Chapter Two

Institutions and the Governance of Common Property Resources
Introduction

As common property system plays a crucial role in sustainable resource use and in providing long term grassroots institution, their most significant relevance in the institutional context is their contribution to popular participation in development decision making. The management of common property resource depends on the existence of appropriate institutions. With many CPRs these institutions are local and informal, community based rather than government sponsored. However these institutions have either been neglected by development planners or have suffered the detrimental impact of development initiatives.¹ Recent evidence from various empirical case studies however point out that these institutions play a crucial role in economic development.

The primary concern regarding the management of common property resources is to provide conditions of organised collective actions to deal with commons situation, ensure equitable distribution of resources so that the disparities vis a vis utilization of resources among different class of users are reduced, to coordinate the expectations and choices of individual appropriators and finally evolve strategies of their use and maintenance to ensure long term sustainability of the resource. Further there are conflicts among the appropriators

¹ Norman Nicholson asserts that with the "emergence of worldwide markets and the national state, the efficacy of the local community was destroyed." As these institutions grew in strength, "they undermined the value of reciprocity and the ascriptive status on which these communities were organized. Thus the local communities began to lose even their ability to manage their own local affairs. It seemed to matter little whether the community prospered or became poorer in the modernizing process."
using common property resources due to competitive choices amongst them. Therefore it becomes contingent that while taking individual choice one has to take into account the choice of others. The physical interdependence of users does not disappear when effective institutional rules are utilized in the governance and management of CPR. What changes is the result or the benefit that the users obtain and the nature of their consumption. It also helps in conflict resolution through appropriate sanctions and arbitrations. Institutions thus create collective choice through formal and informal constraints, assurances and consequent incentives. Though much of this depends on the physical structure of the resource and the action arena in which it operates.

The questions addressed in this chapter are what are institutions, why do institutions emerge and why do they change, what role do these institutions play in the governance of resources and how institutions can be analysed, what would be the possible factors for the success and failure of institutional arrangements in a specific set up. The chapter provides a theoretical framework to understand and analyse the role of institutions in the management of CPR in ecologically fragile regions for the next two chapters. It is divided into two sections. Ist section deals with the definitional aspect of institutions and the second section reflects on institutional change within a demand and supply framework.

**What is an institution**

For some time there has been a neglect of self conscious study of
institutional arrangement by economists and political scientists. Only recently has work on institutional arrangements reappeared in serious academic publications (Ostrom & Kiser, 1982; Blumstein, 1981; Riker, 1980; Shepsle, 1979). The renewed interest in institutions have however generated a simmering debate about the very nature of what institutions are.

Several approaches have emerged to explain: What is an institution. One major approach is of "institutions as equilibria" an approach drawing on the works of Menger and Von Hayek for its intellectual foundation and Schotter (1981), Milgrom, North and Weingast (1990) and Calvert (1992) for contemporary views. Works in this approach contend that stability can arise from mutually understood preferences of actors and their optimizing behaviour. Scholars thus tend to treat these stable patterns of behaviour as institution. The second way of explaining institution is 'institution as norms; an approach articulated by Lewis (1969), Ulmann Margahl (1979) and Coleman (1987). A third approach is 'institution as rules'; an approach that draws on the work of John R. Commons for its origin and for contemporary developments on Shepsle (1975, 1979,1989), Shepsle and Weingast (1984,1985), Plott (1986), Oakerson and Parks (1988), North (1986,1990), E. Ostrom (1986,1990), V. Ostrom (1987, 1991) and Knight (1992). The 'institution as norms' and the 'institution as rules' both these approaches focus on linguistic constraints, spoken, written or understood prescriptions. All these three approaches...

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2 This is apparent in Dahl and Lindbloms major study on "Politics, Economics and Welfare". The contents and the index of the book nowhere mentions the term "institution." Though the term 'law' is paired with 'command' both of which explain sociological notions of power of a leader to command the performances of a subordinate. Further 'rule' is paired with regulation to mean bureaucratic rules and regulations.
explain as to why there are regularities in the patterns of human behaviour and the differences in the approach rest primarily to the grounds on which the explanation rests.

**Institution as Stable Behaviour**

If one follows 'institution as equilibrium' behaviour, the view rests on an assumption that rational individuals interacting with other rational individuals continue to change their planned responses to the action of others until no improvement can be obtained in their expected outcomes from an independent action (Crawford & Ostrom, 1994). Hence it is assumed that at some point individual rational responses to the action of others become stabilized to reach an equilibrium through mutual understanding and predictable outcomes. In order to understand why there are regularized patterns of interaction, one needs to understand why all the actors, including monitors and enforcers would be motivated so as to produce a particular equilibrium. The major thrust of this approach is to see institutions as stability providing mechanism in the society which comes through regularised patterns of behaviour so as to bring about stable outcomes.

There are important philosophical reasons for considering 'institutions as equilibria'. This approach places the responsibility for a social order on the individuals who are a part of that order rather than on some external "sovereign" or a "third party enforcer. It integrates analysis of behaviour within institutions with the analysis of how these institutions come into being. By focussing on mutually understood expectation and preferences of the actors as well as on optimizing behaviour, the analyst can examine institutions that do not require outside enforcement.
or irrational commitment to follow rules. An institution can be viewed as no more than a regular pattern of behaviour sustained by mutual expectation about actions that others will take. In this sense thus, "the institution is just an equilibrium" (Calvert, 1992:17).

While there are advantages of the "institutions as equilibria" approach, there are disadvantages as well. One is that all stable outcomes that come from shared understandings about appropriate actions for a particular situation are treated as if they were at the same analytical level. All of these shared understandings can not be treated and lumped into one and only one set. The incentives that exist at the collective choice or constitutional choice level of analysis may differ substantially from those at an operational level.

**Institutions as Norms**

The basis for looking at institutions as norms rest on an assumption that many observed patterns of interaction are based on the shared perceptions among a group of individuals of what is proper or improper in a particular type of situation. Here the code of conduct is influenced by the nature of social order, shared values, cultural norms as well as by past history. To understand why some regularized patterns of interaction exist, one needs to go beyond immediate means and relationships to analyse the shared beliefs of a group about normative obligations.³

³ Heiner (1983:573) and Uphoff (1986) adopt a similar definition i.e. institutions are complexes of norms of behaviour that persists over time by serving collectively valued purposes" (Uphoff, 1986:9). Adelman and Head (1983:2) define institutions as patterned forms of interaction among human beings.
Institutions as Rules

Definitions which follow ‘institutions as rules’; consider rules as precedent for the evolution of behavioural norms. For instance, for Douglas North "institutions are rule enforcement characteristics of rules and norms of behaviour that structure repeated human interaction" (North, 1986 b: 16). He further goes on to add that "institutions are the rules of the game in a society or more formally are humanly devised constraints that shape human interaction." "Institutional constraints include both what individuals are prohibited from doing and sometimes under what conditions some individuals are permitted to undertake certain action" (North, 1990: 3-4). Similarly, for Ruttan and Hayami "institutions are the rules of a society or of organisations that facilitate communication among people by helping them form expectations which each person can reasonably hold in dealing with others" (Ruttan and Hayami, 1984: 204). Thus the grounds for looking at institution as rules rest on an assumption that many observed patterns of interaction are based on a common understanding. If an action is taken which is inconsistent with what has been prescribed or required, the action will either be sanctioned or it will become ineffective if actors with the authority to impose punishment are informed about them. To understand

Commons (1959: 54) recognized that the predictability of behaviour depended both on the willingness of participants to follow rules as ethical systems and on the probability that officers will enforce their claims to right if remedial action was requested. He articulated both in the following way:-

Now the distinction between ethical rights and duties and legal rights and duties is the distinction between two classes of probabilities respecting human conduct. Legal rights and duties are none other than the probability that officials will act in a certain way respecting the claims that citizens make against each other... But there is also an ethical ideal not relating directly to the state, and an ethical probability. In most of the transactions of modern society respecting the rights of property, liberty, domestic relations and so on,
regularized patterns of interaction affected by rules, one needs to examine what rules allow, require or forbid and the mechanisms that exist to enforce rules. Kiser and Ostrom emphasize on rules or the definitional characteristic of institutional arrangements, in particular "the rules used by individuals for determining who and what are included in decision situations, how information is structured, what actions can be taken and in what sequence and how individual's action will be aggregated into collective decisions" (Kiser and Ostrom, 1982: 179). Thus this definition emphasises on rules that regulate recurrent behaviour. It is to be emphasized that this characterization has failed to capture the relative durability of institutions (Keohane, 1988). It is their durability that makes institutions so hard to transform and when such transformations do occur, it becomes a challenging phenomena to study.

In short, institutions as rules focus on consensual arrangements, conventions and rules that govern patterns of individual and collective behaviour. They are norms of behaviour that are enforced through social practice or customs. There can also be formal rules which are enforceable through law. What is important is that these rules bring order and predictability to human relationship. They are either accompanied by sanctions or some sort of reward for carrying out a prescribed action. Every society scarcely one transaction in a million gets before the court or in the hands of public officials. These ethical transactions are guided, nevertheless to an indefinite extent, by the probabilities of official behaviour, but the bulk of transactions are on an ethical level guided by ethical ideas considerably above the minimum legal probabilities of what officials will do.

Similarly for Schotter "a social institution is a regularity in social behaviour that is agreed to by all members of society, specifies behaviour in specific recurrent situations and is either self policed or policed by some external authority. (Schotter, 1981: 11).
develops such social rules that order relationships among individuals and in that sense are institutions. James Coleman (1987) has called this 'social capital' that provides the basis of cooperation in every society. Fukuyama in his recent writings (1995) suggested that the social capital or basic cultural characteristic fosters trust in societies. Societies which do not have trust are vulnerable to state intervention which is detrimental to development. The argument is that trust can dramatically reduce what economists call transaction cost.

Apart from social rules, institutions also have working rules. Working rules are rules in use by participants in a given social set up. They are the set of rules to which participants would make reference if asked to explain and justify their actions to fellow participants. (Ostrom, 1986) It defines a social arrangement which has a form and function and for its members meaning and legitimacy. These working rules are of two type (a) those that define an organisation vis a vis the world and (b) those that spell out the internal nature of the organization (Bromley, 1989). The working rules are formally enforceable by the institution but the costs of enforcement are low if the social rules reinforce them. This implies that people follow rules not only due to enforcement but they believe that the rules are fair and by following them they would pursue their own interest. Some of the working rules are:

a) Boundary rules - defines the condition for entry and exit for participants.
b) Scope rules - permitted actions and allowed set of outcomes.
c) Position and authority rules - rights and duties assigned.
d) Information rules - under what conditions information will be open or closed, establish information channels.

e) Aggregation rules and

f) Pay off rules etc.

These last two approaches to the study of institution, i.e. institutions as rules and institution as norms focus explicitly on linguistic statements (norms and rules that influence mutually understood actor preferences and optimizing behaviour rather than on stable outcomes that result from mutually understood actor preferences and optimizing behaviour (i.e. equilibria). However the difference between the two kinds of definitions would seem to be related to the level and sequence of analysis. As Nabli and Nugent (1989) point out that at a relatively "low level of analysis, e.g. that of contractual arrangements, the rules characteristic may dominate but at high level analysis such as that of cultural values and norms, the behavioural norms definition may seem more relevant." (Nabli and Nugent, 1989;8). Similarly with respect to sequence, at a given point in time the rules and norms that characterize institutions may be considered as given and independent of individual or group behaviour. Over time, therefore we may observe that there may be dynamic changes from rules to behaviour regularities to rules etc.

There is much overlap between the ‘institution as norms’ and the ‘institution as rules’ approaches. Often scholars discussing norms or rules talk about the same type of linguistic constraints or opportunity, but call it a different name. There are theorists like North who do not consider it necessary
to distinguish between an 'institution as rule' and 'institution as a norm'. Although the two phenomena tend to reinforce each other, treating them alike conceals certain important analytical issues. Even though there may be sanctions against violation of norms, but the primary incentive or disincentive to comply with a norm is cognitive and social. On the other hand, if institutions are treated primarily as rules, then there is a legal aspect and it relies on a relative structure of enforcement.

**Power View of Institutions**

Margaret Levi (1990) provides a power view of institutions. She defines institution as "sets of relatively durable and formal rules that allocate resources of power that constrain the choices of the personnel and the client citizens or subjects of the institution." Institutions here represent concessions of power by one group of actors to at least one another in order to resolve major conflicts among strategic actors. This definition does not include "culture and customs even though they may regulate repetitive interactions among individuals".

Formal institutions according to Levi, are characterized by externalized, explicit rules and hierarchies of enforcement and decision making. They also tend to establish and reinforce the bargaining and coercive power of certain members of a society in relation to others. This power is then used to distribute services, to coordinate the action of individuals with a common interest. This is done to ensure that the already powerful can continue to accrue benefits or to arbitrate where conflicts are inevitable in such a manner that it reduces the cost to the participants as well to others.
who are affected by the conflict. Thus there are institutions which serve the interests of the many, some the interest of the few, but "all facilitate and regulate the resources of power" (Levi, 1990: 8).

Collective action problems are solved by institutions according to Levi by generating contributions from individuals who attain their ends unless someone (or one) has the power to coordinate or coerce and by mobilizing a group of people to act together. They establish terms and delimit the outcomes of the controversies (Levi, 1990, :5). Thus institution for Levi are characterized by the twin element of containing and creating power. Thus this view of institution emphasizes an authoritative allocation and distribution of power among actors so as to limit conflicting choices among individuals to further common interest and resolve conflicts.

In the definitions discussed so far, there are few implicit characteristics which are important in understanding institutions.

**Characteristics of Institution**

One such characteristic is the rules and constraint nature of institutions. Elinor Ostrom has defined these rules and constraints as "prescriptions commonly known and used by a set of participants to order repetitive, interdependent relationships. Prescription refer to which actions are required, prohibited or permitted" (Ostrom, 1986: 5). It is important

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5 Ralf Dahendrof used the term "institutionalisation of conflict to explain the relationship between workers and employers through collective bargaining."

6 North gives a similar explanation of institutional constraint "Institutional constraints include both what individuals are prohibited from doing and sometimes under what conditions some individual are permitted to undertake certain activities (North, 1990, :7).
in view of institutional analysis to consider configuration of rules rather than on single rule separately.

The second characteristic of institutions is the ability of their *rules and constraints element* to govern relationship among individuals and groups. Whether they are accepted voluntarily through customs and tradition, mutual consent, or are enforced and monitored by an external authority and a coercive incentive system to play an institutional role, these rules and constraints have to be applicable in social, economic and political relations.

The third characteristic of institutions is their *predictability*. The rules and constraints have to be considered, at least theoretically as being applicable in repeated and in future situations. Actors in the situation should expect that these rules and constraints to have some degree of stability otherwise they would not have an institutional character.

Institutional arrangements make clear to the decision makers about their structures, provisions and standings and about the consequences of behaviour not sanctioned by such arrangements and vice versa. "It is institutions that assign authority in relation to the endowments of land, labour and capital (David Feeney, 1988, :1.).

Both Douglas North and Elinor Ostrom distinguish between *institutions* and *organizations*. Like institution, organizations provide a structure to human interactions. For example, the resultant decline of forest area is not only a consequence of the institutional framework within which certain policies and recommendations were made i.e. the State but also of the organizations that have emerged in consequence of that framework like forest departments which executes their work within that framework.
Conceptually it would then mean to clearly differentiate between rules from the players following a sports analogy. "The purpose of rules is to define the way the game is played. But the objective of the team within that set of rules is to win the game by a combination of skills, strategies and coordination.... Modelling the strategies and the skills of the team as it develops is a separate process from modelling the creation, evolution and consequences of the rules" (North, 1990:5). But what organizations come into existence and how they evolve are fundamentally influenced by the institutional framework. Same argument is put forward by Ostrom. She defines organizations as composites of participants who carry out activities and transactions and which are governed by rules to achieve particular outcomes.

Borrowing from the various viewpoints discussed above, the institutions I am investigating in this study are well defined formal structures with defined powers and decision making authorities in executing its activities either independently or in collaboration with other institutional arrangements. It either formulates its own rule or follows rule made by other higher bodies in coordinating, organizing and governing the common interest of a group of actors to bring about desired outcomes. Thus by this definition there has been overlapping between institutions and organizations. More specifically the focus primarily is on a subset of institutions, functioning within a broader institutional framework of the state, though independently characterized by formal arrangements for aggregating individuals and regulating their behaviour through the use of explicit rules and decision processes enforced by a group of actors formally recognized as possessing such powers. The
institutions under study have the following features - (a) a formal structure with legal sanctions and status, (b) formed, created (not evolved) by a community of actors to enhance their common interests and to solve their common problems (c) specific actors unanimously accepted by the community have been bestowed with powers to make autonomous decision regarding the governance of a resource (d) to make rules, enforce and monitor them (e) it creates incentives for the actors to comply with rules rather than coerce them in doing so and provides assurance of reprimanding those who do not follow them (f) it is based on reciprocity and mutual consent (g) the institutions are primarily formed to maintain a given resource in face of growing scarcity to ensure efficiency in allocation and distribution of goods among the actors i.e. it is based on the concept of equity, (h) the functioning of institutions are also guided by other factors such as resources condition, no of units it administers, caste class factors etc.

Thus the main thrust is to study institutions which I have termed as 'local level institutions', why they have been formed i.e. history of their formation, to identify their changed over a period of time, if so what factors have induced such changes, what are the reasons behind successful and unsuccessful institutions and try to analyse them on the basis of certain indicators which I will specify in the course of this chapter.
Section II

Analyzing Institutional Change: Supply and Demand of Institutions

The following section focuses on factors that can be considered responsible for the creation of institutions that guide resource utilization in ecologically fragile regions.

Scholars following positive political economic approach\(^7\) assert that the emergence of institutions are related to their effects. If individuals can foresee or predict the outcome of specific type of institutions even if only with uncertainty, then the anticipated effects of such institutions may be a source of institutional change. Individuals will then assess various provisions provided by that institutional set up and the benefits it may provide to them and eventually try to form such institutions that will benefit them the most. Therefore, the origin of institutional change need to address how institutions affect outcomes.\(^8\)

It is important to point out that there is difference between origin of institutions and change of institutions (Ostrom, 1990:140). Origin of institutions is viewed of as a situation in which individuals move from possessing no rules


to having a set of rules. On the other hand, institutional change is incremental in nature involving changes in the existing rules. This is in contrast to origin of institutions which is regarded as a major one step transformation. Therefore the supply of new institution is non-incremental and hence expensive in comparison to changing an existing institution.

According to Marxian analysis institutions were relatively and exclusively determined by technology. Even domestic life and culture were being mediated by technological interventions and were the criterion for development status in the Third World. Technology embody value and have use values. Institutional changes however, would necessarily arise from internal contradictions i.e. by a dialectic process which is not incremental and gradual but revolutionary. Marxists identify these processes with class struggles but fail to provide 'micro foundations' of just how they work. However this challenge has recently been taken up with collective action theory by several Marxian scholars such as Elster (1985), Offe (1985) and Roamer (1978) Socio-biologists contend that differences in biological and environmental forces have led to different kinds of social and cultural responses which would eventually solidify into institutions (Jones, 1981; Norgaard, 1981).

New institutional economists have drawn heavily from these earlier ideas. One of the most influential explanations of institution formation has been furnished by new institutionalists. The explanations for new institutional arrangements are put forward in terms of efficiency. Their account of

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9 Efficiency of institution is explained in terms of its effect on economic growth and development. As institutions are considered by NIE as part of economic structure, an analyses of their determinants and effects constitute an important component of the relationship between growth and development.
institution formation is evolutionary. According to North, "From conventions, codes of conduct and norms of behaviour to statute law, and common law and contracts between individuals, institutions are evolving and therefore are continually altering the choices available to us". "Although formal rules may change overnight as the result of political or judicial decisions, informal constraints embodied in customs, traditions and codes of conduct are much more impervious to deliberate policies" (North, 1990 :6). While new institutions evolve, the existing ones undergo mutation and continue to survive as they are more efficient and they keep on evolving on efficiency basis. In addition the agents of institutional change, they argue are macro forces in the economy (e.g. technology, transaction cost) rather than individual actors. 10

The new institutionalists illustrates few features of institutional failure that cause or prolong underdevelopment. North (1990) stresses this point when he says that in a small, closed face to face peasant community transaction costs are low, but the production costs are high. This is because specialization and division of labour are severely limited by the extent of the market defined by the personalized exchange process which gives considerable scope for all kinds of opportunistic behaviour and the cost of transaction is high. In Western societies these institutions are able to reduce transaction costs and enable gain in productivity through improved technology. The institutions are characterized by defined property rights, formal contracts

and guarantees, enforcement rules etc. On the contrary in the developing countries the institutions are weak or are predatory in its demands.

Thus the new institutional economics literature makes a strong case for the role of institutions in economic development and states that they are influential in establishing basic rules governing all public and private activities from individual property rights to the ways in which communities deal with public good and those that affect distribution of income, efficiency of resource allocation and development of human resource. A major argument of new institutionalists have been the detrimental impact of development on the choices of rural communities which formed the basis of the 'traditional' order. With the emergence of world wide markets and nation state the efficacy of local communities tended to be destroyed and they appeared to be weak in facing the new challenges. These local communities need to be strengthened to at least manage local resources and local affairs. The view has given rise to two approaches i.e. one stresses on restoring to the local community a degree of control over its own fate, and the other focuses on creating new institutions to handle responsibilities and tasks that emerged as state showed its inability to handle them. Finally, local institutions are also given importance for promoting the culture of democracy.

However, the new institutionalists focus on the organizational and institutional forms of capitalist and socialist economies rather than on non-industrial settings. They see the choice for institutional forms from

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the point of view of three categories of situations: open access to all resources, government control over resources and "free" market arrangements.

New institutional framework can also be criticized on following grounds. No doubt, if the relative level of efficiency is quite high it may create an environment which may induce institutional change, but it may not be a necessary or a sufficient condition. It has to benefit the group that is lobbying or are capable to bring about change otherwise the institution is most likely to remain unaltered.

Secondly, as institutions serve to allocate benefits among competing groups, explanations of institutional change are deficient as long as they ignore political struggle.\footnote{It is incomplete to understand the formation of Van Panchayats unless one takes into consideration the struggles and conflicts of the communities in Middle Himalayas.} Explanations that ignore political struggles fail to take into account the preferences and are influenced by the change. Finally, the range of institutional change is much broader than the three way typology of open access, government control or free market. Rules that comprise institutions often combine in subtle ways so that small adjustments may greatly alter an institution and the effect it has on resource use.

Thirdly, NIE in explaining institutional change and institutional efficiency tend to focus primarily on rules and regulations and on cost benefit analysis. It ignores what Fukuyama (1995) and Coleman (1990) terms as social capital. James Coleman has labeled social capital as a component of human capital that allow members of a given society to trust one another and cooperate in the formation of new groups and associations Fukyama, 1995: 90. Apart from property rights and formal contract, the ability to form organizations and groups
also depend on a prior sense of moral community i.e. a set of ethical rules or norms that serve as the basis of social trust. This trust then reduces what economists call transaction cost (the cost of negotiation, information, enforcement) and increases the efficiency of organisation that would otherwise be trapped by extensive rules, contracts, litigation and bureaucracy. This lack of awareness of the importance of social capital reflects the "poverty of contemporary economic discourse.

The new institutionalism is not a homogeneous and monolithic body of knowledge. It is micro economic in perspective and includes various approaches, each with its own techniques and concepts, advantages and disadvantages for analyzing institutions. While there is yet no consensus on what is included in NIE, we find that two broad and general approaches are salient, namely transaction and information costs on the one hand and the theory of collective action on the other.

The general contention of new institutionalists are that institutions reduce transaction costs i.e. the cost of registration, enforcement, sanction, cost of information and the like.

An important aspect associated with transaction costs is the property rights approach which is associated with literature on law and economics. Borrowing from the works of Alchian (1959, 1961), Coase (1960) and Demsetz (1967), this approach explains how technological and other conditions including apparent externalities can give rise to institutional mechanisms needed for internalizing externalities known as property rights. The existence of property rights may reduce conflicts and facilitate cooperation in and both cases it results in reduction in transaction costs. In this way, along with
technology and other traditional constraints, institutional constraints enter into the decision processes of individuals. A key position in the property rights approach which is associated with Coase (1960) is that in the absence of transaction costs at least, the assignment of property rights would lead to efficient contractual outcomes through bargaining and negotiations. However as Farrell (1987) stresses this argument is valid only when all the relevant informations are public knowledge. When this is not the case, efficient outcomes are no longer guaranteed and the outcomes of bargaining may be inefficient.

This is also related to incomplete information and asymmetries in information in particular. Information problems can be considered as one particular source of transaction costs. These problems may lead to 'market' failures unless incentive mechanisms capable of overcoming them, such as appropriate forms of contract are developed. Asymmetries in informations are closely related to opportunistic behaviour and transactions costs. When the information set available to one party to a contract involving two parties is not identical to that available to the other party, one of the parties may be able to engage in opportunistic behaviour so as to increase that party's benefits at the expense of the other. However, the latter may engage in monitoring or in information search activities in order to minimize his (her) loss. These activities however are costly and have to be matched with their expected benefits.

13 See also Stiglitz (1985) who argues that information costs are a special case or form of transaction cost.
For Alchian incomplete information and transaction costs considers profit maximization a weak guide to action\(^\text{14}\) \(\text{(Alchian, 1921 :211-21)}\). But even if the activities undertaken by firms and households were based on random selection, some economic units by law of statistics would perform more profitably than others. Overtime, the less efficient units i.e. the ones that earned lower profits would simply be eliminated in a competitive environment. Accepting the existence of purposive and foresighted action, the process of elimination would occur even faster, the more efficient units either due to random or rational choices would be initiated by others and at the same there would be some innovation. The argument put forward by Alchian is quite interesting in the sense that it requires no model of individual choice\(^\text{15}\) and thereby making it compatible with rational choice models as well as with models of satisfying behaviour.

This assumption can easily be extended by new institutionalists in a dynamic world where not only the economic units change, but also the environmental conditions that provides selective pressures. A change in the environmental conditions lead to changes in knowledge. Changes in knowledge capital lead to changes in production functions, market values, tastes and so forth. The effect of these changes propel some previously


\(^{15}\) If rationality can be defined as a relationship between ends and means rather than as the choice over different ends, then there is no necessary correspondence between rational choice and individual choice. Organizations and institutions can make rational choice and individuals can make irrational choices.
efficient units toward obsolescence. But this just makes way for the replacement of the inefficient units by more new efficient institutional forms. Efficient institutions, it is then suggested, result from adaptation by economic units to environmental change.

The exact mechanisms underlying evolutionary adaptation remains vague and unpredictable. There is little certainty as to which institutional form will emerge as a result of specific change in the environmental conditions. This explanatory failure of the evolutionary model is obvious in both the context of biology and economy. While a theory predicts that some new more efficient institutional form will evolve, the processes whereby it will come into existence remains unclear. However it can be defended by saying that creativity defines the formalism of rules and theories. This is quite apparent if we take the explanations of institutional formation put forward by the new institutionalists or the induced innovation approaches of agricultural economists such as Hayami & Ruttan (1985) and Boserup (1965). According to Tsebelis the evolutionary theory of institution formation negates the assumption of individual rationality. No doubt this assumption is not present in evolutionary accounts, to evolutionists its absence does not represent a loss, rather the gain of an eliminated redundancy. It does not require individuals to be rational. Even in the absence of perfect individual rationality i.e. efficient behaviour on the part of individuals, economic units will triumph.

The evolutionary argument applies both to institutions that are akin to self enforcing agreements and that which requires enforcement mechanism. But enforcing agreements involve a coordination problem. In many such situations institutions specifying individual behaviour do not need to be
enforced by outsiders. However in many other situations individuals have an incentive not to cooperate with others, as in the case where resources are owned by a group of people. In such situation it becomes imperative that the institutions governing such resources ensure that rules that are formed for regulating the resource use be followed and implemented. This requires enforcing and monitoring devices. It is also possible for institutions with an enforcement mechanism to evolve as long as it is supported by the environment in which it is functioning. It is seen that these institutions successfully manage resources in comparison to institutions without enforcement mechanism. For evolutionary theorists a conscious rational design is unnecessary.

In conclusion the arguments of new institutionalists can be summarised by stating that changing economic environment creates condition for new efficiency gains. Institutional forms which are more efficient need to take advantage of this new efficiency gains. The selection mechanism for rewarding more efficient units is the "fitter of competition" which impels less efficient organization towards extinction.

Another view relates institutional change with the change in the distribution of resources. This assumption is related to power view of institutions whereby formal institutions are characterized by socially constructed rules that reflect a particular distribution of power resources. It then follows that formal institutions are susceptible to change as the

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16 Levi defines institutional change in the following way "By institutional change I mean a shift in the rules and enforcement procedures so that different behaviours are constrained or encouraged. (Levi, 1990)"
distribution of resources change. Change is most likely when there is an increase in the effectiveness of individuals seeking change and a decrease in the blocking power of individuals whose interests are served by the current institutional arrangements" (Levi, 1990:190).

For Margaret Levi the logic of institutional change is related to the withdrawal of contingent consent of institutional actors i.e. managers, employers and clients, subjects or citizens. The withdrawal of contingent consent accelerates change where by it enhances the bargaining power of those who no longer comply or devalues the economic resources currently in use. Contingent consent has both a normative and utilitarian element. This is related to "norm of fairness" which regulates behaviour by offering a rule for when one should comply. If current arrangements represent an acceptable bargain and if others are doing what they can reasonably be expected to do to uphold the bargain, the institution can be considered fair. If individuals are convinced that the norm of fairness is operating, they are more likely to act in accordance with the rules of conduct that the norms of fairness implies. It is always collectively informed and adopted. It develops through a social process and in a social context, it is thus relational and contextual.

Compliance as consent is contingent upon two kinds of factors: (1) approval of the social bargain and (2) the compliance of those providing and the others contributing to the provisions of the choice. The first represents a formative evolution and the second reflects the fact that part of contingent consent is a conditional cooperation. In the case of formal institutions, an

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17 This term is a more accurate version of what Levi termed as quasi voluntary compliance.
individual cooperation or compliance is conditional upon the provision of promised benefits by institutional managers and personnel and upon the continued compliance of others. No one wants to be a sucker. Thus any particular individual decisions to comply is based on the confidence that others are doing their share.

From this explanation it follows then that whenever there is a breakdown in the factors on which compliance is contingent it leads to a withdrawal of consent, institutional change follows and the costs of enforcement increases. Contingent consent may be withdrawn when the actors may be interested in changing the rules that comprise the institution so as to achieve a more favourable outcome. This situation takes place when there are new resources of power which the actors have acquired or if they have access to information which has made them aware of resources which they had failed to recognize or use or if new circumstances have made them question a hitherto acceptable bargain. Further the status quo may also be changed if "there is a change in the consciousness that alters a group perception of what it is due or how it should be treated."

Contingent consent may also be withdrawn when there is an erosion of confidence in the compliance of others. This takes place when there is a break down of social bargain or when it is quite obvious that other individuals are failing to comply. In this type of situation, it results in what Hardin calls 'free-rider problem'.

The structuralists' works on institutional change resembles the argument put forward by Levi. Skocpol (1975) illustrates example where the powerful have become so weak that the citizens have questioned about the
capacity of existing institutional arrangements to deliver goods and promised benefits. At the same time when there is a decline in the coercive power of the institutional managers, it gives opposition an opportunity to take over. Scott in his study "Weapons of the Weak (1985) asserts that one of the most important weapon for actors who are in a relatively less powerful position is the ability to withdraw compliance. This can take various forms from shirking to rebellion whatever may be the form, it reduces the effective power of those who enforce institutional rules and is most prevalent when a social contract is being broken.

Both Skocpol and Scott stress on exogenous factors for institutional transformation which initiates the decision process that ultimately leads to alteration in the relationships of power and the capacity to effect change. In short the argument can be summed up as saying that to analyse institutional change it is necessary to understand not only the distribution of power within the institution but also the consequences intended or unintended, of individual decisions in the context of strategic interactions. Further for the maintenance of institutions, the maintenance of compliance is crucial. The power of institutional decision makers rest on their ability to offer resources in exchange for compliance and on their ability to monitor and coerce the non-compliant.

While analysing institutional change it is necessary to reflect on the literature on externalities and property rights. With the emergence of technical change and new economic units, the existing institutions that allocate rights to property become inefficient and thereby they are not able to exclude some users from a resource. In such a situation some individual can
then use the resource without bearing any cost for that resource use at least
in the short run. This divergence between the cost and benefit attributable
to the user will constitute an externality". This can be further illustrated
with an example of a resource that is open to all. The users enjoy the short
term benefit of overfelling trees in the forest areas that are available to them.
However the reduced availability of timber in the future owing to overfelling
in the present is the cost that is unaccounted for when the user overexploits the
forest. The solution advocated by economists and property right theorists to
overcome this externality have been the privatization of right to resources.18

Demsetz in "Towards a Theory of Property Rights" provides a valuable
account whereby he illustrates how with the commercialization of resources,
property rights system change and more so in the direction of privatization.
However in this change the actors are absent. Demsetz does not consider the
complications that arise from the mix of property rights system. A user may
have both private property rights as well as communal property rights, and
at times it may overlap. Further he considers only two type of property
rights, the communal property which he actually mixes up with open access
and private property. According to his assumption efficiency is related to
privatization. Greater efficiency requires greater privatization of
resources. However it is not clear whether if it is the most efficient solution.

Private property rights are only an alternative or stand by for more specific

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18 This situation has commonly been referred to as commons problem or common dilemma.'
A detailed discussion on this has been done in the previous chapter (CH I). For the logic
of privatization of resources see, H.S.Gordon, "The Economic Theory of Common
Scott, "The Fishery: The Objectives of Sole ownership", Journal of Political Economy 63
(1955) 116-211.
property rights and other control mechanisms that would exclude nonowners and creates efficiency gains.\textsuperscript{19} In fact depending on the physical characteristics of the resource/goods, prevailing social norms and institutions and technological developments a combination of property rights may be more successful in aligning costs and benefits. In fact one tends to see the externalities associated with the creation and enforcement of property rights over production resources.

Because of search and information costs and also due to transaction costs, externalities develop. These costs emerge due to defining, exchanging, monitoring and enforcing property rights, otherwise no externalities would arise. A mere existence of externalities, as put forward by Coase is not a sufficient reason to advocate government intervention in the form of taxes or subsidies to remove them. When government intervention is desirable it depends on the transaction costs associated with policy regulations. There are then no fixed criterion for efficient arrangements of rights to property.

Institutions are also seen as risk minimizing devices. They are not merely mechanisms for promoting efficient or optimal utilization of resources. They also enable communities and individuals to counter risks. There are two types of risks that institutions of different kind help to counter. The first are associated with interaction between individuals

\textsuperscript{19} Daniel Bromley and Devendra, P. Champagain, "The Village Against the Centre: Resource Depletions in South Asia," American Journal of Agricultural Economists 66 (Dec 1984). Margaret Mckean argues that common property is private property once the right to property are assigned precisely. What the privatization advocates actually means to advance and they argue is propertization, not privatization and it does not necessarily mean single owners' - cooperation and cooperatives.
possessing incomplete information, both amongst each other as well in the context in which they interact. Institution reduces the consequent uncertainties which are outcomes of social interactions. The second type of risks are those associated with environmental and ecological uncertainties (Arun Agarwal, 1993). By structuring behaviour and interaction, all institutions serve to reduce risks of the first kind. They provide stability of expectation of actors and facilitate calculation regarding outcomes.20

In situations of environmental risks, e.g. during extreme scarcity and more specifically in high risk ecological settings, community members may be compelled to change an existing institutional arrangement to counter environmental variations. Thus new institutions may come about not through competition and extinction of existing institutions, but through modification of existing institutions as communities struggle to cope with risks. Attempts to encounter environmental risks by communities work in the same manner as attempts to increase efficiency. But with environmental risks, survival, not competition function as a selection mechanism for institutions. This selection mechanism works by propelling individuals to modify existing institutions and create new ones as they attempt to survive risks and not by eliminating institutions. Thus the discussions focus primarily on the welfare enhancing characteristics of institution which in turn leads to the creation of new institutional arrangements. In this sense neither the efficiency' enhancing' nor risk reducing capacity of institutions is the

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20 See Douglas North, "Institutions, Institutional change and Economic Performance". For a detailed discussion on this aspect also see Part IV, ch 13 (II Stability and change in economic history pg. 118-1.
necessary condition for institutional change. Considerations of welfare gain become a necessary condition for institutional change only when all parties affected by the institutional change can influence the course of that change.

It has long been acknowledged that institutions serve to allocate goods and services among competing individuals, user groups and loci of power. If a certain institutional change affects more than one party and all the parties have the capacity to influence or block the change, then it is essential that all the parties expect to be at least as well off after the change as they were before. When this does not happen, the party which the institutional change makes worse off will attempt to block the change. If the proposed change is to be Pareto superior the aggregate output must increase as a result. If the aggregate output results and some parties remain worse off, in that case distributional conflicts may emerge.

There are also situations in which not all of the parties affected by change in property rights have the power to influence the change. In such situations there is no reason to believe either that new institutions come into being primarily to promote gains for the various parties affected by institutional change or even that existing institutions solely serve to increase welfare. Therefore it is not the aggregate gain (or loss) for the individuals who will be affected by the institutional change that is significant, but rather the gain (or loss) to individuals with the power to block institutional change.

Libecap in "Contracting for Property Rights" contends that when bargaining parties propose or anticipate institutional change, they compare their anticipated income streams with the present. Their anticipated expectation of outcomes from new arrangements determine the contracts that will define
new property rights. Arun Agarwal however makes an important point responding to Libecap's hypothesis. He says that bargaining parties do not just compare their personal income streams under the status-quo and the proposed property rights arrangements, but they also compare their expected income streams and benefits with that of other parties that will be influenced by the proposed institutional change. This is also applicable for institutions that govern the use of the commons. Competing factions which receive benefits from common resources e.g. members of van Panchayats in the forest area of Almora may be willing to take cuts in their share of the benefits of the common, at the same time they would ensure proportionate reduction in the share of non members.

Hardin argues that in the heterogeneity of the different parties involved in the bargaining process for creating new institutional arrangement there is more prospect for institutional change. He argues that one can expect "better prospects for successful collective action in the asymmetric than in the symmetric group" (Hardin, 1982). On the contrary, Ostrom and Libecap suggest that homogeneity among group members, especially their interests will make it more likely that an efficient institutional change will occur. (Ostrom, 1986, 1988) This situation is quite applicable in the creation of Van Panchayats in Almora and FPC (Forest Protection Committees) in West Bengal, which we will deal in detail in the next two chapters. However, here homogeneity among groups is measured not only in terms of income but also in terms of common interest, socio-economic context and situational experiences.
While explaining institutional change, Ostrom also proposes two additional factors, the incremental and self transforming nature of institutional change and the importance of political regimes in which local institutions guiding resource utilization in villages are set (Ostrom, 1990: 188-91) She further adds that the presence of participants with leadership or other assets are equally crucial.

While dealing with homogeneity of groups it can be said that if the group to which the institution is catering is homogeneous i.e. their interests and endowments are similar, it facilitates the maintenance of institution. Large differences in the interest and endowments of users will mean that such differences be accommodated in the rules that govern distribution of benefits or else larger users will attempt to break rules to suit their interests and the other users will find it difficult to sanction them. Of course, users will attempt to break rules even when they are roughly equal and have similar interests; however they will not differ very much in their capacity to break rules. Hence, users who do not break rules find it easier to sanction rule breakers.

Institutional change is not always propelled by persons who are directly affected by the change. Only Government rules which are macro in nature influence the creation of formal and informal institutions. Governments have their own interests in mind when creating the kinds of institutional arrangements they do. However the rules they frame influence the manner in which the local users utilize resources. The successful and unsuccessful attempts of different groups in villages to promote, ignore, circumvent and violate government rules which influence resource use creates
a dynamic resource use, which would be very different were governments not to intervene at all, even if the results that actually occur after government interventions are substantially different from what governments intend when framing rules.

Government rules thus act as an external variable that facilitate or discourage the formation of local institutional arrangements which can accelerate or ration resource use. The same role is played by existing local institutions that promote or hinder collective action at the local level in areas other than the use of community resources. "The institutional capital" as Ostrom puts it "present in the form of the other institutions in the villages aid the processes involved in the supply of institutions."

The community institutions that guide the use of common resources in villages are not static. The rules comprising them undergo constant change. Such changes result from the attempts of different villages to gain greater benefits for themselves by infringing rules that were framed to guide resource use and from changing capacities of different villagers to break rules. Villagers ability to break rules and push forth creation of new formal or informal rules is also influenced by arrangements for monitoring and sanctioning rule violations.

Thus the supply model of institutional change can be summed up by stressing that the demand for institutional change arises when some gain cannot be captured under existing institutional arrangements.\(^{21}\) Changes in relative factor or product prices, changes in the size of markets, changes in

\(^{21}\) For detailed study on the model see Feeny (1982:84) Ruttan and Hayami (1980-81) and Hayami and Ruttan.
technology and changes in the fundamental decision rules of government are among the important variables that create disequilibria in the existing institutional arrangements. Whether change will occur would depend however on the supply of institutional change - the willingness and capability of the fundamental institutions of the government to provide and permit new arrangements. The capability depends in part on the costs of institutional innovation which in turn depends in part on the stock of existing knowledge on the design and operation of institutions. The willingness to provide new arrangements also importantly depends on the private benefits and cost of providing change to the agents who are in a position to do so. Thus the existing set of institutions and the initial distribution of power will have a significant impact on the kinds of new institutional arrangements which are supplied. Institutional change then arises through the interactions of the demand for and supply of change in dynamic sequences. The institutional response in one period becomes part of the initial conditions in the next thus affecting the subsequent path of change.

Over population, market forces, lack of awareness, inappropriate policies which cause resource degradation, they all operate within an institutional context. This is applicable in all types of resource regimes and more specifically if the resources are held in common. What is important is that how institutions which regulate resource use exacerbate or lessen the impact of these factors. Government interventions or regulations however fail to respond as to how institutions respond to resource use. While tackling resource degradation or depletions, institutions basically have to overcome collective action problems at various level viz - taking collective decisions on
issues where parties with different interests are involved, creation of rules for resource use, monitoring of users, sanctioning of rule breakers and settlement of conflicts among parties subject to resource use.

In every Indian village there are institutions at the local levels both formal and informal which manage resources which are commonly held. However the manner in which these institutions function and enforce their management system may vary across villages. These villages develop their own decision making arrangements autonomously but within the broad purview of govt policies like the Van Panchayats in Almora or in joint efforts with the state govt of the area e.g. Forest protection committee. Even in the later case the institutions have their say in the functions but while taking major decisions the endorsement of the Govt. personnel who is in charge of such matters is required. They are thus set within a broader framework of governmental and economic institutions. The institutions prescribe the manner in which members of village communities can use benefits from local resource systems. At times it becomes quite difficult to establish specific analytical boundaries between communal, private and government institutions regulating resource use. This is not to assume that all village institutions enable efficient, sustainable or equitable use of resources. In few of the case studies which I have dealt, usufruct i.e. fuel and fodder are at times over exploited or degraded and at times there have been no regulations even for tree felling. In some cases the benefits of the resources are being appropriated by a small group of villagers. However certain other factors play a role e.g. political linkages of the group, affiliation with the already established local self govt body e.g. Gram Panchayat or people’s access to other source of power like local elements or even the local police.
When we are talking of different type of institutional arrangements under property rights framework viz private, common, govt. and other types it is dependant on the kind of authority in which the property rights of access, use, management, exclusion and transfer of resources are vested. In suitable combinations, rights to access, use, manage, exclude and transfer of resources can approximate different types of property rights arrangements. Arun Agarwal in his research however has made a crucial point that it is the right to transfer resources which is important in determining the ownership of resources. Depending on who possess this right, the resource will be owned by the government, by individuals (or firms) or by a community.

In the villages of Almora and Midnapore which I studied the right to transfer a forest area or a land is not completely under the purview of the respective communities. In fact transferring of resources to any other body or individual is a complicated process, so that existing ownership patterns of community managed resources are extremely hard to alter. For e.g. if the village Panchayat wants to convert a common land for public purposes e.g. school etc., it would pass a resolution which has to be approved by the revenue authorities at the district level. A more common way in which the legal status of commons changes is when long standing private encroachments on commons are regularized.22

The transfer of resources enable individuals or communities to capture future benefits of current investments through transfer prices and without this right inefficiencies may result at least theoretically. But while it is true that few communities have the right to transfer or sell the forest and

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pastures that they control, few of them would want to transfer their resources. The forests and pastures are crucial for the survival of the community and its animals. The possibility of capturing future benefits of current investments into a resource through transfer prices is more a concern for people who do not depend on the resource for their daily survival.

As far as efficiency of institutions are concerned, the right to transfer resources is less important than the right to exclude others from the resource. As long as outsiders are not excluded from the resource, owners cannot capture benefits. In such situations, over exploitation of resource, will take place. Alchian and Demsetz use the relationship between non excludability and over exploitation to argue that communal property will be over exploited. According to them, in communal ownership individuals do not possess rights to exclude nor the right to transfer resources, only the right to access, withdraw and manage resources which belong to them. However there are theoretical and empirical grounds to accept that communities by definition cannot exercise rights to exclude outsiders. Even if an individual in a community cannot exclude outsiders, villagers can create formal and informal centers of authority, and vest in them decision making powers so that only community member can access, use and manage the community forest resources. Therefore if communities can exercise rights to access, use, manage if not exclude others from the resource, it is at least theoretically possible for communal resources to be managed without external interventions or privatizations. Whether the resource will be managed in a desired fashion will depend on the actual rules of managing and how well these rules are translated into practice.
According to Furubotn and Pejovich, Ostrom and Arun Agarwal, to solve the problems of overuse and resource degradation, institutions must ensure that rules be enforced at four distinct operational levels of management i.e. rules that prescribe how local resources must be used, rules for monitoring resource use to guard against violations, rules for sanctioning deviance to prevent further violations and rules to arbitrate disputes over the meaning of rules and to create new rules. If users flout rule at any of these levels institutional arrangements can unravel and eventually fail to ensure sustainable resource use. Here the focus is on rule formation and enforcement. For them the first step in the formation of a viable institution at the local level is the creation of rules to use a resource system. In general use rules must be formed in accordance with higher levels that are specified by the State. Use rules have two aspects: some of them specify how benefits from a resource system can be appropriated, others describe how users must contribute to protect, maintain or enhance the resource. Ostrom calls this appropriation rules and provision rules.

In this study while analysing institutions we will go beyond rule formation monitoring and execution/enforcement, these are one of the few variables for institutional analysis. Successful performance of institutions are also dependant on many other factors, few of which are internal and others are external to the context in which the institution is functioning e.g. incentive for the members to participate, assurance mechanism, are internal while extreme scarcity/abundance of the resource which is being managed i.e condition of the resource, physical attribute of the resource homogeneity of user group level of user group participation can be considered external variables. We will therefore try to probe in the next two chapters that
what are the factors facilitating successful or leading to unsuccessful functioning of institutions. It is seen that where resources are in abundance i.e. subtraction of resource units from resource system does not effect other members share to the resource, and where the resources are to scarce, its availability does not affect the members of the community and the formation of institutions become meaningless and if formed does not function in a required manner. Further functioning of institutions guiding resource use is related to the communities’ dependence on the resource. We shall try to see in greater details whether there is a viable correlation between dependency and management.

This chapter thus presented the theoretical framework that informs the empirical cases in the following chapters. I will study both successful and unsuccessful institutions in terms of functioning and decision making arrangements and the outcomes and consequences of such arrangement. In doing this we will also concentrate on the history of their formation.