihoods and daily lives. Secondly, in a context where child-labour in fishing was widespread, their response illustrated the value parents placed on their children's education. As the paper has highlighted, education may be a necessary part of apprenticeship into fishing livelihoods, and one that is reluctantly traded-off against occupational demands.

Conclusions: New Literacies, New Technologies and M-Learning

This paper has questioned the dominant discourse on literacy and fishing communities. It has argued that despite disadvantages in accessing formal education, many fishing communities have established literacy traditions. The social uses of literacy in fishing communities relate to their mode of production, and needs for written records and communication, and to wider cultural and religious practice. Where 'literacy needs' are expressed by fishing communities, they may relate to the extent of literacy uses within fishing livelihoods, and the emergency of 'new literacies' associated with co-management, trade, environmental protection. The rapid changes in information and communication technologies (ICT) such as mobile phones, has have created new uses of literacy and new opportunities for informal 'M-learning' (mobile learning).

The case-study discussed in this paper identifies three distinct sets of literacy practice in Bangladeshi fisheries; those associated with accounting and record-keeping; new literacies used in Community-Based Fisheries Management (CBFM), and those that have developed with mobile phone texts. Each of these uses of literacy is different, and form part of a more complex and rich literacy tradition involving multiple languages and scripts. These new literacies bring with them new challenges and opportunities. Bangladeshi fishing communities have been able to rapidly innovate with new forms of technology, and demonstrate the effectiveness of informal learning. The existing literacy practices form a strong base for developing new forms of literacy and learning required in co-management. Nevertheless, risks remain that educational and literacy inequalities reduce the scope of equitable participation.

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