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ROLE OF LOCAL GOVERNANCE IN RURAL COMMUNITIES IN MANAGING FOREST COVER BY EXPLOITING HYDROLOGICAL SERVICES

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ABSTRACT

There are many governing bodies which play a pivotal role in uplifting the status of rural masses in managing hydrological services. This study aimed at to study the existing systems of local governance for forest management and the resultant impact on hydrological services and to access the effectiveness of different identified local governing bodies in terms of conflicts, water availability and people participation. The investigation was carried out at eight sites each of Himachal Pradesh and Jammu and Kashmir. Sites exhibit tropical to temperate climate. Multistage sampling technique was adopted to select the active local governing bodies. Total 163 (110 in HP and 53 in J&K) respondents were interviewed to know the status of social participation, role of local governing bodies in management, protection and development of hydrological services, afforestation activities, people dependence on hydrological services, average dependence of livestock on hydrological services, status of forest cover and livelihood of local people due to hydrological services. The current status of hydrological services will help us to know the scenario of these services in Himachal Pradesh and Jammu and Kashmir and how to manage perennial sources of water for future generation.

KEYWORDS: Local Governance, Governing Bodies, Pivotal And Hydrological Services

INTRODUCTION

Challenge faced by land, forests and water managers without detrimental effects to natural water resources and ecosystem exploitation to produce high quality water contributing in reducing soil erosion downstream sedimentation. Forests canopy have an impact on microclimate and increase ambient temperature and water infiltrability. However, timber harvesting leads to soil compaction and erosion in short term rather than long lasting impact on soil moisture and surface runoff. Management of forests to feed the requirement of
industrial sector by the local community like Joint Forest Management Committee (JFMC) plays a pivotal role at the entry point activities. Thus, keeping in view the role of local governance in rural communities in managing forest cover and natural hydrological services the objectives of the investigation has been framed to ensure forest management activities of the local governance bodies to generate revenue and economic benefits through natural hydrological services. There are many governing bodies which play a pivotal role in uplifting the status of rural masses in managing hydrological services either through agriculture, horticulture, department of rural development or state forest department and at the same time Ministry of Environment and Forests, GoI, wants to evaluate the work being done by these organization through this study with the aim (1) to study the existing systems of local governance for forest management and the resultant impact on hydrological services (2) To access the effectiveness of different identified local governing bodies in terms of conflicts, water availability and people participation including SWOT analysis in sustaining water resources.

METHODOLOGY

Experimental Sites: The investigation was carried out at Jagat Sukh and Dassal (Kullu), Deol and Kuleth (Chamba), Nee and Kuhan (Kangra), Chhanjar and Dadhol Kalan (Bilaspur) of Himachal Pradesh and Lethar, Bakal, Sheela and Dadwa (Reasi), Pangara, Bhatti, Gharian and Chhaj (Udhampur) of Jammu and Kashmir. Sites exhibit tropical to temperate climate, characterizing by hot wet summer and dry cold winter. Temperature ranges from -5°C in winter to maximum 40°C in summer. Though rain is good, precipitation is received mostly in the form of snow during winter.

Sampling Techniques: Multistage sampling technique was adopted to select the active local governing bodies. For this purpose those areas were selected where local governing bodies (Panchayati Raj Institution, Joint Forest Management Committees, Self Help Groups and Non Government Organizations) conducive to forest management and hydrological services in HP and J&K. Secondary data were collected from Panchayati Raj Institution, Forest, Horticulture, Agriculture and Rural Development Department; whereas primary data were collected in the field itself.
RESULT AND DISCUSSION

Total 163 (110 in HP and 53 in J&K) respondents were interviewed to know the status of social participation, role of local governing bodies in management, protection and development of hydrological services, afforestation activities, people dependence on hydrological services, average dependence of livestock on hydrological services, status of hydrological services, impact of forest cover and livelihood of local people due to hydrological services. The highest number of respondents (45) was interviewed at Jagat Sukh and Dassal of Kullu district, out of which 25 were male and 20 were female followed by Chamba and Kangra districts (30 and 25 respondents respectively), males (20 and 18) and females(10 and 7), respectively. Whereas, the least number of respondents, 10 was selected in Bilaspur district (5 males and females each). While the number of respondents in Reasi district of Jammu and Kashmir was 30 (males 20 and females 10). However, in Udhampur district, number of respondents was 23 (males 20 and females 3).

The social participation of people was observed in Himachal Pradesh and Jammu & Kashmir, the respondents sampled were members of JFMCs, Mahila Mandals, Yuvak Mandals, Self Help Groups and Panchayati Raj Institutions.

![Figure 1: Role of local governing bodies in management, protection and development of forests and hydrological services (%)](image-url)

The Panchayati Raj Institution plays major role in management, protection and development of forests and hydrological services in both states. However, very little role is played by NGOs. In Bilaspur, 90 per cent members of Panchayati Raj Institution plays major role in management, protection and development of forests and hydrological services. Whereas in district Kangra only 50 per cent members of Panchayati Raj Institution plays major role in
management, protection and development of forests and hydrological services, besides JFMCs (20 %), SHGs (20 %) and NGOs (10 %) Figure 1.

The afforestation activities were carried out in both states by the forest department of concerned state and more emphasis was given to the multipurpose and fast growing species (Quercus spp, Alnus nitida, Robinia psuedocacia, Aesculus indica, Dalbergia sissoo, Acacia catechu, Dandrocalamus strictus, Albezia spp etc.).

In both states, the highest dependence of people was on tap water following bouries and the least on kuhal. However, it depends upon the availability of hydrological services at different sites.

**Figure 2: Depiction of hydrological services in a decade**

<table>
<thead>
<tr>
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<tr>
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<tr>
<td>Chamba</td>
<td>13</td>
<td>10</td>
<td>Mostly Perennial</td>
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<tr>
<td>Kangra</td>
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<td>16</td>
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<tr>
<td>Bilaspur</td>
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<tr>
<td>Reasi</td>
<td>12</td>
<td>18</td>
<td>Mostly Perennial</td>
</tr>
<tr>
<td>Udhampur</td>
<td>15</td>
<td>22</td>
<td>Mostly Perennial</td>
</tr>
</tbody>
</table>

The highest number of hydrological services (22) was observed at selected sites in Udhampur district and the least (7) in Kullu district. During the span of 10 year period, the highest number of new water sources (7) was reported at selected sites in Udhampur district and the least (4) at selected sites in Kullu and Bilaspur district. The highest number of dried up water sources (5 each) was reported at selected sites in Kullu and Bilaspur district respectively and the least (3) at selected sites in Chamba district. Nature of water sources remained mostly perennial but mostly seasonal at some sites (Figure 2).

**Figure 3: Impact on Forest cover and Livelihood of Local People due to Hydrological services**
It has been reported that in Chamba district of Himachal Pradesh and Reasi district of Jammu & Kashmir, 100 per cent respondents said that during last 10 year period, hydrological services remained perennial and in Kullu district of Himachal Pradesh, 75 per cent respondents said that during this period, most of hydrological services became seasonal. 90 per cent respondents in Reasi district said that during last 10 year period, there was increase in forest cover; however, 90 per cent respondents in Chamba district said that there was decrease in forest cover during this period. The highest (70 %) respondents in Reasi district have said that there was a visible impact on livelihood as a result of nature of hydrological services and change in forest cover. However, 60 per cent respondents in Kangra district said that there was no visible impact on livelihood as a result of nature of hydrological services and change in forest cover. There was no social conflict in sharing hydrological services in Kangra, Bilaspur and Reasi districts. Whereas, 40 per cent respondents in Kullu revealed that there was social conflict in sharing hydrological services (Figure 3).

CONCLUSION

Total 163 (110 in HP and 53 in J&K) respondents were interviewed to know the status of social participation, role of local governing bodies in management, protection and development of hydrological services, afforestation activities, people dependence on hydrological services, average dependence of livestock on hydrological services, status of hydrological services, impact of forest cover and livelihood of local people due to hydrological services. The social participation of people was observed in Himachal Pradesh and Jammu & Kashmir, the respondents sampled were members of JFMCs, Mahila Mandals, Yuvak Mandals, Self Help Groups and Panchayati Raj Institutions. The Panchayati Raj Institution plays major role in management, protection and development of forests and hydrological services in both states. However, very little role is played by NGOs. In Bilaspur, 90 per cent members of Panchayati Raj Institution plays major role in management, protection and development of forests and hydrological services. Whereas in district Kangra only 50 per cent members of Panchayati Raj Institution plays major role in management, protection and development of forests and hydrological services, besides JFMCs (20 %), SHGs (20 %) and NGOs (10 %). The afforestation activities were carried out in both states by the forest department of concerned state as state and central schemes for raising multipurpose and fast growing species (Quercus spp, Alnus nitida, Robinia psuedocacia, Aesculus indica, Dalbergia sissoo, Acacia catechu, Dandrocalamus strictus, Albezia spp etc.). At all study sites, the highest dependence of people was on tap water following bouries and
the least on kuhal. However, it depends upon the availability of hydrological services at different sites. The highest number of hydrological services (22) was observed at selected sites in Udhampur district and the least (7) in Kullu district. During the span of 10 year period, the highest number of new water sources (7) was reported at selected sites in Udhampur district and the least (4) at selected sites in Kullu and Bilaspur district. The highest number of dried up water sources (5 each) was reported at selected sites in Kullu and Bilaspur district respectively and the least (3) at selected sites in Chamba district. Nature of water sources remained mostly perennial but mostly seasonal at some sites.

REFERENCE


