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Problems and Prospects of User Participation in Manasbal Lake, Kashmir

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ABSTRACT

Biophysical and ecological features of Manasbal lake ecosystem specifically those that affected and altered its processes along with its unique entitlement system are presented. The study focusing on stakeholders of the system highlights the significance of the lake in relevance to user's livelihood. Problems and other constraints of the administration as well as users in the conservation of the lake through community participatory approach are highlighted. The multitude of direct functions of the lake and the changing patterns in lake fishing, tourism and Nadru cultivation are a serious concern for its sustainability. Stakeholders, their institutional priorities and property right regimes are analyzed through Key Informant Technique. Partially defined property rights, the working system and limitations of the institutions for a participatory mode are major hindrances for community participation. However, small groups of users their social similarity, cultural homogeneity and language, geopolitical and legal systems should harmonize any future co-ordination.

Key words: Conservation, participatory management, property regimes.

INTRODUCTION

The man-lake association in Kashmir since ancient times is not only for preservation, conservation and utilization values but has also remained a focal point of Kashmir's illustrious history, art, culture and tourism. Nevertheless these ecosystems have suffered a multitude of anthropogenic disturbances resulting in negative effects on their structure and function. Lake ecosystem degradation as a manifestation of increased population growth, high rate of urbanization, tourism development and mismanagement practices were reported by various authors (Kaul, 1977; Kaul and Handoo,1987). In lake Manasbal, degradation occurring both as a consequence of catchment practices as well as partially defined property rights is manifested in different ways like excessive weed growth (Zutshi *et.al.,* 1978), decreasing country catch (Yousuf, 1979), red algal blooms and other related processes. Though the government made several efforts, the constant pressure on these ecosystems and the enforcement limitations are inadequate to facilitate their sustained use. The involvement of resource users who directly use these resources or the attempt to know their perceptions in making decisions is essential (Pyrovetsi and Daoutopoulos,1989). The present study focuses on the conservation and management of Lake Manasbal – a rural lake- in a participatory manner. Though definitions and concepts of participation have evolved over time (Arnstein, 1969; Creighton, 1981; World Bank Report,

1993, 2000 and Avramoski, 2004) and though a consensus on what the term connotes is lacking there is a wide acceptance that in resource management the most potential participants are the *resource users* and thus achieving meaningful community-level participation in lakes is not always a straightforward task. Within Kashmir the concept of participation in conservation process is still in embryonic stage as is indicated by the limited number of studies and participatory conservation programs run by different agencies. This paper presents the human-resource linkage in Lake Manasbal, highlights different stakeholders and problems involved particularly of users in the conservation of the lake and also suggests scope for such participation for long term conservation of the lake.

STUDY AREA

Manasbal lake (Fig.1) Kashmir's deepest lake is located at Safapur village at 34°15´N and 74°40´E latitudes, 30 km to the north-west of Srinagar and has the hamlets of Kondabal, Jarokabal and Gratabal overlooking it. The lake measuring 2.80 km^2 in area and oblong in outline is the only lake in Kashmir that develops summer stratification and is classified as warm momictic lake. The lake has no major inflows and its water supply is chiefly derived from internal springs and precipitation. From spring to early autumn the Laar Kul- a small irrigational stream which takes off from Sindh Nallah and irrigates the agricultural fields through out its course, drains in to the lake on its eastern side. The natural beauty of the lake internationally recognized with its deep clean water and pink lilies besides grand mountain behind it forming an effective contrast to its gentle beauty has it labeled as the 'Supreme Gem of all Kashmir lakes' (Dewan, 2004). Although the lake does not possess the same importance as does the Dal and the Wular lakes, it is unique, with a complex water body and is abundant in various natural products like fish and Nadru- a local vegetable, which the local communities particularly the Hanji-local fishermen use. Boating, navigation and transportation besides tourism are other benefits derived as it contributes a sizeable share to the regional economy. Community participation itself defined by entitlement system of the users is primarily based on the potential stake of different users within the broader context of activities. Though in India lakes are generally common pool resources (Marothia,1997; Agarwal, 1992) this water body does not fit into one property regime whole year around owing to the changing property patterns.

Under a broader framework, water body is the State property- owing to the rights of exclusion and having the role and responsibility of protecting the interests of those holding- to a few degrees, but these are diluted by the absence of defined and collective action for managing this resource. Moreover boating is open for the general public by policy, although on ground it is being practiced by Hanji community only. During the period of Nadru cultivation (locally cultivated vegetable) the organization takes a shift. Though an authority system exists to provide access to this resource, with lack of working rule - the critical factor for the formation of social responsibility, the choice of alternative policies are hindered.

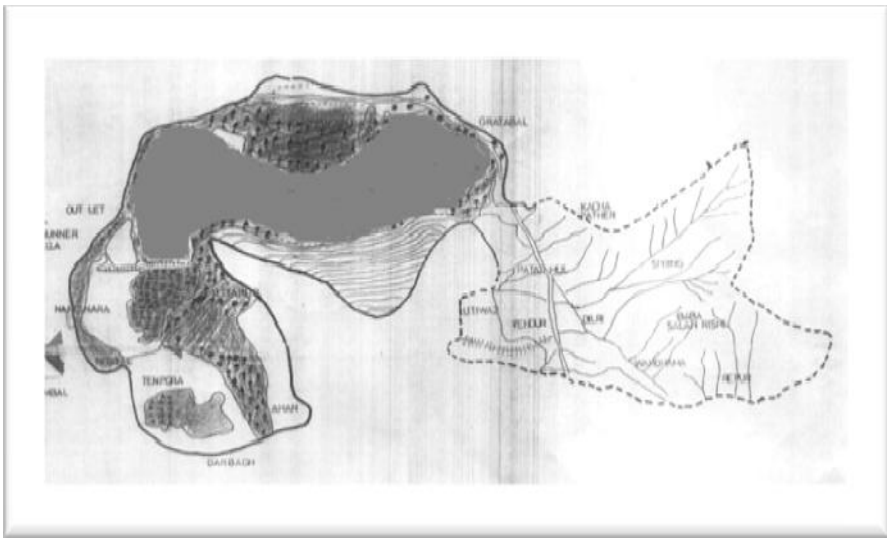


Fig 1. Map of Lake Manasbal

Source: Department of Environment and Remote Sensing (DoERS) J &K

MATERIAL AND METHODS

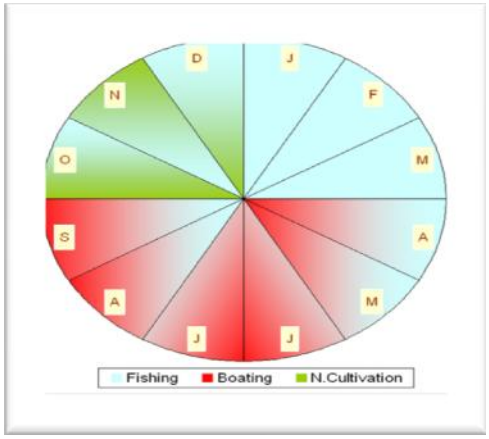
The study was conducted between January and May 2006. Data related to demographic details, resource use pattern, stakeholder analysis and other socio-economic activities was collected through a semi structured questionnaire. Information from governmental and other agencies was by both structured and unstructured interviews. Data from the Department of Fisheries (DoF) and Department of Tourism(DoT) indicated that currently 380 people posses fishing licenses, out of which 200 people also have licenses for Nadru cultivation from DoF while 45 people have boating licenses but from DoT. Thus in effect only one set of people were involved in carrying out all three activities. Information on different users was obtained through a detailed questionnaire which included both closed and open ended questions. Simple statistical analysis was used to calculate the percentage and mean. The results are presented through tables, graph and chart.

RESULTS AND DISCUSSION

Human-Resource Linkage

Study of human resource linkage in a system is imperative because user's utilization of resources ultimately determines future of resources. The results indicated that lake fishing, boating and Nadru cultivation are the major occupations (Fig.2), while the agricultural labor and stone querying act as subsidiary occupations, especially in the lean period for those people involved in only one or two of these occupations. The main occupation had been fishing, but over the years the other two have also been taken up is indicated by the number of people applying for the licenses for boating. It increased from 32 in 2003 to 45 in 2006, (DoT – personal communication) which indicated that boating is more income-earning than the other two. Same is reflected in that the average fishing experience is 8.52 years, while for Nadru cultivation and boating it is 4.81 and 4.25 years respectively (Fig. 3). Hence the current use pattern depicted in Fig. 2 is liable to get changed and what will be its implications will be a matter of future research.

However, the rapid entry of people into boating is a matter of concern. Earlier studies have also highlighted the threat of tourism to Manasbal lake (Rather, 2002) and is likely to get aggravated as this activity is open to the general society and requires permission of DoT alone with no inputs from other stakeholders notably DoERS.



J- D= January to December

Fig. 2. Current resource use pattern in the lake

Contribution to users from different occupations varies. At present the cultivation of Nadru restricted to the latter trimester of the year, is the largest contributor when taken on an efficiency basis. Contrary to the common belief that fishing is practiced all year round, it is restricted strictly to 4-5 months with few overlapping periods. This change is a consequence of both diminishing resources as well as alternate

occupation. The marketing of the fish and Nadru is mostly to other places adjacent to the lake with only a little utilized for self subsistence and another small amount is marketed in the local village and district (Table 1).

Table1. Characteristics of the resource users (sampled population)

Characteristics	Numbers
Mean age (years):	
16-25	8
26-35	13
36-45	14
46-56	3
Mean experience in fishing (years):	8.52
Mean experience in Nadru cultivation (years):	
Mean experience in boating (years):	4.81
Percentage of fish marketed in:	4.25
Village	
Local district	
Other districts	28%.
Percentage of Nadru marketed in:	8%
Village	64%
Local district	10%
Other districts	8%
	82%

Out of the current fish catch 28% is marketed at village level, 8% in the local district while the rest 64% is marketed in other districts, mostly Srinagar, which is again with the assistance of a middle man. For Nadru, 10% is marketed in village, 8% in local district and remaining 82% in other districts which can be attributed to the presence and the production capacity of the Wular in local district. This factor has a strong implication on any participatory approach, because this will invite the attention of various other regulators – more particularly communities of interest (Kusel *et. al.,* 1996).

The occupations also differ in that while boating is practiced in a pooled manner wherein the daily income gets distributed among the members, the cultivation is carried out jointly with other family members mostly the younger ones but fishing is carried out individually. Also the harvesting of Nadru in this lake is completely different from the same in Dal lake- both from a policy point as well as from the method employed. In the latter the cultivators have well defined areas to harvest while in Manasbal lake although it requires prior permission from DoF, it is more of an open access nature because there are no regulations as to what should be the maximum quantity to be harvested per day. Though no direct association between the over exploitation of this resource and the subsequent decrease in the *Euryale ferox* has been reported so far,

there are reports for its conservation especially in Manasbal lake where it grows abundantly with *Nelumbo nucifera* (Khan, 2000). The absence of any collective action for the management of the lake, on part of the users has been attributed to incomplete property rights structure (Bronmark and Hansson, 2002). In this lake such absence can also be attributed to the fact that though the community (at least for fishing and Nadru cultivation) has been identified still they are passive recipients of the government imposed regulations.

Hindrances in user participation

The overall environmental protection of Kashmir including lakes, lies with the DoERS, but the many administrative departments involved create bewilderment among the users in identifying the key stakeholders. Different stakeholders exercising claim on the lake are DoT, DoF, Department of Public Health Engineering (DoPHE), Department of Floriculture (DoFL), DoERS and State Pollution Control Board (SPCB) besides the users. The current participation or interaction of these institutions Vis a Vis the users are depicted in Fig.3.

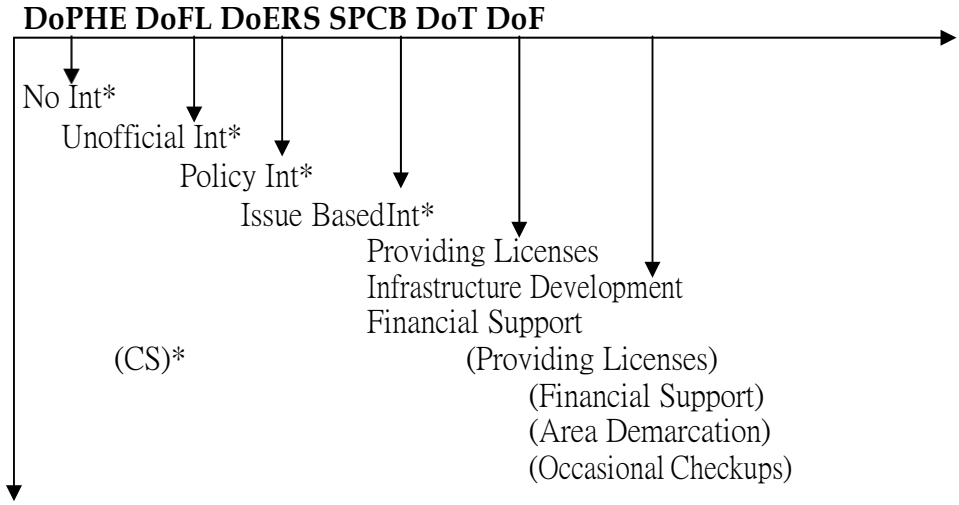


Fig.3. Current status of participation (information sharing) between externa stakeholders vis-à-vis Community Stakeholders

Indicators for the diagram: (a) Awareness among people (b) Placement of institution within institutional hierarchy (c) Policy of institution d) Type of support

CS***** Community Stakeholders, Int* --- Interaction

Abbreviations Used: DOERS—Department of Environment and Remote Sensing DoT -Department of Tourism, DoFL – Department of Floriculture, SPCB- State Pollution Control Board, J and K. DoF – Department of Fisheries, DoPHE- Department of Public Health Engineering.

Presently DoF has larger interaction with the community stakeholders as evidenced from the awareness level of the users. But interaction as a unit limits the conservation of the lake because of policy priorities. At policy level the priority of DoERS is overall conservation of the lake as a whole unit and not on a component basis. The situation is and only 10% of the people had a clear idea of the authority looking into the matters of the lake at policy level.

The perception of the users related to benefits and the problems of the lake is essential. The results of the present study revealed that younger people are more sensitive to different problems than other age groups. People in age group of 36-45yrs viewed *Euryale ferox* as the most serious problem as it hinders their occupation, while the older age group are more concerned about the decrease in the country fish, which is not so with younger generation (Fig.4).

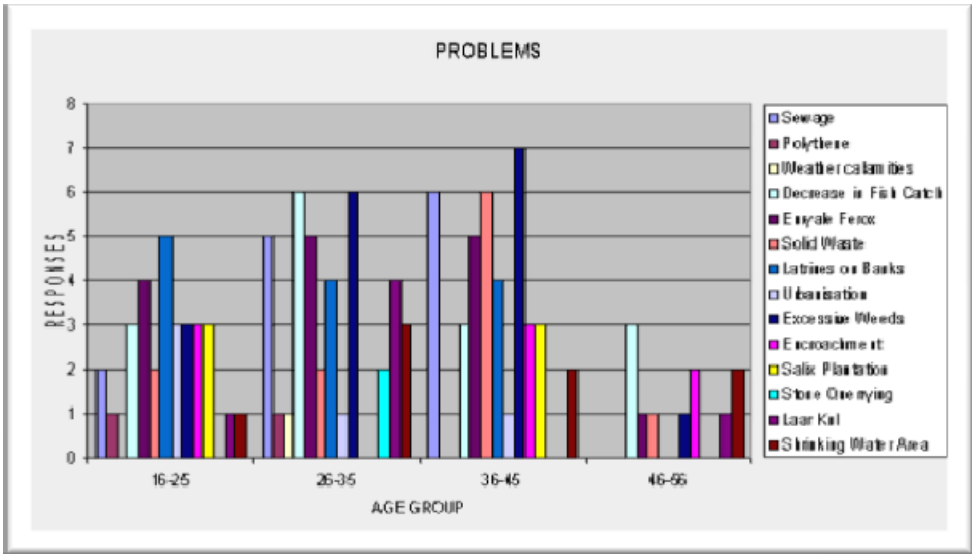


Fig. 4. Awareness regarding problems of the lake

Fishing as the major source of income is decreasing as people shift to other occupations like boating for additional income. Such attitudinal changes reflect also the increased awareness on environmental issues, ongoing political changes and a shift in priorities and developmental policies (Heinen and Sah, 2001). The low awareness among key stakeholders, their social backwardness and weak representation is indicated by the absence of any formal or informal representative (NGO) on part of people. In addition the conventional approach of the authorities hinders information sharing between the stakeholders. The significance of these

formal /informal groups in such information sharing is necessary (Avramoski, 2004). Since lack of information sharing manifests itself in differences in certain areas as presented in the matrix (Table 2).

Table 2. Matrix highlighting the areas of differences between present stakeholders in Lake Manasbal, Kashmir (Responding in a vice-versa manner).

	Institutional Measures	**Research Institutions**	**Communities**
Institutional Measures	*Priority Differences (1)*	*Low Interaction (2)*	*Authoritative Nature*
Research Institutions	*Subjective Oriented Short Research*	*No Joint efforts*	*Predefined Agenda*
Communities	*Un-Cooperative*	*Low Scientific Knowledge*	*No Collective Action*

(1) Attributed to Govt. working. (2) Attributed to anarchy in the state.

The priority difference in the organization not only affects but governs the role and responsibility of the people in a participatory program. The analysis of the matrix makes it evident that despite the fact that the group is less and homogenous (intra group), collective actions are wanting, which corroborates the views of Olsen (1965). At present the role of people in the conservation process is too narrow but presents a better promise. The small nature of the group involved (Olsen, 1965) and their social similarity—if this is nourished it will turn more advantageous due to lessened transaction costs involved in bringing the fragmented stakeholders together, for which a formal or informal representation of the people is essential. The similarity in the geopolitical and the legal system will also ease co-ordination. In addition the homogeneity in culture and languages are also the future prospects which can ease the information sharing between the stakeholders. The positive expectations of the user on the future economic potential of the lake is a fact which if used well can be for the collective gain of both authorities and the resource users. But prior to it, the objectives and means of such collective gain should be made available to every stakeholder so that no duplication and overlapping of efforts emerge.

CONCLUSIONS

Lake Manasbal, the unique but complex water body has significant use and non-use benefits. But over the years as it suffered severe losses, the resource use pattern of the users is affected which is evident from the shortening of the fishing period and subsequent new entry of boating as occupation. During the course of this study it was revealed that the user perception on several aspects of the lake ecosystem, particularly the *Euryale ferox* is conflicting with the conservation objectives for which a change in the perception of the people that in turn substantiates the need to promote information sharing between the stakeholders is essential.

It is also observed that the partially defined property rights have hindered the user participation which is indicated by the absence of collective action mechanism and when present it again is in conflict with the conservation objectives. Therefore future efforts that would link and co-ordinate the human systems with these ecological systems are wanted. The linking of the ecological system with the human system although has several limitations, like the difference in the time frames yet various authors have argued to club this with the specifications of rights, which create an expectation of long term tenure and protection from the coercion of short term decisions. Establishing such linkages therefore should be the priority.

For the long-term conservation of the lake, an interaction and integration of the stakeholders is proposed. Interaction based mechanism to promote long-term co-ordination and co-operation among various stakeholders and decision-making bodies needs to be encouraged. Community role in such a participation arrangement in this sensitive state needs to be clearly defined for the long term and sustained conservation of the lake.

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