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**COLLECTIVE ACTION AND
PROPERTY RIGHTS:
SOME CRITICAL ISSUES
IN THE CONTEXT OF
KARNATAKA**

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COLLECTIVE ACTION AND PROPERTY RIGHTS: SOME CRITICAL ISSUES IN THE CONTEXT OF KARNATAKA

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Abstract

In the context of natural resource management (NRM), collective action includes conforming to the rules of both the use and avoiding the use of a common property (CP). It is argued that property rights do not mean or imply full ownership, or sole authority, to use and dispose of a resource; and that different individuals, families, groups and even the state tend to have overlapping use and decision-making rights regarding natural resources (NR). To facilitate this, the rights have to be secure and for a sufficiently long enough duration to allow one to reap the rewards of any investment. They should also be backed by an effective, socially-sanctioned enforcement institution.

In the past two decades, degradation of natural resources has affected the functions of such institutions and also their sustainability. This has added to the already existing challenges in regulating the use of NR (in its various forms). It is argued that the existing inequalities are deepened due to the by forces like globalisation, trade liberalisation and privatisation. Developing countries like India, which were already 'crippled' in their social and economic advancement due to internal problems of social exclusion of communities on the grounds of caste and ethnicity, illiteracy, ill health and economic poverty, are now confronted with new challenges of equitable distribution of NR among their diverse populations in rural, tribal and urban areas. There is a need to devise policies and programmes against a situation where socio-cultural hierarchies and economic stratification have traditionally denied ownership and access to NR for a number of communities and individuals on the grounds of their caste, class, gender and other considerations.

1.1. Introduction

Sustainability of natural resources (NR), which forms the basis of the survival of human, animal, plant and other species, rests upon certain institutions that regulate their use and maintenance by the communities concerned. Termed 'collective action' (CA) and property rights' (PR)

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(Meinzen-Dick & Gregario, 2004), these institutions represent 'voluntary action' taken by a group to achieve common interests, wherein members act directly on their own or through an organisation. Generally no society would be devoid of such collective efforts to strengthen community life and its sustainability. There are also multiple CA arrangements in most societies. The details of the arrangements, the structure and exact functions of these institutions are best known only to the local communities and households (HHs) where these institutions are operative. CA measures are local or indigenous in their origin but accumulate their functional complexity in the course of their existence under defined socio-cultural contexts.

1.2. Natural Resources and Collective Action

In the context of natural resources' management, CA includes conforming to the rules of both the use and avoiding the use of a common property (CP). It is argued that PR do not mean or imply full ownership or sole authority to use and dispose of a resource and that different individuals, families, groups and even the state tend to have overlapping use and decision-making rights regarding NR. To facilitate this, the rights have to be secure and for a sufficiently long enough duration to allow one to reap the rewards of any investment. They should also be backed by an effective, socially sanctioned enforcement institution. It need not always be the government but even communities and other local institutions may provide this support (The advantages of CA as identified in literature are listed in Appendix I).

Furthermore, it is also perceived that CA and PR are interdependent and reciprocal since holding common rights tends to reinforce CA among members.

1.3. Degradation of Natural Resources and Need for Collective Action

While NR in most societies fall under the jurisdiction of CA and PR regulations, it is also true that in the past two decades, degradation

of the environment has affected their functions, and thereby, the sustainability of these institutions. This has added to the already existing challenges in regulating the use of NR (in its various forms). It is argued that the existing inequalities were compounded with new ones caused by forces such as globalisation, trade liberalisation and privatisation. Developing countries like India, which were already 'crippled' in their social and economic advancement due to internal problems of the social exclusion of communities on the grounds of caste and ethnicity, illiteracy, ill health and economic poverty, are now confronted with new challenges of equitable distribution of NR among their diverse populations in rural, tribal and urban areas. There is a need to devise policies and programmes to curtail socio-cultural hierarchies and economic stratification, which have traditionally denied ownership and access to NR for a number of communities and individuals on the grounds of their caste, class, gender and other considerations.

CA and PR are treated as significant 'exercises' characterizing the very survival and subsistence of the lives of the poor, particularly in developing societies. Under circumstances of increasing marginalisation of the poor, it is believed that developing countries like India have to take the use and distribution mechanisms of their NR quite seriously since the latter contains the clues as well as the answers to poverty alleviation and reduction methods/measures. In Karnataka too, semi-arid areas with their rain fed agriculture continue to be the mainstay of a large majority of its rural population. While about less than five per cent of this population is better off with large or medium areas of land, the remaining land is distributed between small, marginal and landless labour classes. Caste-based ownership and access to NR has made the matter more complex with class cutting across caste categories and making poverty worse for the lower castes and other socially excluded communities like the Scheduled Castes (SCs). This has affected external interventions to alleviate or reduce poverty by the government, non-governmental organisations (NGOs) and others in reaching the needy.

1.4. Objectives of the paper

It is against the above circumstances prevailing and surrounding the genesis and functioning mechanisms of CA and PR in India that the present paper intends to discuss certain issues. Its specific objectives are to:

- understand the two concepts in the context of 'local common property resource conditions and the social networking and inter-relationships needed to apply any regulations on people's acceptance and use of these resources' (Meinzen-Dick & Gregario, 2004).
- identify key issues and options available to bring them to contribute towards enriching NR and preventing its further degradation, and
- identify problems faced by the current mechanisms of CA and PR and delineate roles by different institutions.

The paper, thus, addresses the critical question of CA by concerned stakeholders in the development process and its links with PR in the context of Karnataka. After a brief exposition of the conceptual framework, it proceeds to identify certain key issues and the options available. It then discusses the potential role decentralised institutions could play and the challenges they encounter, taking Karnataka as the context in which all the parameters of CA in its traditional and modern forms are quite visible and significant.

II

2. Conceptual framework

CA, as a concept used in the context of NR, is defined in various ways. Chief exponents of the two terms have expressed that they are often used to refer to formal organisations, in a narrow sense of the term. CA is action that is publicly undertaken by a group or individual towards a certain NR such as land, water, forest, fish, air etc., keeping their (and their dependents') survival in view to achieve common goals or fulfill common interests. To be explicit, it refers to various measures undertaken to conserve a NR and arrange for its controlled use (avoiding misuse or over-exploitation) by a community. The emphasis is equally on the use and maintenance of the source. Conservation is considered central to sustainable use. CA is also carried out directly by an individual or group

or through the mediation of an organisation. The process of establishing the measures of CA refers first to designing basic rules and then bringing institutional pressure towards their compliance, i.e. use or non-use of NR. Further, CA and PR are applicable to both CP resources as well as to individual assets or property. Individual or HHs are bound by rules not to overuse or exploit a resource just because they own the same. It is always considered a shared resource for which the owners also place regulations on its use.

The two institutions are not only bound by the state or the political entity of the government as the formal agency to enforce regulations. Community-based institutions have been evolved to regulate CA through the support of PR. The Sociology of CA and PR calls for a thorough understanding of or an investigation into the factors causing the process of setting of standards of social integration necessary for their implementation. These mechanisms of social unity set the background for CA to occur holistically and in a sustainable manner. Thus, what is significant to the genesis and working of the two institutions is social experience over a period of time. The social memory of a society is the foundation upon which CA is designed. Or, CA is the sum total of the social experience of those things that are similar or dissimilar to CA at different times and places.

While sociological conceptualisation hinges upon social mind or social experience, the discipline of economics defines CA as a provision of public goods through collectives of two or more individuals. An economic analysis of CA, therefore, dwells upon the impact of externalities on group behaviour. It is linked to the phenomenon of public choices on public goods (Olson, 1965).

These do not undermine the political and legal connotations of CA and PR. The two institutions are intricately linked to them since they are regulatory in function. Governing resources that are natural but extremely important for the very survival of human beings (and other living beings) is a serious political (governance) matter. It deals with

issues of social control and social conformity that enable such use and maintenance. Since distribution and maintenance of all forms of resources is the meaning of the term political, these systems of governance (whether centralised or decentralised) are crucial to complete the layperson's understanding of CA and PR.

The net result is that the study of NR or the environment from the standpoint of the institutional structures in place to guard their use and maintenance is interdisciplinary and holistic in perspective. It requires a combination of discipline-wise introspection as well as a multiplicity of methodologies to study them. The uniqueness of studies referring to CA and PR is that their exponents have carried out several case studies using participatory action research methods on local communities. They have not only highlighted the existing scenario regarding the prevalence of the two, but have also carried out research to plan for equitable CA to secure PR and articulate aspirations through development fora. They have worked with officials to identify how forestry and NR affect their lives. Collaborative land-use planning, for example, has come about through the joint partnership approaches involving the government, NGOs and the people.

It is believed by these established studies that clear PR enable local communities to act collectively and harness the benefits of NR. The conviction here is that secure access to benefits provides incentives for sustainable resource management that delivers a wide range of environmental services. It also provides direct economic returns.

What is inherent in these definitions is the dual interaction between three segments of the same issue, viz., NR, society and the individual or the group. Bringing about a common understanding between the latter two in the use and management of the NR is what forms CA and PR. Inherent in the meaning is the two-fold emphasis upon the effort (CA) through common goals and means or actions and the incentives or justification for CA, viz., PR that provide the much-needed security. Thus, the two are supposedly inextricably intertwined. Broomley (1991)

defined them as “the capacity to call upon the collective to stand behind one’s claim to a benefit stream”. Thus, the two institutions are different from legal rights, by which the full ownership and sole authority to use and to dispose of a resource vary across groups and individuals. Underlying them is the conviction that to be secure, rights have to be sufficiently long-lasting. This enables reaping of benefits backed by socially effective enforcements. Thus, the institutional arrangement designed to regulate NR is endowed with an inventory of functions, duties, rights, privileges and benefits.

Property Rights

In the context of NR, PR are defined as the access provided to individuals and groups in a society to use and alter the various components of resources, such as water, land, forest etc. PR not only lay down claims for use of NR but also rules regarding their claims and obligations to the benefits of a resource. There are different types of rights identified in literature as:

- rights to use NR
- right to access NR walking in it, economically using it and withdrawing a resource, plucking a plant, etc.
- controlling the resource through making decisions regarding planting crops, restricting others from use, alienation, renting out or giving away rights, etc.
- rights to be conditioned by the amount of use, time of use, etc. Several individuals or groups may have different kinds of rights over the resource.

Even on forest lands, people may have the right to collect medicinal plants, leaves, firewood, etc. They may plant trees and guard them (exclusion). The state may collect revenue for felling of trees. Multiple sources of rights are international declarations, national and state laws, religious laws, customary laws, project organisational laws by local groups, etc.

Strategies devised by people to decide claim to obtain resources depends upon knowledge assessment of these resources. All laws need not be equally powerful. Often, state laws are so. Locally illegitimate actions may be supported by statutory laws followed by several individual agencies. Local communities make claims through various means to access resources. Local custom and religion may permit people to use them while state law may not. Titles given to the weaker sections in India, such as the dalits and women, enable them to be secure but have no powers to make them productive.

Thus, it is political power that determines the allocation of NR to the poor and needy. Power relationships that determine the actual rights to NR are products of locality, history, changes in resource conditions, social relations, etc. However, PR as defined in literature has problems in its application to the situation traditionally operational in India.

3. Collective Action and Property Rights: Karnataka

Traditional methods of Collective Action

Traditionally, Indian villages and tribal communities were guarded in their livelihoods based on NR. The classic example is the operation of what is called the Jajmani system of relations that determined the social organisation of production in rural areas. This defined the exact roles and responsibilities of members of individual castes and communities and their members, both men and women, in rendering their customary service to the village's economy.

For example, in agriculture, every activity was gender-based or -defined. Some types of activities were carried out by only the men (ploughing or application of fertilisers). Women rendered traditional services in the realms of transplantation and weeding and assisted in harvesting and a variety of post-harvest operations. Such gendered division of labour was found across all types of rural economic activities and professions or 'village functions' (Srinivas, 1966), such as shepherds, cowherds, washermen, weavers, barbers, oilmen, cobblers, smiths and

a large population of varied agricultural labourers who did fixed work in each of the sectors defined for them (Gayathridevi, 1998). Moreover, the economic activities rendered by each caste or sub-caste had similar division of work among themselves.

There were two characteristics of this system: Firstly, it had a strict and well-defined division of work and remuneration; secondly, it was based on a hierarchical arrangement of these activities that automatically made those who delivered them superior and inferior to each other. Ritual attributes paid to the division of labour in carrying out economic activities surrounding production and maintenance of commodities necessary for livelihoods led to discrimination between people who rendered these services. More than anything else, the system was viewed as highly oppressive and hegemonic.

However, the situation in Indian villages and tribal communities, including urban areas, in-so-far as it pertains to the above hegemonic CA, has undergone tremendous change recently. This has mostly been in the form of opposition and protests against hegemony and exploitation in the name of caste-based occupations and livelihoods. A host of factors are responsible for this. These consist of interventions both from external as well as indigenous efforts that have been extensively dealt with in sociological works (Srinivas 1966, Beteille 1969, Bailey 1957, Aiyappan 1965, Alexander 1968 and so on). British impact and its accompanying benefits such as industrialisation, urbanisation, education, communication etc are credited with bringing about changes in the structure and functions of the Jajmani system. The greatest attack was unleashed by the post-Ambedkarite movement by dalits and other lower caste groups in the caste hierarchy, which has, at least, reduced the earlier Jajmani system that was characterised by 'bonded labour' and a ritualistic basis of economic activities to a contractual and class-based system (Gayathridevi, 1998). The system of affirmative action has further empowered these communities to claim social mobility with the support of the oppressing

communities themselves as part of reforms in the political process. Varieties of interest groups are being formed to cater to various functions with an assortment of 'actors', drawn from across castes and communities. This has led to a complex situation in which both traditional and modern forms of CA and PR co-exist.

Modern agencies of CA: Community-sponsored and representative organisations

Lastly, if we do not mention the role of community-sponsored and representative organisations in this whole gamut of changed relations, it would be an injustice to the emerging scenario. Karnataka was one of the first few states in the country to have opted for a decentralised system of governance in its political, administrative and fiscal dimensions. The government has revived, by amending the Constitution, the traditional village panchayat system that was earlier in vogue in the form of the Panchayat Raj Institutions (PRIs) - the grassroots administrative systems taking care of local development. The highlight of these institutions is their commitment to participatory planning and implementation by people's representatives elected to the village, block and district level governing bodies. In a way, PRIs are also CA groups with a constitutional mandate to deliver empowerment and overall development to the weaker sections of the society. They are destined to bring about inclusive growth with an emphasis on poverty reduction.

Thus, the CA landscape of the state is characterised by a plethora of institutions working towards ensuring inclusive growth with sustainability and poverty reduction. It is therefore important to look into the nature of these CA institutions and the form of PR they subscribe to. What is the institutional framework under which they work? What are the participatory mechanisms they follow? How do they combine issues relating to transparency, accountability, equity and sustainability? These are the other questions that require research to enable an understanding of the complexity of the issue in the state's context.

III

3. Key Issues and Options

Efforts towards conservation of Natural Resources

The problem of degradation is more serious to developing countries like India given its relative poverty and increasing scarcity of resources. Since the '80s, it has undertaken several measures to conserve its NR. Karnataka followed suit with different sectors of NR, such as land and water, becoming the targets of such rejuvenation efforts. It also initiated a number of efforts from an integrated or holistic perspective, especially those involving local people or communities in their efforts to revive the lost NR. For example, watershed development programmes, soil and water conservation (SWC) measures, joint forest management programmes with forest protection committees, drinking water and sanitation projects, rejuvenation of water bodies like tanks, ponds, rivers and canals have drawn on high foreign investments, besides local socio-political efforts and community participation and support. Impact assessment and other forms of studies have reflected upon the outcome of these programmes. The results have been both positive and negative and are documented in a large body of literature acting as lessons learnt in efforts to revive the NR. Some of them are discussed as under:

1) Equity Issues in NR

The first problem plaguing the issue of CA and PR in NR is that of equity in accessing benefits. Poverty is caused by deprivation and exclusion in a variety of socio-economic and political matters. Power (socio-economic and political), authority and access are the important determinants of poverty or its absence. Thus, the latest thinking in poverty also centers around vulnerability, social exclusion and deprivation. Non-economic reasons such as the ability to take decisions in access to better health, literacy and knowledge and information are some of them. In the context of NR, absence of entitlements and empowerment are significant in defining poverty and its perpetuation among the poor in Karnataka, who are predominantly from the

scheduled caste and the scheduled tribe communities. They are alienated from the use of and direct returns from NR wherever they (NR) are found to be productive and abundantly available. Despite being long-time citizens (often indigenous tribes and castes) of the area, who follow the traditional Jajmani-based service to the village community in their economic and socio-cultural lives, linked to NR, these communities are still deprived of a fair share of the returns from eco-services.

Secondly, as if their exclusion from reaping the 'good' benefits of NR were not enough, the poor are also blamed for its degradation. Unable to find formal and rightful means of using the NR important for their survival, the poor are turning to the common property of their villages. These include water bodies, forests, pastures, etc. The overuse of these common property resources (CPRs) by the poor is true of many developing countries other than India. The increased use of NR and CPR by the poor (caused by their increased vulnerability and poverty) has caused them to be responsible 'for' their degradation. The use of NR by such poor is occurring in two forms: for direct food security and to generate income. Forests are harvested of their produce like fuel wood, fodder, water and minor forest produce, which are sold locally. Although there are bigger projects owned by the rich such as sand digging, quarrying etc., they have different economic consequences to the concerned people. Although they are also economic activities, these livelihoods are not directly based on them and are part of a chain of entrepreneurial activities. Thus the poor are affected much by restrictions on the use of NR or CPRs.

Thirdly, the poor in rural areas are also made to bear a large share of the negative aspects of unsustainable NR benefits². In addition, they tend to lose the intangible benefits that NR provide them. These may be relating to the collection of forest produce, edible roots, medicinal herbs, using fish or animals as meat, etc.

Derailing of established and secured access to NR has thus aggravated poverty in the state. The net result has been mass migration

² They are used as cheap labour to conserve and harvest its benefits.

by the poor in search of livelihoods to urban areas or to other villages with favourable living conditions. Already, the incidence of urban poverty is reportedly on the rise in the mega cities in the state. Much of this exodus is caused by the degradation of NR on the one hand, and the failure of traditional mechanisms of survival and distributive justice on the other. It is this deprivation and marginalisation of the poor from eco-services that challenges the understanding of CA and PR as institutions of use and management of NR in Karnataka. They are responsible for providing incentives for sustainable resource management that deliver a wide range of environmental services to all in a community.

2) Poverty Issues in Collective Action

CA is believed to occur whenever two or more individuals enter into a social arrangement or situation in which they contribute to an effort in order to achieve an outcome. People living in rural areas and using NR engage in CA on a daily basis when they engage in one or more of the following activities:

- Planting or harvesting food
- Using a common facility to market produce
- Maintaining local irrigation system
- Patrolling a local forest to see that rules are followed, and
- Meeting to decide on rules related to all the above (Ostrum, 1990).

The participatory approach to NR conservation is facing one difficulty: the exclusion of non-participants from the benefits of CA. One section of these non-participants is the dominant HHs who even created problems for the participants. There are many people who seek short-term benefits for themselves when they are better off. They do not contribute to CA but try to benefit without paying for its costs. If this trend continues, there cannot be any CA at all. Theorists of CA believe that short-term temptations can be overcome only when the government imposes restrictions on both private and government

ownership. Under a decentralised regime, even this is difficult since the leadership still continues to be dominated by the upper castes.

Secondly, it is argued that externally imposed restrictions on NR use leads to worsening situations. For example, any programme towards poverty reduction, if appropriately designed, could help individuals to overcome problems of CA. Therefore, they need not always be externally imposed. In the Indian context, land reform rules worsened the NR situation as they led to a clash between traditional systems of ownership and externally imposed ones.

It is also true that formal CA arrangements that have evolved recently have affected the traditional, informal ones negatively. This is true of indigenous tribal communities that have lived with such arrangements and survived for centuries. Their strategies have not been recorded and hence are unknown to outsiders. Traditional wisdom has much meaning and adaptability, but has failed in coping with the changing situations. Such locally evolved collective wisdom and efforts have now collapsed, or at best, compete and conflict with new ones.

4. Problems faced by the current mechanisms of collective action and property rights

4.1. Institutional credit, group formation and poverty

Karnataka is one state where both formal, or institutional, and informal means of credit availability and delivery mechanisms were instituted a long time ago. The state is also known for its co-operative banking movement which has been successful in providing financial and other forms of security to the farmer during times of need for both on-farm and off-farm purposes. The landless and others have also been covered under various schemes of credit and subsidies under employment generation programmes (Vishwa a state scheme of 1985 and Sampoorna Grama Samvruddhi Yojana (SGSY), Swarnajayanthi Grama Rojgar Yojana (SGRY), National Rural Employment Guarantee Act (NREGA), etc after 2000. They have thus come a long way from those of the pre-1970s

to the present Swarnajayanti programmes. In addition, the state has set an impressive record by extending credit to women who are traditionally excluded and marginalised from access to income and control over their own earnings. This is attempted by implementing many types of empowerment and entitlement measures, for example, by forming self-help groups of women in all the villages in the state, resulting in lakhs of such groups today. Contribution to savings, and later, external linkage to institutional credit is true of many of them. It has enabled them to undertake viable income-generating activities, often within the purview of available NR and CPR.

Yet, the credit and insurance markets have reportedly not been sustainable. Intervention by NGOs or some other form of community-based organisation facilitated the process. But soon after the project, many of the groups defaulted, thus becoming defunct or losing credit worthiness. Thus, many HHs have refrained from undertaking or continuing already introduced treatment measures (soil and water conservation, etc.).

4.2 Programmes and policies

Karnataka has also introduced a number of policies to establish a link between the management of various NR between people and the representatives of the government. Today, with the delegation of these arrangements to local communities, the management of forests, fisheries, irrigation and watersheds, there is a type of integrated co-management between the state and the community. Community-driven development activities were introduced more than two decades ago in the watershed, drinking water and forestry sectors. and land development. Much of the success of these institutions rested upon their CA effectiveness.

Several instances in Karnataka have shown the ability of local communities to successfully deal with reversing the problem of rural resource degradation along the lines of Boserup- type responses. Proper investments, incentives to encourage CA and collective and private

resource improvement investments through appropriate technology are needed. These would facilitate policies and access to markets as institutions. The success or failure of interventions aimed at bringing about community-level collective social action are important in noting that CPRs can be collectively owned and sustained in the state.

a) Watershed development programmes

Watershed development programmes (WSDP) are considered crucial for agricultural and human development against the backdrop of depleting water resources and degrading soils. Participatory integrated development of watersheds (PIDOW) was one of the oldest WSDP in the state, both in terms of its impact and support from local NGOs. It lasted for over a decade, going through several stages and phases of implementation. It also had to undergo a progressive metamorphosis in its strategies and interventions. Introduced at a time (1993-1994) when there were not many WSDPs in the state or even in the south, it roused public and academic interest for its lessons or best practices for replication elsewhere. These lessons had to be incorporated into several subsequent WSDPs by the government and bilateral agencies.

Participatory impact assessments (PIAs) were undertaken to see if they achieved the desired goals or not. They were never meant to evaluate the project but only to ascertain best practices or even the reasons for their failure. The circumstances under which the results of intervention occurred mattered most. The potential role of the Social Capital among members of the community was needed. PIDOW, thus, created people's institutions such as watershed implementation committees, self-help groups (SHGs) and later on, even watershed implementation and management committees.

But the important role played in leading to CA was by the women's and men's groups formed under the programme for different watersheds. Addressed as micro-watersheds, each one of them was

supported by several such people's committees/groups that discussed issues and arrived at decisions in a participatory manner. Equity was ensured by forming groups on a homogenous basis (such as comprising only members from vulnerable communities like Scheduled Castes, women, etc) with a definite bargaining power in the overall benefit-sharing process at the higher level (micro-watershed).

The Indo-German Watershed Development Programme (IGWDP) in Ahmednagar, in Maharashtra, went ahead and created 'watershed plus' activities to provide equal opportunities to the landless that were reluctant to participate in the CA exercises to conserve soil and water in their villages. This way, even the 'excluded' sections of society could be included through means such as offering wage work to them, thereby encouraging them to take up income-generating activities using common pastures or CPRs of the village, dairying, non-farm work, etc. They were put in place to generate synergies for achieving the integrated goals of the project and further the cause of sustainability of the projects' benefits.

The message this experiment desired to offer the outside world was that stronger the presence of social capital in a community, the greater the likelihood of the institutions created by the project functioning in a better manner. Likewise, the physical structures erected in the common properties would also have better use and management patterns given a sustainable social base or CA. The impact of the project was studied using variables such as:

- (a) changes in the livelihoods of the members
- (b) autonomy and self-reliance of the members of the community
- (c) processes contributing to equitable access and distribution of project benefits to different sections of the community, especially its socio-culturally vulnerable sections
- (d) gender dimensions of NR use and management, and,
- (e) ecological sustainability

Lessons learnt: Importance of the 'local' in Collective Action and Natural Resource Management

The above experiment in watershed development through participatory means is not the only one in the state. There are a number of such 'experiments' in several parts of Karnataka that had suffered an acute shortage of water for agricultural purposes and depletion of NR. In the course of time, the government, NGOs, and later, the decentralised local bodies came together to undertake such measures on a large scale. Increasingly, stakeholders came to be involved in the early stages of project design and its implementation, leading to better targeting of technologies, extension network, research and development. It led to a greater sense of local ownership among communities, HHs and individuals, intending to also lead to economically more secure livelihoods. While quantifiable data is not available, qualitative analyses have pointed out this change. Participatory approaches in the case of PIDOW mentioned earlier, KAWAD in Bijapur and a few other north Karnataka districts, other WSDP in Chitradurga, Tumkur (Sira block) and Kolar districts have led to a reduction in the adoption of treatment measures by the people, in mooted the community's co-operation, equity in participation, accountability and transparency by the leaders, officials and others concerned.

Thus, it is debated that CA and participatory research tend to reinforce each other. However, the programmes were not successful in all situations. For example, homogeneous communities seemed to display far greater CA and social capital than mixed groups or communities. They were active in disseminating knowledge, planning, identifying needs, and prioritising, and coordinating the needs of multiple users of diverse backgrounds. All these enabled better addressing of the issues and sharing of outcomes.

b) Multiple Collective Action Efforts

The CA experiment in Karnataka sponsored through governmental and NGO initiative with community participation as the basis has also

succeeded in a climate of multiple CA groups operating in the same village or community. A study for the World Bank on the roles of rural local organisations, carried out in the state with three sectoral programmes viz., women's empowerment and development, watershed development and water and sanitation programmes, has shown that the members of respective CA groups carried out their functions and roles without any overlapping and other problems. After purposefully identifying villages with multiple local organisations, it was found that the existing customary social capital made way for the new one, but did not disappear from the scene. For example, women's groups had been formed both by the state (Stree Shakthi Yojana) and the central (Swashakthi Pariyojana) governments. The former were formed and managed by the anganawadi centres set up by the Department of Women and Child Development, Government of Karnataka. The latter were part of the same department but formed and managed by a separate institution of the government set up under the project and locally nurtured by NGOs (Rajasekhar et al, 2003). In the watershed sector, people's committees had been formed by the government under the watershed department (when the programme was implemented by the government), by the Zilla Panchayats (in cases where they implemented the programme) and NGOs in the case of KAWAD. Likewise, in the drinking water and sanitation sector, a number of users' groups were formed by the implementing agencies – line departments, PRIs and NGOs. Water users' committees have gained popularity in the state and have contributed to empowering the community to conserve water as a resource (Raju, 2003).

2) Fishing rights

Many parts of Karnataka are still inhabited by communities for whom fishing was traditionally their caste occupation. Due to changes in economic activities, rapid urbanisation, depletion and degradation of water bodies, spread of agriculture, and other such reasons, traditional fishing areas have gradually lost their significance. Since the 1960s, there have been many changes in the resource base of fishing communities in the state.

Government intervention in conserving the traditional occupation of fishermen has nevertheless been present, but rarely on CA grounds. It is only recently that the organisational structures of the government have realised the importance of co-opting people in their plans and programmes. With decentralised bodies now in place, fishing rights are made more democratic and participatory. Studies on the changed situations is lacking even here. Research institutions must concentrate on the community's livelihoods and empower its members. Attention is paid to large-scale fishing operations, while small-time fishermen, who have lost their traditional occupations and have turned to casual labour in cities, need to be rehabilitated. It is here that CA is supposed to enable proper devolution of rights and services. It has been observed in micro-studies that the fishermen have failed to exercise their choice of occupation and other such democratic issues even in the face of the much-hailed PR system.

Case of a fishing community:

In the village of Moledoddi in Neelasandra GP, in Channapatna taluk of Ramanagaram, the 'Parivara' (Meenugar or fishermen) have lost access to fishing in the nearby tanks, small rivers and streams. It was their traditional occupation but today, except for five elderly men, the rest (men and women) pursue casual labour in the taluk and a number of villages in and around Moledoddi. The youth, in particular, have instead of fishing skills, mastered masonry work and work as construction labourers. The village is underdeveloped despite being two furlongs away from the GP headquarters. In fact, according to the villagers, it was the former headquarter village, a status lost to Neelasandra due to local power politics – both party- and caste-based.

The women are in a very pathetic condition. They work as casual labourers in construction and as petty traders in vegetables and fish – the latter purchased from master fishermen from the dominant

community and not fishermen by caste. They are thus exploited by the upper castes that have snatched their traditional occupation from their hands. Agricultural labour is also not available to them easily and is a luxury. Women in particular, look for such work, as they could be nearer home and manage HH work and childcare. As the surrounding villages and the GP HQ are predominantly inhabited by members of Scheduled Castes and other very backward castes, they do not have access to such labour. Hegemonic control is exercised over division of work in agriculture, of which the fisherwomen are victims. Their husbands and sons are not in a position to cater to the needs of the HH forcing the women to work and manage the HH and to at least provide its daily food requirements.

CA in the form of women SHGs has not been successful here as poverty is preventing them from saving regularly. Official apathy, dominance by the rich and landed among their-own kin, illiteracy, poor health status, etc, have been responsible for weak CA. What is more, the village boasts of having the vice-president of the GP, a woman, among its residents. She was found to be ignorant of her roles and it is her husband who manages her work as a panchayat leader.

Thus, even with all the institutional arrangements (women's self-help groups and the GP headed by a woman, proximity to GP HQs, to the taluk panchayat 7 kms away) Moledoddi has not been able to develop its NR base any further. Instead of promoting its CA, these institutions and initiatives have, in fact, acted as further divisive forces to the already tense intra-and inter-caste relations with individuals and communities in its surrounding villages.

The above situation is true of not only WSDPs. A similar state of affairs exists with reference to forestry, irrigation, drinking water, etc. For CA to be successful, traditional institutions built over the years by communities, such as the fishermen in this context, should not be 'weakened by the policies of the state'. Governmental or any other

external initiatives have to blend well with the local situation, and understand the community's needs. This is of special relevance to the PRIs which are the key institutions of service delivery today.

3) Water

The landscape of Karnataka is rich with several forms of ecosystems present in abundance such as land, water, forest, etc. The state is known for its extensive network of tanks that ensure a sustainable supply of water for agriculture, livestock rearing, small-scale production, drinking, etc. Tanks are the pivotal source of water for agriculture in the state, especially in the south. A large area of land is irrigated using tank water, around the year, thus leading to increasing productivity of land through multiple cropping and commercialisation. But over the years, the area irrigated by tanks has dropped drastically.

The tanks in Karnataka were traditionally managed by a system of administration that had evolved locally, comprising local leadership, management and participation. There used to be a water manager who was traditionally appointed to this post on a hereditary basis. He was responsible for the distribution of water to all farmers, maintenance of the tank, and allocating its use to different stakeholders both landowning and landless but in occupations that depended on water from the tank as a natural resource. The distribution of water followed a pattern determined on a collective basis, keeping the community's and not individuals' need in mind. Although not completely free from inequity and discrimination, due to on caste-based hegemonic relationships, the farmers somehow depended on the tank as a sustained livelihood base.

In course of time, due to a number of changes in the social, economic and political administration of the village, disintegration of the traditional village panchayat, urbanisation and industrialisation drawing workforce from the villages and inspiration for social mobility leading to migration and more than anything else, seasonal fluctuations in rainfall etc, degradation due to overuse, depletion of groundwater and other such factors, the tanks came to lose their role as the collective

village NR. They do not have enough water for distribution. While the absence of rainfall is one reason, the changes are owing to many other factors. The major reason, however, is their neglect as a village CPR. Most of the tanks have become feeder channels infested by weeds. Silt has accumulated at the bottom of the tanks. Due to these reasons the tanks have breached bunds and their water retention capacity has decreased. The much-needed maintenance of these tanks has been neglected for decades.

Thus, in course of time, the tanks have failed to be seen as common property of the village. Despite their small size, they were traditionally used by the village community for more or less all their water needs. Without any monetary benefit, the people were obliged to offer their services by contributing free labour to maintain the tank periodically. The work involved removing weeds, desilting, etc. In another system of administration, whenever they paid taxes, they received wages for labour. Thus, a balance of work, contribution and remuneration was maintained.

But after independence, the tanks were brought under the Public Works Department of the Government of Karnataka. The shift from landlord rule to the bureaucracy altered the original collective spirit and bonding, which was organically linked to all village members. The government's attention was directed towards irrigation as part of large-scale schemes and subsidies for private bore wells. This made the people turn away from the tank and compete to afford a bore well at the government's subsidised prices. Even the CA to maintain the tanks was not spared. Innumerable bore wells have been dug in the tank's command area in all villages. This has led to large-scale encroachment on the tank bed itself. With the water table falling rapidly, individual farmers are not prepared to stop private digging of bore wells. Decentralised governance institutions have been provided with the required legal powers to check the situation and actions leading to any misuse of the NR base and to initiate measures to conserve the resources. They are expected to take action to stop this and act as CA groups. The failure of wells and the drop in ground

water level has taught them that they lack motivation for CA to be effective.

Thus, the degradation of tanks is a classic case of lack of motivation among the concerned institutions to take effective measures, and the lack of CA progress in that direction.

Studies in this regard have held that, generally, the indicators for expecting success in CA are the absence of court litigation or internal conflicts, the occurrence of village festivals, the history of co-operative work, the density of spontaneous groups and the absence of political party rights (Raju et al, 2003). The government in Karnataka has undertaken special measures to form community-based tank rehabilitation projects under the Jala Samvardhana Yojana Sangha (Raju et al, 2003). Already, a number of tanks have been brought under desiltation and renovation works under this programme through community effort with representation to the vulnerable and marginalised communities.

4.3 Panchayat Raj Institutions

Experts on NRM issues argue that the optimum utility of NR depends on the nature and type of governance institutions at work. Today, village administration has been entrusted to local bodies or PRIs. Beginning with a two-tier system introduced in 1987 (Mandal Panchayats and Zilla Parishads) following the 72nd amendment, and further supported by the 73rd amendment of the constitution in 1993, the three-tier system was established with the Grama, Taluk and Zilla Panchayat systems of decentralisation (popularly called as the Panchayat Raj System) in Karnataka.

Karnataka is one of the few states in India to have taken the decentralisation experiment rather seriously (Aziz, 1996; Inbanathan 1990). This is because while political decentralisation is accomplished by enabling sections of the population to contest elections and gain access to leadership, it needs to be accompanied by administrative and fiscal decentralisation, to make the institutional set-up and devolution

arrangement complete. In Karnataka, all the three forms of decentralisation are introduced effectively (Rajasekhar, 2002). Devolution of 29 subjects as per the 11th schedule of the Constitution is in place. A system of activity mapping has been devised listing the various functional responsibilities and roles of different tiers with respect to various sectoral activities. The Grama Panchayats, as the grassroots socio-political organisations, have been invested with the power and functions necessary to accomplish the devolution process.

A major component of such duties of the Grama Panchayats (specifically and in coordination with the other tiers) extends to taking care of the CPR under their jurisdiction. These include mainly land, water and forests. Much depends on the governance of CPRs to enable people, particularly the poor and resourceless, to 'climb out of' poverty.

However, under a climate where it is exclaimed that 'a multiplicity of property rights and collective action arrangements exist around the globe', one should know which arrangements work well under what conditions. It is also acknowledged that allocating property rights is not as simple as giving away benefits under governmental schemes. It requires a different type of effort to understand the local resource situation, network of social relationships, and so on.

The PRIs, as grassroots organisations, are expected to be the perfect institutions to plan and execute local development programmes and bring about all-round social and economic development. The crucial point here is that they are governed by the representatives of the people who are elected to power by local voters. Furthermore, there is a provision for all sections of society to contest and win elections, without any social exclusion caused by restrictions of caste, class, education and gender.

When the poor and other marginalised sections of society happen to also be those alienated from the use of CPRs, because of the recent changes, the PRIs with their pro-poor stand should be in a

better position to reinforce the lost system of managing CPR locally. The question is not resolved since there are not many studies to prove this. The PRIs, even after two decades of their appearance as grassroots organisations, are still in a nascent stage as far as their impact on this issue is concerned. There are no studies to highlight the cases of successful and unsuccessful CPR management and whether anyone has gained property rights over them or not.

The responsibility of PRIs as devolution agencies is not only to transfer management roles to users' groups but to also transfer the corresponding rights. Property rights are needed to empower the groups with certain incentives to conserve and invest in NR. Without recognised decision making and usufruct rights, the communities would be deprived of the authority to manage NR or prevent their misuse by outsiders. The local bodies have to reinforce rules needed for collective NR management. Property rights alone could ensure security to individuals and HHS about livelihood bases.

Transfer of Power by Panchayat Raj Institutions

Decentralised governance bodies have fiscal, administrative and political responsibilities towards local governments. It is inclusive of transfer of authority, power and functions about NR to local agencies such as NGOs, user groups, etc. 'Decentralization has, thus, a strong political dimension'. 'It helps change existing power structures and improve participation by engaging the disenfranchised in the political process' (Bardhan, 2002). But with limited access to education and exposure to the outside world, the poor have difficulty in making good use of this system. Their voice is supposed to be heard in the village democratic councils - the Grama Sabhas. But in practice, the poor do not find the time and have the interest to attend these meetings where decisions about development programmes and selection of beneficiaries take place under conditions of transparency and accountability.

It is observed that PRIs may not be the sufficient institutional structures to enforce the legal and regulatory framework at the village level necessary for conserving NR and their distribution among the deserving. Power relationships at the local and higher levels influence and impact the grama panchayat and the other tiers of panchayats in carrying out their duties with freedom and democracy. As Weber stated, an 'actor ... will be in a position to carry out his own despite resistance, regardless of the basis on which his position rests' (Weber, 1947, 152). Own preferences judged by certain specific situations will guide their actions and judgment about the benefits to be disposed off to the constituencies. Increasingly, PRIs are characterised by a nexus between politicians, bureaucrats and entrepreneurs in delivering development.

While the elite exercise most control in all panchayats, homogeneous communities seem to be an exception. But such cases in which NR interventions through CA have been successful in restoring the rights to the native people are rare even here. In several heterogeneous communities, decentralised programmes aim at the not-so-poor and come under the grip of the elite which makes public spending on private goods high. This is also true of homogeneous communities, as it is the poor and resourceless who are not motivated enough to participate in CA activities due to poverty and inequality. They are further excluded due to unequal asset possession. Although the programme has a separate share for them to integrate them into the CA initiatives, they are still excluded from decision-making processes. This is true of women in SHGs. But SHG participation is making a dent in traditional practices of hierarchy and dominance, and in many cases women have been able to break the vicious cycle of power, marginalisation, invisibility and poverty. Even social conflicts are less severe in such participatory PRIs as compared to others. They have induced conformity and compromise. If PRIs can work towards making arrangements by which the poor can participate in CA and PR activities, it would enable speedy poverty reduction and socio-economic stability. The exclusion of the poor can be moderated, leading to the inclusive

growth enshrined in the 10th plan document. PRIs can bring about or moot effective participation by motivating the poor to participate. This could assist in avoiding elite capture and undeserving beneficiaries besides ensuring social equality in development.

There is a wealth of practical experience documented regarding ways to organise or strengthen CA. Researchers have emphasised upon factors that affect CA, but their findings are often based on only a few successful case studies. Much more needs to be learned about which approaches do and do not foster CA and that go beyond the project intervention, as well as about how externally-induced organisations interact with indigenous institutions for CA. Promising approaches suggested include using facilitators, community organisers, or farmer-to-farmer learning; providing groups with credit to make investments and create PR; and increasing access to technical information about resources. As CA grows, local groups are forming federations up to the national level to address their problems at appropriate levels and to gain a voice in policy decisions, including critical issues of PR over resources.

Conclusions

Which type of Collective Action for which kind of Natural Resources?

Collective action and social capital

In India, the citizenship or birth (and residence) of people in a given geographical area is combined with their caste background to provide them access to resources on the grounds of ownership over assets, like land, for example. Broadly, all castes and tribal communities are entitled to access NR but they are nevertheless constrained by certain socio-economic factors. Lack of access to certain productive economic activities prevents lower castes and the Scheduled Castes and the Scheduled Tribes from using the NR and further from having PR on them. While the two institutions (CA and PR) provide certain incentives to the client population to undertake sustainable and productive management strategies that affect the level and distribution of benefits

from NR, they are affected by stratification on the one hand, and resource dearth on the other. This is important in the context where, presently, poverty reduction strategies have to be devised and applied to meet Millennium Development Goals and increasing attention given to conservation of natural resources (like air, water, land, forest, etc) by policy makers, researchers and people. While this is viewed as a short-term strategy, addressing more serious issues such as countering the threats of climate change is a long-term one.

Role of food security in Collective Action and Property Rights

The above situation is referred to in literature as suffering from what is called investment poverty which is different from welfare poverty. Imperfect markets lead to poverty or increase its incidence based on welfare criteria. While the very poor HHs without land or other such NR or assets could not be convinced to contribute to conservation efforts, the landed ones should have at least participated well. However, it is necessary that those lacking in resources should be made sufficiently aware about the importance of CA to regain NR. They have to be motivated to undertake soil and water conservation measures. This is practical for them as they are anyway placed above the investment poverty threshold. They gain access to key assets for doing so, invest in permanent structures, and undertake whatever else is needed to create a sustainable NR base for themselves to satisfy their basic needs.

When institutional means for livelihood security are missing, immediate survival needs and food security become the overriding objectives of the poor. This is true of many HHs below the poverty line in the backward regions of the state. They can have only short-term planning and spend subjective time. When immediate survival is threatened, HHs without sufficient assets tend to fall back upon the short-cuts of overuse of the environment. Thus, Malthusian-type linkages emerge between poverty-NR degradation processes. There will not

be any future options to sustain interest in agriculture and other livelihood options. Poor and marginal farmers are compelled to be trapped in mutually reinforcing cycles of poverty and land degradation.

To break these vicious cycles, sustained investments in human and natural capital are needed. Agricultural research, soil and water conservation, and water management technologies are nevertheless necessary. Needed more significantly are those reflecting upon socio-economic factors influencing the linkages such as institutions, access to markets, policies, etc. The type of livelihood strategies resource users practice, through production and consumption decisions, existing market policies and institutional incentives determine the outcome of links between poverty and the NR base.

In such village systems, livelihood and ecology links may develop into a downward spiral with an increase in demographic pressure and HHs lacking the appropriate technology, policies, markets and institutional arrangements. This further places limitations upon adaptive responses for resource users, impoverishment and resource degradation issues.

It is perceived that there is a huge variation in the capacities of the groups to engage in CA. Factors explaining this variation are: (a) the high levels of CA existing among experienced groups, (b) the amount of trust built up among them (c) the ability and the extent to which the groups are forthcoming enough to participate, irrespective of the goal pursued, and (d) reasonable costs of the exercise. Likewise, effective CA in a few cases has been attributed to the following factors:

Social relationship, size of the group, distance to the market, the number of castes in the village, percentage of the landless HHs, history of participation in CA, leadership score, rainfall, economic heterogeneity and the percentage of people migrating before any intervention/project.

The crucial question is to know what kind of arrangements work under what type of conditions. The issues are complex enough but policy makers and administrators have to be aware of these conditions if they are to successfully promote sustainable and pro-poor NR management. The nature of CA influences the way NR are used by people and the patterns of use affect the outcomes of people's agricultural production systems. It is argued that it is the mechanisms of property rights that define the incentives people face when undertaking sustainable and productive management strategies. They are also responsible for monitoring the level of their impact and distribution of benefits from NR.

The question, therefore, is which type of CA is appropriate for which kind of NR, why and how? Any effort to influence policies for managing NR such as water, environment, forest, land etc., has to take into account factors that increase the likelihood of individuals engaging in CA. These factors need to be understood well to develop policies to enhance them. Whatever is generated at the local level can be developed at national and international levels. What then is the precise formula to bring in CA or solve problems there in? There are apparently no blueprints available. They are not reliable enough to be used to solve problems in the use of NR, either within a sector or across sectors.

Types of Collective Action

CA uses the rationale of people-centric sustainable livelihoods (Chambers, 1987; Carney & Ashley, 1999). It also combines within it the theory of farm-HHs' behaviour and market imperfections. Four indicators are used to measure CA since they play a conditioning role in livelihood processes of communities. They are:

- Markets
- Institutions
- Policies and
- Technology

The approach to decide which CA for which NR presupposes that a cross-fertilisation of these different indicators is made to arrive at a pre-condition for the same to take place. It resorts to interdisciplinary and dynamic perspectives to evolve technological design and development, target poverty reduction and spatial measurement of natural resources. Farm HHs tend to maximise their livelihoods over a period of time based on existing HH assets. Human capital is an asset with family labour, managerial skills, level of education, access to information, health, etc.

CA rests upon four types of capital viz physical, social, financial and political capital. Physical capital consists of farm equipment, etc, that the farmers possess or other such community material possessions. Social capital refers to the ability of the individual or community to access informal community assets such as social networks, groups, local institutions, etc, to meet personal objectives. It determines the motivation for CA and moots participation in the common management of NR through alternative courses of action. Financial capital is the total of material and non-material assets owned by the community as a whole. Control over these resources and dissemination of power and patronage to undertake community-based works from time-to-time refers to the political capital of the community.

Social Capital as Collective Action

Three quarters of the total poor of Karnataka live in rural areas, the majority of which are arid and semi arid regions. The rain fed and semi-arid tropics make degradation of NR more grave since the poor have to adopt their livelihoods in such a way as to not to harm the environment. In Karnataka also, as in several other states of the country, increasing scarcity of land as a NR, population density, and such other problems have led to the expansion of area under agriculture, thereby encroaching into fragile ecosystems. There are evidently two processes here or they are the result of two factors. They are:

- (a) Encroachments, land left fallow, un-operational holdings, uncultivated land, soil erosion, depletion of water bodies,

misuse of NR such as tanks, streams, forests, rivers, and so on, for commercial purposes have increased, and

- (b) Land grants made by the state government and other agencies (like the erstwhile princely state) comprised CPRs as no other land was available to donate to the poor as Inam land.

These have turned out to be unsuitable for agriculture since they are slopes, marginal lands etc. Thus, with no resource-improving measures, the situation invites soil degradation, deforestation, loss of biodiversity, etc. Over a period of time, degradation of land and other NR in the state have impinged on:

- (a) agricultural productivity (economic),
- (b) health (water-borne diseases) and
- (c) labour-time increases for HH production due to lack of fuel wood, fodder, water, etc (when women are burdened with having to trek long distances to fetch water for drinking and domestic use). This has affected, and competes with, their labour time needed for conservation and agricultural production.

Agriculture accounts for much of the land-use in the livelihoods of the majority of the poor and non-poor in rural Karnataka. Both are directly dependent on NR, such as soil, water, forest, fish and livestock. The poor living in land-scarce areas are forced to undertake low productivity agricultural enterprises caused by environmental degradation. Or they are forced to migrate to urban centres in search of livelihoods – either on a permanent or seasonal basis. There is a high correlation between the processes of impoverishment and the inability to undertake investments to improve or sustain the environmental resource base. The emerging theories have discussed this situation as a basis, calling for a detailed micro-level investigation into understanding the mechanisms as to how the poor interacts with their environment and other such associated factors. This is expected to lead to certain measures to improve the resource base.

Here, the concept of social capital as used by Portes (1998) becomes relevant. It refers to the capabilities of individual actors (persons or social groups) to respond to changes beyond one's control as well as to create the right atmosphere to live with the change. It is expected that decentralised governance has enabled this collective functioning of groups or communities in conserving NR. Bourdieu (1983) expounded the individual level conceptualisation of social capital in his attempts to describe the notion of economic capital. It is the resource that the individual actor has access to while trying to negotiate one's social relations with others. Thus, social capital and its economic counterpart are essentially interchangeable. As an example, one could say that even though poor, a householder may raise money to celebrate a festival or the marriage of his daughter, so that she/he gains the benefit of social capital of being accepted by her/his community/kin by conforming to norms and values. Then, one may gain this social capital during lean periods or on some other occasion.

Portes' definition reflects the current mainstream conceptualisation that the term stands for. It is the "ability of communities to secure benefits by virtue of membership in social networks or other social structures" (1998). He thus differed slightly from Bourdieu by stating that social capital is not really equated with the benefits themselves that may be secured, but vaguely with the ability to secure these benefits. This is the participatory aspect of development that decentralised institutions of governance (PRIs) envisage. Burt in 1992 took this conceptualisation one step further by equating it with "friends, colleagues and more general contacts" through which benefits may be acquired. This has reference to people's organisations like SHGs and other stakeholder groups that have to work united towards the goal of NR conservation. This may justify the turn of thinking from Bourdieu's 'resources through friends to friends for resources'.

While the above note refers to individual levels, the CA concept of social capital conceives the meaning at a collective level. It should be

noted that individual-to-collective level understanding of the concept of social capital implies two things: First a distinction is made between internal and external social capital. The former is linked with the relationships between group members and the latter deals with those between group members and outsiders. Secondly, it should be clear that either the sum total of social capital of all individual members is taken while referring to social capital or only the system-level characteristics of the group are referred to. Internal and external social capital, thus deal with the qualitative description of the role of communities in rural intensification. This view was also separated as covering external networks and internal organisations. Links with or between actors within the village and with village-level organisations are internal social capital to an individual. External social capital of the community includes individual link with outside traders, etc., or horizontal or internal and vertical or external, respectively, in his view.

Ostrum (1990) in 'Governing the Commons' held that local management systems are embedded in regional and national contexts. Whenever social capital at a community level is discussed, the concept is connected to internal and system-level characteristics. Putnam (1993) argued that social capital "refers to features of social organisation, such as networks, norms and trust that facilitate coordination and cooperation for mutual benefit".

Thus, the two distinctions of internal and external social capital are made depending on the social context. Collective social capital is distinct from individual social capital in Putnam's view. Portes' studies reaffirmed the concept of collective social capital by reinforcing a notion that has been around for a long time. The role of the market, state and community in CPR management is emphasised considering the role of social bonds that connect resource users to each other and to their communities. A model called rational choice, for the defense of CPR against outsiders, was also explored. Collective social capital is

masked by several model factors such as the time needed to organise collective defense after an incursion on the commons. Ostrum (1990) held that collective social capital of CPR users comes under labels such as the efficiency of collective choice arenas and conflict resolution mechanisms. Uphoff (1996) called it social energy composed of ideas, ideals and friendship at the community level, standing out as the most qualitative version of what is held as the same basic idea of collective social capital.

World development, a special issue of the World Bank (1996), defined collective social capital as an important factor determining possible synergism between state and local communities in development processes/efforts. Evans (1996) calls this primarily an endowment that would change only by slow accumulation or alternatives as one constructed on relatively short notice – like a call by an NGO, etc.

Olson (1965) makes a reference to the role of political aspects in CA called as political entrepreneurs. But Putnam's networks, norms and trust do not refer to them. Nevertheless, these leaders play a key role in bringing communities into action. Thus, democratic and grassroots leadership is part of this process, but autocratic and imposed leadership is not.

The above discussion leads us to the current debates about resolving issues of land use and other NR. One needs to understand whether the Malthusian-type negative impact of population growth on environmental degradation is true of Karnataka, or whether it is Boserup's theory of land saving and labor-intensive technological changes that are leading to intensification of agriculture. Or one should come up with explanations about any other factor responsible for the current NR situation with NR on the one hand, and CA and PR on the other. There is also a vital need for future studies in this realm to reflect upon participation by local groups in facilitating the process of providing justice to the poor in terms of access and use of NR and in the long run thereby enabling poverty reduction.

As there is a dearth of studies to prove the authority of the above situations, this working paper emphasises the need for further in-depth studies in Karnataka to address the issue of collective efforts of people in restoring NR and leading to a sustainable livelihood (referring to the restoration of CPR or 'commons' as referred to by Ostrum, or in economic terms, production of economic collective good). Studies are needed to demonstrate that CA (Olson 1965) or communal action, with motivation and capacity, are the vital factors associated with such efforts but are distinguishable from one another.

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Appendix I The Advantage of Collective Action (as argued out in the Literature)

- Acts as a 'buffer' against environmental and other risks
- Enables risk-sharing arrangements
- Inspires mechanisms for collective self-help
- Offers ways through reciprocity arrangements to overcome labour shortages
- Facilitates provision of labour during concentrated periods
- Enables the vulnerable and marginalised sections of society to access resources
- Empowers the owners of relatively small homestead plots by providing usufruct rights (for food security by growing backyard gardens)
- Acts as insurance against risks to the poor
- Provides tenure security for poverty reduction by allowing the poor to grow food
- Enables investments in more productive activities by offering collateral for credit
- Empowers the poor by making their voices heard
- Strengthens CA activities by the poor through participation in CA activities
- Improves their bargaining power
- Empowers the poor through their decision-making and control over the CPRs in the long-run.

Appendix II: Indicators to measuring Collective Action

CA is supposed to 'lower the transaction costs to farmers and enable good investments in improving both private and common property resources that would be a costly affair, otherwise' (Meinzen-Dick 2004). But CA is not always successfully practised by societies/communities. The following are some of the indicators used to measure CA:

- Percentage of total expenditure of the project
- Labour contribution in person-days per HH
- Corpus funds mobilised per HH
- Number of meetings held per year by watershed associations
- Percentage of members attending watershed committee meetings
- Average number of members respecting the rules
- Average level of effectiveness of all rules
- Percentage of user groups functioning properly, and
- Percentage of SHGs functioning properly