COMMON PROPERTY RESOURCES AND LESS DEVELOPING COUNTRIES (CDCs) AN INDIAN CONTEXT

INTRODUCTION

Environmental problems are involved critical and complex policy matters. The dilemma that belongs equally to all but not equally accessible to all is puzzling in environmental subject specially with regard to common property resources and common Pool resources. Basically it is a matter of natural resource management and endowment. If we can well define the common property resource and properly understand the links between the CPRs and PPRs, as well as the issue involved therein, we can properly design the environmental policy and can make it effective and efficient.

(a) COMMON PROPERTY RESOURCES, LDCs AND SUSTAINABLE DEVELOPENT

To understand resource management systems, It is fundamental to take note of the institutional framework in which the resources are allocated for production and consumption. Most basic in this process of economic management are the factor endowments and their ownership patterns. This is the question of property rights. Property right is an institutional system in which the ownership and management of various resources are identified and specified. In other words property right is a right of ownership by legal assertion, which makes exchange possible and hence market prevalence. Alternative forms of property rights are private, public, joint, state, common property and open access. Accordingly, the associated resources, goods and services are designated as private resource (and goods) public goods, state owned goods, common property resources and open access resources.

ENVIRONMENT	AND FCONOM	Y I INKAGES	IN INDIA
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1	2	3	4	5	6	7	8	9
Orissa	3028	1319	0.42	0.30	-11.70	13.31	55	203
Bihar	3691	1587	0.39	0.21	-7.36	14.85	42	497
West Bengal	3157	1745	0.35	0.24	-5.24	5.69	51	767
Madhya Pradesh	4166	1605	0.41	0.15	2.69	20.71	40	149
Maharashtra	5525	1595	0.45	0.13	4.77	25.78	34	257
Tamil Nadu	5122	1591	0.43	0.16	-7.16	17.67	34	429
Assam	5070	1976	0.34	0.12	-9.17	20.29	33	286
Karnataka	4769	1357	0.49	0.18	0.43	14.14	33	235
Uttar Pradesh	4185	1535	0.42	0.22	8.11	22.27	40	473
Kerala	5778	1999	0.40	0.13	-0.65	4.25	30	749
Gujarat	5288	1495	0.49	0.19	-7.31	23.31	39	211
Rajasthan	4229	1672	0.41	0.20	7.01	32.19	40	129
Andhra Pradesh	5046	1396	0.42	0.08	-13.75	21.63	21	242
Haryana	6368	1922	0.37	0.11	-6.21	8.46	27	372

6380 1771 0.39 0.15 81.07 7.51 32 403

Note: (1) State

Punjab

(2) Per capita income, 1993 - 94 (Rs.)

(3) Mean income of the poor, 1993-94 (Rs. per year)

(4) Gini Ratio per capita income

(5) Sen Poverty index

(6) Deforestation between 1987 and 1997 (percentage)

(7) Total waste land as percentage of area in 1988-90

(8) Head count ratio as percentage of NCAER 1994

(9) Population density (1991)

(1) DEFINITIONS OF COMMON PROPERTY RESOURCES (CPRs)

It is good to start with a definition of common property resource, which is quite acceptable to most students of economics

A Property on which group are established the use of the resource is subtractive, having the characteristic of a public good such as indivisibility, shall be termed as common property resource.

The examples of common property resources are; common grazing grounds, village Panchayat lands and tanks , buffer areas or certain types of forests assigned to the communities, in some cases roads, water bodies and so on. We can also add biodiversity and local knowledge in the category of CPRs, provided the rules of the game are well defined. In traditional societies, CPRs are either collectively owned or the community has Exclusive user rights. Many of the rights are conventionally defined, rather than imposed by the state through law.

There are two basic characteristics of all common properly resources, first, a well defined group or community has to have the exclusive rights on the use of the resource. There is the non excludability condition that no member of that community can be excluded from the use of the resource. However on single individual in the group has any exclusive properly rights on those resource, second the use of resource is subtractive in the sense that use of it by any user would reduce the welfare of other members of the group. On a practical ground, however, there are a few additional characteristics:

(1) First almost like a public good, there can be some degree of indivisibility of the resource.

(2) Second, a particular group or community can have exclusive rights on the use and access to the resource without ownership rights.

(3) Third, exclusion of users outside the group to those resource is often problematic.

(4) Fourth, there ought to be a set of rules regarding the use of the resource and sharing its benefits.

(5) Finally, there ought to be an institution within the group to impose rules and regulations, outside of the legal institutions such as courts.

The definition of CPR should have some further riders such as: all members of the group have equal user rights without ownership rights; the group has rights to exclude another group from its use; rules on the responsibilities on management and sharing should be defined and developed by the group itself.

Common property resource assumes the nature of 'open access or fugitive resource' whenever one or the other characteristics mentioned above are violated. A much - referred to problem with common property resources is the 'tragedy of the commons.' Whenever any of the set rules and regulations characterized for CPR are violated, individual rules and regulations characterized for CPR are violated, individual choice may prevail over the social choice. It is very rational for an individual to over extract or over use the CPR, and yet not to be responsible individually for the damage. It is in such a situation that the CPR assumes the nature of open (free) access resource.

With the experience of privately owned resources being managed by communities in several parts of India (for example Chakriya Vikas Pranali in Bihar) One can add another category of resource, the "commonly pooled private resource (CPPR). This is a situation in which people while retaining their individual or private property rights, pool their resources to collectivize and manage it together. Once again as in the case of common property resources, management of such resources ought to have the conditions of excludability, subtractiveness and rules of sharing. The only added characterization is that because of retention of their individual properly rights, the individuals also keep the rights of withdrawing from the pool at any time, unless the poolers frame rules of penalty and restrictions on withdrawal.

(2) LINKAGE BETWEEN CPR AND PPR

In the context of sustainable development, how are the private property resources (PPR) and common properly resources (CPR) related? The manual dependence between resources is quite well known among the users of those resources. In traditional economic thinking they are treated more as substitutable. Known examples are substitution of good top soil and nutrient contents (a CPR) by chemical fertilizer (a PPR), fuel wood by LPG or Electricity and so on. In many economic models, even land (be it a CPR or PPR) itself is treated as substitutable by man- made capital. An example is an air conditioner replacing an open landscape. On the contrary, in the context of sustainable development, it is the complementarity between CPR and PPR that needs to be understood in theory and strengthened in practice. Economic theory has dealt with complementarity problems very marginally, with the exception of Hicks (1939) who devoted one entire chapter to it.

In rural economic setting, households own private property resources such as cultivable land, livestock, agricultural equipment, private wells, seeds, fertilizers and so on. The productivity of these private resources depends not only on the quality and quantity of such resources but also upon access to a number of common property resources such as forest or village grassland, leaf biomass from forests, water harvesting and retailing structures, non-timber forest products and the most important source of energy namely, fuel wood. In other words, there is a very high level of complementarity between these two types of resources.

Macro level data on these two resources taken from Indian states are clearly indicating that there is considerable degree of complementarity between CPR and PPR. The estimated correlation coefficient between CPR and PPR is 0.8. As against the total CPRs of 74 million hectares among the major states in India, PPR, are 178 million hectares.

(3) SUSTAINABLE DEVELOPMENT AND CPR MANAGEMENT

In the context of sustainable development (SD how should the CPRs be viewed? The dependency of PPR on CPR is a major component of sustainable development. Going by the characterization of it, SD also requires to maintain CPRs, in the interest of all generations to come. In other words, their sustenance should be linked to resilience, equity and then growth, and not the other way round.

CPR : Common property resources = Private lands having some access to the commons + permanent pastures and grazing lands + cultivable waste land + follow other than current + protected and unblessed forest lands.

Talking of equity, there is a very significant linkage. Between CPR and the poor. The poor people often depend significantly, upon the products of CPR. Good examples are collection of fuel wood, fodder and non-timber forest products, water and even public utilities such as public toilets and bathing places. The poor are not only the beneficiaries of CPRs, but also provide CPR inputs such as local knowledge and community labour. According to Jodha (1986) about 30 percent of labour and small farmers in Rajasthan consume only CPR food items. In Madhya Pradesh this dependency is 50 percent. In Rajasthan about 42 percent of household income is from CPR, only according to him, about 80 percent of the rural poor depend on CPRs for food and almost 100 percent for fuel, fodder and fiber.

As far as development is concerned according to the World Resources Institute (1990) nearly 500 million people in India depend upon non-timber forest products (NTFP) for their livelihood. According to one estimate NTFP collection generates about 1063 million man-days of employment in India. In other words, CPRs provide a significant component of income and growth of the masses.

Finally, CPRs can provide livelihood supports and resilience when the regular crop or other forms of income Fail (due to droughts, foods, earthquakes etc:). During the periods of major droughts the poor tribals of Chhotanagpur plateau depende on local roots and tubers grown in the forests and survive. In the 1987-88 drought period, grass lands saved millions of livestock in India.

(4) EVOLUTION OF CPR REGIME AND INSTITUTIONS

In the context of natural resource management with CPRs two questions emerge. First, when is a 'common property regime' relevant ' second, how does it emerge ? These questions can be answered if one looks at CPR from the point of view of both efficiency and sustainable institutions to manage them.

Can one view a CPR regime as a case of scale economies ? Here both carrying capacity of the resource and efficiency criteria are to be considered. Consider for the moment, three alternative management regime : private, CPR and open Access (leaving out for the moment 'state as another alternative). As illustrated in figure below considering land productivity as an indicator of efficiency, up to a level x, private ownership is preferable. Beyond x, CPR management has an edge over private management. Open access is in any case, a fallout of failure of CPR or even private resource management and is least efficient.

Evolution of CPR institutions takes place, either when private resource management fails (in terms of cost efficiency) or because of scale advantages of the resource or when the 'state fails to manage the resource as a public good.' In the first instance owners of private resources may even hand over or sell their small and marginal resources for creating CPRs. In the second instance of large scale resource, they may ask the state to intervene to take over the resource for better management. Example of the first is pooling of small and fragmented private lands of low productivity to create a CPR institution. A good example of such a situation is the Chakriya Vikas Pranali, an institution operating in Bihar in which poor tribals and small farmers of Chotanagpur regions have pooled their private lands to create a commonly

pooled private resource example of the second is the state (or government) managing large irrigation systems forest resource, and community grazing lands

Diagram

Efficiency of use and property rights regimes

Thus, there are three broad strands of thought through which institutions have involved to manage CPRs. (1) First, historically traditional societies have evolved systems to manage them, through a process of conflicts, learning, and mechanisms to resolve them. That is how village republics have emerged in India and elsewhere basically, total conventions have prevailed to guide the use patterns of such resources. The tribals of India have always dealt with this issue in this evolutionary manner. The institution of shifting cultivation in north-eastern India is a good example. (2) Second, comes the process of customary lows introduced by the government empowering the local communities to enjoy several CPRS (for example, fuel wood, NTFP) for instance, the Indian National Forest policy document of 1988 clearly recognize the rights and the concessions to tribes and locals regarding grazing, collection of non-timber first products (NTFP) etc. (3) The third strain of CPR institutions emerges, whenever the market mechanism fails to manage and maintain, or failure on the part of the state to 'police' the public resources. Example are the emergence of joint - forest management (JFM) institutions introduced by various states in India or the 73rd amendment to the constitution of India, introducing Panchayat Raj institutions.

(5) EXTENT OF CPR IN INDIA

How much of CPRs are there in India and how do we identify them ? This identification process is not east. Wherever, by law such property rights are mentioned. It is a matter of counting them. But in traditional societies and in many developing countries, quite often, such rights are established beyond law, by conventions and traditions. Simple examples are the sacred groves in the Himalayan and Western ghat forests, village common grazing grounds or tanks or buffer areas of forest for villages to have usufruct rights for their fuel wood, leaf biomass, fodder and several not-timber forest products. Some understanding has however emerged, among revenue, forest and other developmental administrators, about the categories of land that can come under CPRs in a country like India. The components to be included are, private lands to which common access may exist (PLCPR) cultivable waste lands (CWL) permanent pastures and grazing lands (PPG), other than current follow (OTHFL) protected and unclasped forest lands (PROT + UNCL), total non forest common property land resource (PLCPR + CWL + PPG + OTHFL), total common property resource (forest and non-forest together) (TOTNFCPR) + (PROT + UNCL).

Box: Land use categories eligible to be called CPRs

* That part of land, which though officially classified as privately owned, but allowed partial common access it is not sown.

- * Cultivable wastes (partial user rights by convention)
- * Follow other than current (user rights by convention)
- * Common pastures and grazing land (user rights by law as well as convention)
- * Barren and uncultivable lands (user rights by convention)
- * Protected (partially) and unclasped lands (user rights by law and convention)

There is considerable degree of variation in the extent of CPR in different states in India and over time. Four indicators can be suggested to compare CPR across the states and to analyze the changes over time:

- * Ratio of CPR to geographical area
- * Per capita CPR area
- * Ratio of CPR to wastelands
- * Ratio of CPR in two time periods

Using these indicators between states some major inference are drawn as shown in the following box.

Box : Categorization of the states according to CPRs

1. CPR as a percentage of geographical area range between 4 and 30 per cent in different states, barring such states as Himachal Pradesh, which are known to have protected forest CPRs. In the north eastern states and other hilly regions, the non forest CPRs are relatively less. Three broad groups can be made on the basis of CPR intensities.

(a) States where the CPR area is low, being less than or around ten per cent of geographical area : In this category are Punjab, Haryana, Andhra Pradesh, U.P., W.B. and Kerala. Punjab and Haryana have a high level of agricultural development. A larger percentage of land under private ownership and a low level of forest area per capita exists. U.P. and A.P. by virtue of being states comprising diverse agro-climate zones exhibit the marginal characteristics.

(b) States where the CPR area falls in the range of around 10 to 30 percent. A number of state such as Bihar, Gujarat, Karnataka, Maharashtra Orissa, Tamil Nadu and Tripura.

(c) The outliers with more than 30 percent area under CPRs : Rajasthan has a CPR area of around 42 percent not because of forest area but by the nature of land use patterns. Himachal Pradesh and J & k on account of being hilly states show varying characteristics. This is because of large areas of protected forests in Himachal Pradesh, which make the area under CPRs unduly high and similarly, large areas in the category of reserve forests exists in J & K which decrease the CPR area to an usually low level.

2. It is found that in a majority of the states, there has accrued a decrease in the land to which CPR rights exist. Per capita CPR land has also gone down. These decreases are more pronounced in the arid and semi-arid states of M.P., Maharashtra, Gujarat, Karnataka and Rajasthan.

CONCLUSION

The problem of common property resources in the context of environmental and developmental nexus is difficult and complex. But it could be made easy and simple by proper definition of right, appropriate structure of institutions and prudent development policies and planning. The developing countries are not much in grip of the CPRs and PPRs, their linkages and planning there are efforts put in and resources are allocated for the purpose, but they are small and in insufficient.