Abstract

River basin as a nascent unit of natural resource governance based on the principles of equity, subsidiarity and sustainability is yet to be apprised as a socio-ecological entity that can move beyond centralisation tendencies in resource governance. The frequent and prevalent conceptualization of it as exclusive, homogenous and largely agricultural was investigated in the present work by analysing the multiple boundaries, emergent livelihoods and resource relations in the various agro-ecological zones of the Chalakudy river basin which is one of the most heavily exploited inter-state and inter-linked river basins in the highly populated biodiversity hotspot of the Southern Western Ghats in peninsular India.

The coexistence of multiple, dynamic and often overlapping boundaries was found to encompass an inclusive region of resource engagement which was coined as the ‘inclusive basin’ within which natural resource governance was envisaged through polycentric interest groups. Within the inclusive Chalakudy river basin, the livelihood patterns and processes in the various agro-ecological zones (AEZs) were observed to be shifting out of agriculture which was reflected in the relations to the resources of land and water. It was observed that the transformation of livelihoods and resource relations followed varied patterns in the AEZs significantly different from each other. In the high hills contractual casual plantation employment was replacing the permanent labour system along with diversification into manufacturing and service sector occupations, in the foothills the emergent and dominant characteristic was noted to be a mix of casual employment activities in tourism, agriculture and other NR based activities, in the midlands largest share of main workforce was in casual or temporary service sector activities, in the lowlands service sector was the main work provider along with construction and informal manufacturing and in the coastal lands service sector casual works, construction sector and traditional and emergent manufacturing activities prevailed. These non-agrarian work emergences had resulted in households being primarily non-farm or pluri-active in their main livelihood orientations.

The land in the river basin was found to be owned by these non-farm and mixed means households in the various AEZs. Agriculture was still found to be the major land use in private land holdings even though it was undertaken in highly fragmented holdings
dominated by market oriented perennial tree crops cultivation as a subsidiary livelihood activity. Landless and marginal land holders with non-agrarian occupations were also found to undertake agriculture as a subsidiary activity in leased in lands. While in the highlands, intensive irrigation was noticed as emergent phenomena, in the foothills irrigation was no longer a grave concern due to large scale shifts to rubber. In the mid and lowlands, irrigation water from surface water sources was seen to ensure domestic water security rather than livelihood security through recharge of groundwater aquifers. In the coastal lands, groundwater aquifers were intensively tapped for irrigating fragmented homesteads. There were clear caste and gender differentials in livelihoods, resource ownership and access across the zones. The multiple boundaries of concern including livelihood and resource use boundaries were also found to be differently drawn in the various AEZs.

The non-prominence of agriculture as a livelihood option and the changed resource relations in these zones had led to formation of various interest groups outside of agriculture which has significant influence on river basin governance envisaged through communities of interests. These also include the non-ownership based interest groups such as the women, *tribals*, *dalits*, lease farmers, migrant labourers and a large casual labour force in the informal non-farm sectors having varied and nebulous relationship with the basin resources. A mosaic of these diverse and significantly different AEZs and interest groups that forge multiscalar connections according to the issues of concern in an inclusive basin forms the hybrid socio-ecological identity of a river basin as a natural resource management unit.

*Keywords:* River basin, governance, inclusive basin, agro-ecological zones, livelihoods, non-agrarian, interest groups