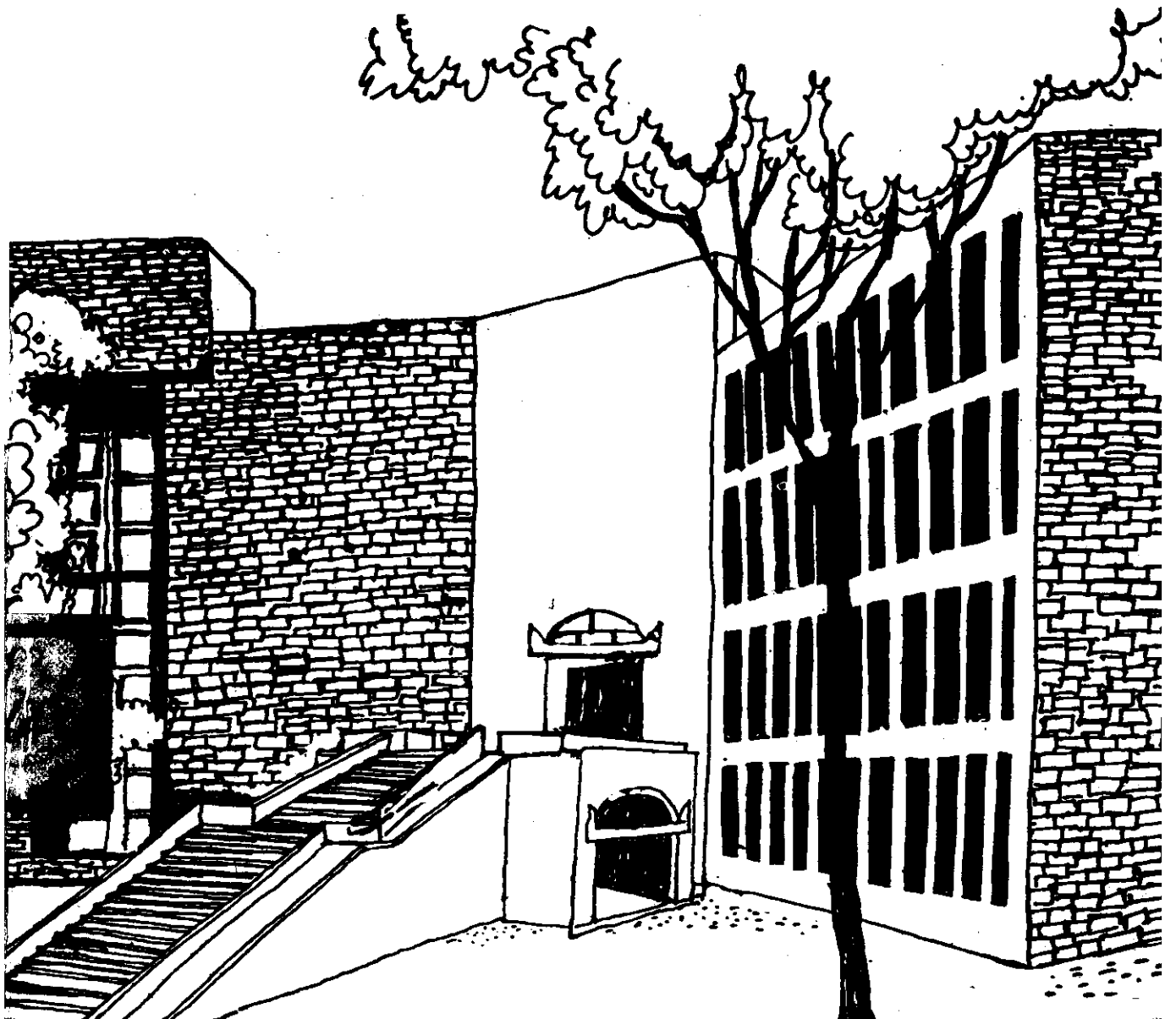


# Working Paper



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ECOLOGY, MARKET FORCES AND DESIGN OF  
RESOURCE DELIVERY SYSTEMS : SOCIO-  
ECOLOGICAL PERSPECTIVE

By

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BY

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ABSTRACT

Neglect of Ecological (i.e. edaphic, climatic and natural resource endowments besides man-biotic interactions) variables in organizational theory literature in West is understandable due to near complete subsumption of ecological forces by market forces. Such a neglect in developing agrarian societies is difficult to understand. The ecological forces shape the evolution of market forces in such societies.

Any theory of organizations to be socially effective must be preceded by a theory of environments. The socio-ecological paradigm relying on interactions between four-S (space, season, sector and social stratification) provides one way of attempting unambiguous specification of organizational environments. Examples from various product, service and banking organizations are used to advance the above concept. There is a need for studying match or mismatch between portfolios of organizations with portfolio of economic enterprises evolved by different classes of rural producers in a historical context. The development is the process of reducing economic disparities, widening of individual decision making choices and extending time frame for appraising investment choices of the poor. The design and dynamics of developmental organizations can manifest these concerns best by explicit recognition of the challenges inherent in the transition of 'needs' poor have into demand they can articulate. The excessive reliance on market forces or voluntary organizations cannot help bridge the regional, sectoral or social imbalances. The 'is' should not be allowed to become 'ought'. Values of researchers would need to be made explicit in this regard.

Study of social articulation process particularly in backward regions endowed with risky ecologies will provide design avenues for socially responsive public and private organizations. The paper provides some arguments for reducing excessive reliance on study of intra-organizational variables in gearing organization towards the poor clients who can't protest, pester or persuade the researcher to do otherwise. At least at present.

## ECOLOGY, MARKET FORCES AND DESIGN OF RESOURCE DELIVERY SYSTEMS

### Introduction

Organizing delivery of resources in a fair manner in a basically 'unfair' social structure poses tremendous challenge to policy planners. The problem becomes further complicated when we note that the relationship between ecological diversity of the environment to which organizations are supposed to adapt, and the evolution of market forces are only feebly understood. The result is that safer and surer path of designing organizational structures that can respond to articulated demand for resources takes precedence over the identification of the needs and their transition into demands. The market creating role is subsumed under market responding role. The imbalances whether sectoral, spatial or social widen. And the economic disparities in the society are not only legitimized but are even considered 'necessary' or 'inevitable' in the process of economic transition. The 'is' becomes the 'ought'.

The process of development in an essentially agrarian society where majority of the poor peasants and landless labourers have chronic deficit in their household budget (Gupta, 1981) is essentially a process of widening the decision making horizons of these people. The extension of time frame in which poor people appraise their investment choices is a necessary condition for amelioration of poverty. The provision of organizational support to perceive these choices and chose the viable ones could be considered a sufficient condition.

However, despite given the socio-political realities of existing income and asset distribution, the role that autonomous public organizations can play in converting 'needs' of poor people into 'demands' is not insignificant.

Historically, the organizational theorist have underplayed the market creating role. The reason could be traced in the way academics have defined the problem, collected the data and drawn the inference. The elitist bias in the organizational theory has been attributed by some to the close nexus between researchers and the administrators and managers who share common language and world views (Jermier 1980 : 202 in Gupta, 1982). Others have considered the functionalist perspective responsible for this bias since it considers power gradations as inevitable or even necessary (Clegg 1977 : 35). Crisis in the organizational theory, some believe has emerged because organizations have not been properly situated in their societal context (Gouldman, 1978). Extreme American or Western orientation is also considered to be responsible for inappropriateness of dominant organizational design paradigms (Khandwalla, 1977, 1980, 1986, Mrela 1981, Gupta 1981).

### Key Question

How do we situate organizations in their social context? Is it enough if we restrict to the definition of, this context only by the managers within organizations (Smith et al 1980)? Should relevant organizational theory be preceded by an internally and

externally valid theory of environments (Simon, 1982)? Is it possible to develop objectively measurable constructs of environments such that different descriptions of organizations do not end up being description of different things (Mrela, 1981). In a mixed economic system, are market forces supposed to complement, supplement or substitute the role of public organizations? If certain sections of society cannot articulate their needs in a manner that public developmental organizations may perceive and respond to them, should the nature of articulation be changed first or design of the organizations which can perceive the demands of only some and not others? If the beneficiaries of such organizational resource allocative practices are situated in ecological contexts where markets forces are strong, what relationship should be established between developmental organizations and market forces given the history of demand articulation or absence of it in different social, cultural and ecological contexts?

This paper is a modest effort to trigger the debate on the above questions. We are not claiming answers to all these questions. However, the socio-ecological paradigm presented in this paper enables the more precise conceptualisation of the organizational environments in a manner that resource delivery systems which are accessible to poor can be designed. The paper is divided into four parts. The discussion on need for precision in the definition of organizational environments has been presented in part one. The socio-ecological paradigm is presented in part II along with the implications for design of

resource delivery systems. The implications for future research on designing resource delivery systems are drawn in part III along with discussion on examples of mismatch between environmental context and organizational strategy and structure.

#### PARI - I

##### Environment of Organization : Need for Precision

Extensive review of literature on developmental organizations or developmental implications of commercial organizations had demonstrated a considerable lack of studies on supply side analysis. While there were many studies of how the poor people coped with risks in different ecological contexts the organizational mechanism of risk adjustment and match or mismatch of these adjustments with that of the farmers had not been studied (Gupta 1986). Tracing the debate between behaviouristic and structuralist view point about organizational choice, the question was raised, "How much freedom for human purposive action (the visible hand), the underlying structure (the invisible hand) give"? (Hesseling, 1982 : 102). The behaviour of invisible hand obviously could not be understood unless the patterns in the emergence of market forces and response by organizations to these forces was studied.

How organizations define their environment with regard to the nature of risk inherent in it due to ecological endowments becomes important. The perception of an environment has to be distinguished from its objective characteristics. Same proximal environment may be perceived to be less risky by some and more risky by others. However an arid risky environment remains risky



no matter which organization is dealing with it.

The search for the safer environment amongst the decision makers in organizations has been justified theoretically by some who assume it as a major management function (Pfeffer and Selanick, 1978, 262-263). It has been ignored that in a developing society economic development of risk averse farmers could not be expected to take place if risk aversion was assumed as a natural attribute of organizations (see Myrdal 1968 : 367). The agricultural conditions are obviously far more stable in irrigated regions endowed with good soils, sound market infrastructure and other support systems. Over a period of time when environmental risks were reduced due to public investment in irrigation, transport and provision of other services it was inevitable that rate of return on private investment in meeting public demand for new products or services would be considerably higher. Ability of different classes of people to articulate their demand in such regions was also high because of sustained production base. Market forces aggregating such demands articulated by different classes over time and space further improved the viability of institutional interventions that responded to these demands. The arid or semi-arid risk prone regions (or flood prone or hilly areas) with unstable production base failed to attract market forces precisely for these regions. The role of public organizations in allocating resources to risky environments became a state responsibility given the socialist form of constitution in India (Gupta, 1984).

Conceptualising resource allocation by organisations in an iniquitous society having a wide range of ecological conditions posed a positivist dilemma.

"Unfortunate evaluative judgments tend to creep into the positive economic analysis when it is couched in terms of supply and demand. Another way of saying the same thing as before is that interactions in a perfect market will result in scarce supplies of goods being used to satisfy the 'most pressing' demands." A demand is most pressing by virtue of having the highest bid attached, and spelled out in this way the phrase loses its air of innocent charm. Hence there can be no moral case for allocating goods to individuals according to market demands without first establishing a case (atleast stating as presumption) that the present distribution of wealth is morally justifiable" (Goodin 1982, pp 220). The development is not the process of just responding to existing demands and thus exacerbating given social iniquities.

The 'ought' does not follow from 'is' (Rosenberg 1985 : 67). as mentioned earlier even though some believed that markets made people free to choose (Friedman and Friedman, 1980 in Sen 1985).

What often is left unsaid in the discussion on organizational environment is the process through which some people are free to make certain choice while others are constrained because of historical reasons. It is true that many of these constraints cannot be removed by any one organization no matter with whatever resources it has at its command. However, the ability of any organization to contribute towards even reduction of such constraints would depend upon how strategies of these organizations complement similar strategies of other organizations operating in the same environment. This calls for

an inter-organizational perspective. However unless the respective definition of relevant environments by various organizations coalesce how would their ability increase to perceive the needs not yet transformed into demands!

After reviewing 94 articles on organizations in developing countries it was recently found that those who viewed organizations as closed system faced no difficulty in applying conventional western theories. However, those who were interested in organization relationship with its environment were likely to find serious difficulties in applying western theoretical approaches, necessitating major adjustments to conventional theory (Kigg undu Mosses, N, Jan J Jorgensen, and Taieb Hafsi, 1983, pp 66-84). The conceptualisation of environment in literature has, thus been quite weak. Questions about characterization of environment have been raised "whether it is the objective characteristic of the environment or those characteristics as perceived by organization decision makers that should be incorporated into studies of structure (Pfeffer J, 1982). Excessive emphasis in theory on cognitive processes has been decried. The general tendency to equate organizational behaviour as summation of attitudes of individuals in organization has been criticised because attitudes were not necessarily tightly linked to behaviour or even connected at all (Pfeffer, 1982, pp.257).

Likewise, attempt to assume all organizations as unique or all-alike has also been criticised. Instead population level analysis of different sets of organization has been suggested as

an answer to the problem of meeting criteria of scientific method i.e. classifiability, generalizability and predictability (Mckelvey Bill and Howard Aldrich, pp.110). While population level analysis is justified to get a feedback to macro-policy uniformly applicable to all the organizations in the population, the attempt to extend population ecology framework to suggest that only the best fit forms of an organization survived in a population was difficult to appreciate (Ibid). The assumption was that the organizations which did not adapt opted out. As we know well not many organizations and particularly in public sector, got closed merely because they were not most fit to serve the environmental needs. Further, the population ecology model is an organization theory equivalent of equilibrium economic framework based on supply and demand.

The logic of the 'survival of the fittest' becomes a tautology when applied to organizational contexts. What would survive: the most fit organizational form. What is the most fit form: which survives the best. Without minimising the need for studying population of organizations to understand implications of macro policy, we may add that inter-organizational differences in perception of environment and allocation of resources have been found to be least significant in regions endowed with low risk ecological resources (Gupta 1986). In risky ecology contexts however, these differences are sharpened.

Another features of organizational theory literature which militates against better understanding of environmental characteristics is the excessive reliance on intra-organizational variables. Behaviour in and not of organizations is accorded the most attention. While we agree with the role that is assigned to O.B. in socio-economic development in developing societies (Khandwalla 1986:7) we do not think the way to do so is by emphasizing on 'strategic individuals and groups' only.

It has been argued that the theories which prescribe only intra-organizational changes are essentially internalizing the consequences of the problem that may lie outside (Offe, 1985:303). At the same time, the 'problem' outside may be caused directly or indirectly by the actions of a set of organizations. The designers of these organizations may either have erred in anticipating the environmental diversities and patterns therein, or may have put too much of faith in human motivation, attitudes

and orientation.

Contingency theories have also been criticised because of lack of precision in enabling falsification of a proposition. It is said that many a times an empirical interaction is used for prediction (McKelvey and Aldrich, 1982:110). The descriptions have been used for prescription as well as prediction. (Sen 1981). As we argue herein later, the need for precise description of organizational environments necessitate inclusion of ecological variables in the OB literature for deriving valid prescription and realistic predictions. The debate between external perspectives and the inward looking perspectives on Organisation theory are most precisely put as, "It is still true to say that the actions of small, single organizations count for little in the face of long-run trends discerned at a population level of analysis" (Astley and Vande Van 1982:). However it is added, "one should not be reduced into representing this fact in terms of vague natural forces and external constraints residing in faceless environment" (emphasis mine).

Our contention in this paper is two fold:

- (i) The natural forces are vague only as long as the relationship between natural and market forces are hypothesized as weak or non-existent. As discussed above, given the ecological endowments and state of agricultural technology, the evolution of market forces triggered by demand generation process is quite eco specific. In low risk ecological niches,

historical accumulation of capital enables articulations of demands which can be responded by market forces quickly and even some what efficiently. Given political propensities to show results in shorter time frame, it is not surprising that public organization reinforce the preferences of market forces rather than counter balance them (Issa Abdi Ali 1977). The concentrated segments of society having high level of development "are coherent, consolidated, and inter dependent; they concentrate functions and power, and they control and concentrate resources." Dispersed segments on the other hand, "are geographically dispersed, but they are also loosely connected, easily fragmented, sectionalised , mutually independent, performing few functions and powers and lacking control of Resources". (Gerlach and Palmer, 1981: 355)

The need thus is to reduce the vagueness that organizational scientists find in describing and analysing the natural forces and their interaction with human choices.

- (ii) The environment can be considered faceless only when the distribution of resources over time, space and sectors in the rural environment was believed to be random in nature. Studies by the author in several South Asian Countries (Gupta 1984a,b; 1985,1986) have

provided the evidence about the systematic interactions between space, season, sectors and stratification in society. We deal with the conceptualization of the environment in next part so that implications for organizational design can be drawn.

## PART - II

### Socio-Ecological Paradigm: Implications for Organizational Design

The empirical evidence validating this framework has been presented elsewhere (Gupta 1981a, 1984a, 1984b, 1986). We mention only the key elements of this paradigm here.

The main assumption are: The ecological conditions define the mix or portfolio of enterprises which can be sustained in a given spatial context or a watershed. The scale at which different social classes maintain these enterprises however, is a function of their respective access to factor (land, labour, capital, information) market and product market (technology; different crop and livestock species and varieties there of etc.) kinship networks, extended family system; public; private and communal risk adjustment strategies in a historical perspective etc. The mean-variance characteristics of the portfolio of enterprises influence the risk perception and response patterns of different classes.



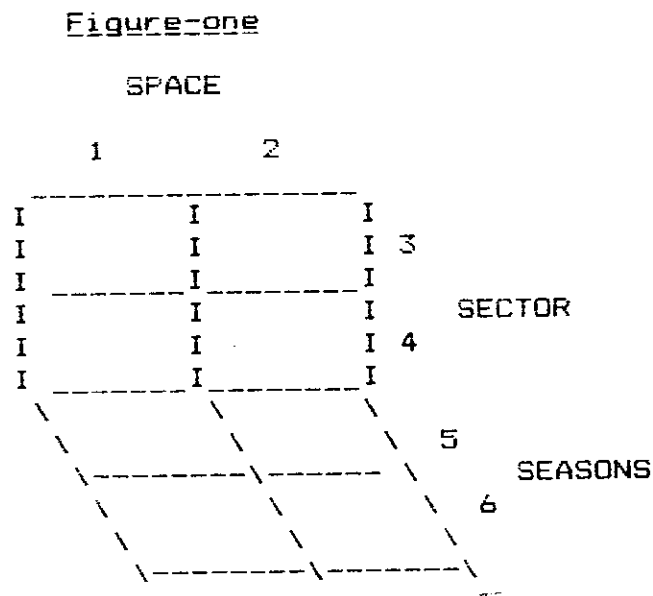
Those who have low mean-high variance type of portfolio accumulate deficit in their household budget. The deficit induced indebtedness generates dependent exchange relations which limit the "freedom to chose" of those who are dependent. At the same time the choices of the dominating social paterners are widened in the same proportion. The ability of majority of marginal producers in risky ecologies to articulate their demand for various product and services is also constrained by the psychological environment of deprivation (Sinha 1982). The biotic variables thus contribute directly towards the generation of decision-making option of different classes.

The ecological conditions and settlement systems are also quite correlated. The result is that transportation costs to cover same number of clients vary in differetnly populated regions. The incentives for private organizations to perceive such dispersed demand of small scale erratic nature can be well imagined. There are some who argue that voluntary organization should be expected to meet such needs (Khandwalla 1985, Paul 1985). However, given the social structure and risky environment, it is not without significance that not many voluntary forms of organizations evolve in such risky ecological contexts. The public delivery systems are obviously obliged to serve different classes in such regions. However the paradox is that designs of organizations suitable for low risk - high return, high population density regions are often chosen (on grounds of familiarity and so called proven success) to deliver resources in very contrasting ecological contexts. The result is

a mismatch between national goals of achieving egalitarian social structure and organizational strategies of achieving short term viability through response to only viable clients in regions with surplus generating portfolios.

Cross subsidization or transfer pricing will have to be an essential attribute of any viable organizational strategy. How the strategy and structures can be matched with the attributes of ecological environment and the play of market forces is discussed next.

The design options can be explained with the help of following 4-S diagram:



Each sector can be dichotomized to understand the logic of extremes. for instance space can be dichotomized in such a manner that subset-1 become low population density and subset-2 the high population density; or low lands or high lands, undulated or plain topography etc. The sectors can be dichotomized as agriculture or industry; public or private;

specialized or diversified, single crop or diversified crop regions, cash crop or food crop dominated portfolio etc.

The seasons can be unimodal or bi-modal rainfall regimes, arid or humid tropics, low rainfall or high rainfall regions, low seasonality or high seasonality etc.

Given any two sectors, the third can be anticipated. In regions with low rainfall or high seasonality with low population density, one can anticipate absence of private organizations, specialized economy or single crop conditions. Diversification of portfolio in risky conditions over time i.e. (over seasons), space (through migration, pastoralism etc) and sectors (crop mixtures as against single crop, crop-livestock-craft interlinkages as against any one as dominant enterprises) can thus be understood.

The social stratification (the fourth-S) and the consequent process of transition of needs into demands can also be derived from above scenario. Given low level of surplus generation, the credit markets may not be as competitive as in surplus region. The high rates of interest and interlinked factor-product market may result in continuous immiserization generating highly polarized and dependent social structure.

Two features of social structure can be anticipated, (i) individual households may have strong informal pooling mechanisms (of resources, information and trusts) reinforced by caste as

well as kinship; (ii) the articulation of demands may be very low due to lack of purchasing power and small scale of aggregate demand of those who have surplus even in such regions ).

It is true that we have simplified the reality just in order to make the following point clear.

In regions where private market forces are strong today due to historical factor, favourable ecological conditions, public investments in irrigation, transport and other services, public management of resource delivery is not warranted. The state can merely perform the role of regulation and reinforcement of social accountability systems vis-a-vis private or voluntary organizations. In regions where private market forces are weak, demand and supply of different resources don't clear at reasonable prices due to various imperfections regarding mobility of factors and dispersion of information, the public organizations have an important role to play.

We discuss the contradictions in existing structure and strategies of organizations which aim at development of poor in risky ecologies in next part.

### PART - III

#### Implications for Organizational Design and Strategies with focus for Future Research

We have drawn examples from service, product, Research and development, credit organizations etc to identify design alternatives.

### Organization of Services

Under Operation Flood-I & II, larger number of district dairy cooperative unions have been established by National Dairy Development Board directly through its own spearhead teams or indirectly through its support to the State Cooperative Federations. Detailed criticisms of the policies and reactions of NDDB are reported elsewhere (Gupta, 1985b). Here we take only two aspects of its organizational design - one dealing with selection of milk routes and another with organization of veterinary services. Both involve the common contradiction i.e. absence of judicious use of transfer pricing concept.

When setting up the dairy unions and identification of milk routes the viability of the operation is sought to be achieved at the level of each route. The popular demand for establishing routes in regions where initially the cost of milk collection would be higher than the surplus generated due to lesser bulk (which in turn is affected by fodder scarcities and low milk yielding breeds of cattle) is considered unwanted political interference. The market responding role is given primacy over market creation. Imagine a trade off between declaration of lesser dividend by a company and allocation of funds towards better environmental protection, staff welfare, consumer education etc.

There is nothing in the theory of firm which suggests that an organization should necessarily try to achieve viability at the level of each branch or product, service or even unit of

service. The surplus generated from certain viable milk routes, unions and federations should enable investment in not so viable routes in risky ecologies with dispersed settlements and high cost of transportation. How do we structure the norms of investment appraisal in such organizations so that needs of those who can not demand the services at the price at which other with more favourable historical experience can?

Another example from same context is that of pricing of veterinary facilities. Every member of a cooperative society under the Amul pattern can avail of the facilities of mobile veterinary service at the same rate - no matter whether he is a poor landless or a rich landlord. On the other hand a non member regardless of his status has to pay almost double the price. There is no attempt to cross subsidize poor member or non-member. How does one characterize the behaviour of such organizations? To which constituencies are such organizations accountable? What is the definition of relevant environment and from whose point of view?

Similar distortions are noted in case of Regional Rural Banks' branch expansion policy. Recent studies have brought out that even in the drought prone areas, the branches are first opened in the regions which are non-droughtprone (Gupta & Shroff 1985).

When organizational theorist complain, "there is little agreement about how the environment is to be conceived or which its features are most salient" (Meyer and Scott, 1983:14), they

are essentially voicing their concern about above type of distortions. One can not correct such distortions only through training of managers, exhortation about social responsibility or search for charismatic leaders. The monitoring system (Gupta 1981), norms of investment appraisal, drawal of balance sheet of intra and extra-organizational cost and benefits; explicit acknowledgement of transfer pricing principles are some ways in which more adapted and socially useful designs of organizations can evolve.

### Product Organizations

In a tribal district, the tribal welfare corporation was entrusted with the goal of improving the livelihood prospects of tribals. Even though tribals were engaged in several occupation like catching fish, growing crops, collecting forest produce, tending livestock etc. the corporation took upon fisheries as one of the activities through which developmental objective was to be achieved.

When fish collection was started, it was noted that tribals did not collect fish daily or they did not try to maximise fish collection per day per effort. The result was that corporation which had been obliged to pay a particular amount in lieu of annual fishing right to another department of state government found the whole activity non-viable in nature. The corporation engaged the professional fish catchers from another state to achieve the viability. The main objective of tribal development was substituted by achieving viability through a single activity

- in this case, the fishing. The fish and not the tribal fisherman became the the focus. The tribal did not try to achieve viability at enterprise level. They did not want to disturb the fish ecology of reservoir too much. They did not want to accumulate maximum surplus in minimum time through only one activity. The tribal development corporation attempted this in vain.

Organizations are defined as goal bound entities. How do we analyse the shift in these goals over time and space? Can these shifts be explained merely by managerial incentives? What role did the obligation to pay a particular amount (which in this case was jacked up in a bidding involving private contractors) play in the shift of goals? Historically, government had never recovered even a small fraction of the amount which a state corporation was asked to pay in this case. The coalition of vested interests in fish trade, who did not pay proper price, who used fish nets of even smaller size leading to excessive harvest of small fish affecting long term regenerative capacity of reservoir and who had no social responsibility on one hand and imprudent officials in government, resulted in distortion of organizational goals. The monitoring system of organizational effectiveness also contributed towards above (Khanna and Gupta 1983).

Mismatch between viability strategies of poor tribals (who optimised several objectives through entire portfolio management) and the 'developmental' organizations resulted in several other dysfunctional organizational features. The choice of technology; time frame to appraise viability; accountability to different



constituents were other aspects of this mismatch.

### Research & Development Organizations

Given the history of early success with high input responsive varieties of wheat and rice many scientists got hooked on to the package approach to technology generation and transfer. The model was essentially one way communication - one way power (Gupta, 1980). The scientists knew what the problems was, and they claimed they knew what the solution was. Most of the basic and applied research was restricted to on-station trials under most favourable environmental conditions. Later when problems of stagnation in Eastern - India in rice production and in dry regions in case of millets, pulses and oil seeds was faced, the government allocated massive funds towards these problem. The design of R&D organizations and their strategy of defining problems and seeking solutions remains more or less unchanged.

Instead of developing methods of rigorous on-farm trial (in farmers' fields), the very definition of the problem was changed. It is well known that highly localised ecological conditions such as that of deep water rice growing region in Eastern India cannot be simulated at the station. No international centre of research (like IRRI) has facilities of comparable nature. One of the way out is to screen genetic material under farmers' condition so that multi-line varieties capable of dealing with varying type of risks can be developed. (Maurya, 1986, Haque, Gupta & Abedin, 1986) However the formal research organizations and their

leaders still consider on-farm research something like agriculture extension and attach low importance. The results is that disproportionate share of research resources is allocated to solve problems that can be tackled only under controlled environment at Research Stations.

Likewise, in case of pulses and oilseed (in case of former, the production level today is lesser than what it was 35 years ago), instead of developing systems that can generate alternative technologies for use by poor farmers in rainfed conditions, major strategy is to identify opportunities for cultivation of these crops in more favourable climates. The crop and not the cultivator, is the focus of the majority of the scientists.

How do we appraise such definition of the problems and consequent organizational strategies? It does not have to be said that poor pulse growers are least articulate and can hardly be expected to lobby for policy and strategic changes like the farmers of Western U.P., Punjab and Haryana do.

Another aspect of R&D organizations is the need for considerable freedom, autonomy and at times space for even seemingly high-risk exploration. Given the centralised bureaucratic structures of many of the agricultural universities and research establishment, how much freedom is provided particularly to the younger scientists?

#### Banking Organizations

It has been hypothesized that in response to farmers' adjustment with the risk the banking organizations could also adjust with the risk through spatial, temporal and sectoral adjustments of their credit portfolio. They could lend in safer regions, in safer seasons (for example rabi season i.e. winter crop instead of monsoon dependent kharif crop) and safer enterprises like irrigation, mechanisation, cash crops etc. With the help of complete data involving more than 58000 loan accounts disbursed by 12 commercial and cooperative bank branches in 662 villages of a drought prone district., we have shown the way branches of different organizations defined the relevant environment and identified opportunities of investment in different sectors over different spaces. Some of the key findings were as follows:

- (a) If organizational rationality is defined as the ability to identify the most dominant resource characteristic of the environment then the banking system as a whole turns out to be fairly rational. However, the fact that except in one block (there were nine blocks of about 60-80 villages each in this district) in no other block the arid villages characterised by predominance of sheep specie could attract institutional credit also indicated the risk averse nature of the banking system (Gupta 1986 : 460). Those familiar with the ecological characteristics of arid regions know that the niches of sheep are characterised by undulated topography, poor soils, high diurnal temperature variations etc. In other words very high degree of risk inherent in

the production system. The peasant economy is generally dominated by pastoralism with only single rain-fed crop in Kharif season.

- (b) Recognizing that there was an aggregation bias inherent in any population level analysis we did a dis-aggregated analysis to understand the environmental preference of each bank. It was discovered that there were important differences amongst different banks with regard to aversion towards risk. Only those banks which were not free to choose the location of their branches had appeared by default to have financed the risky villages. One of these banks was the lead bank obliged to open branches even at such centres where other commercial banks did not do so. The other was a cooperative land development bank obliged to finance all over the district albeit for generally safer enterprises with sufficient collateral. In case of most banks the villages excluded for financing were found to be more risky than the ones included except branches of the above banks which behaved differently in two blocks.
- (c) It appeared that in the ecological regions with most developed economic infrastructure and comparatively less risky conditions, the inter-organizational differences vis-a-vis the determinants of credit flow ceased to be significantly different. In other words in regions where market forces appeared to be quite strong, various financial institutions seemed to behave almost in the similar manner apparently competing for the similar resource combinations

or endowments. This is a very important finding with regard to the selection of environment by public autonomous organizations.

- (d) The banks which had the least fit with the environment (that is where they failed to identify the predominant resource combination in different blocks) had a common limitation --they were obliged to open branches all over the district.
- (e) Despite numerous studies on banks we had not found any study which had looked at the branch level credit portfolios for all the bank branches in a given district. It was discovered that banks could identify the viable niches for those enterprises for which they themselves identified the demand, in other words selected their clients. However, they lost this ability when they participated in the scheme lending programmes where client identification was done by the district administration. Apparently the district development authorities in their anxiety to achieve targets collected applications for various purposes from wherever it was easier and quicker regardless of the scope of potential for that enterprise in the given ecological context.
- (f) There are two other issues with regard to portfolio analysis which this study throws up:
- (i) If the historically evolved mix of enterprises by the farmers was an index of the apparent viability and suitability at the given level of technology and access to institutions, then perhaps the objective

restoring ecological balance in drought prone regions would be served well if institutional portfolios reflected these (i.e. farmers') choices in some congruent way. Alternatively for the enterprises, which did not receive support of market forces or private investments particularly amongst the poor farmers, higher allocation of resource would improve their competitive position vis-a-vis rest and thereby prevent possibilities of ecological imbalances being further aggravated. This is an important area for further research.

- (ii) To the extent that risk in any region was high the farmers preference for low mean-low variance or at times management of low means-high variance enterprises might suggest a role for risk bearing by the banks so that farmers may go in for investments that offer high mean-high risks or high mean-low risks. This also calls for further investigation.
- (g) When inter organizational comparisons were made the credit seemed to flow with water as apparant from the concentration of credit by different banks in villages with better soil, plain topography and good ground-water conditions. One of the important limitations of inter organizational comparison in the organizational theory literature is that the environments of different organizations being compared are not controlled. In other words response of an organization - 'x' to an environment 'y' is compared with the response of an organization 'a' to it's environment 'b'. The result was that non-comparable phenomena was being compared and often invalid inferences were drawn. We tried to overcome this limitation by comparing different banks in the common villages i.e. villages financed by each one of them. It was found that the inferences regarding the organizational behaviour in comparative sense underwent considerable modification when

the environment was controlled. The implication is that the tendency to label the whole environment as turbulent, placid or otherwise uniformly for all the organizations should be avoided. By concentrating on safer enterprises an organization may define an otherwise risk environment differently than another organization which does not do so. This method also enables un-ambiguous measurement of the environmental variables in such a way that valid inter-organizational comparisons could be made and feed back on macro policy could be achieved.

- (h) The inter-organizational competition was found to be higher in the villages which were better endowed and had much higher area under irrigation than others. The population density was high and so was the degree of mechanisation.
- (i) When the characteristics of the farmers financed by different banks through sample study in the same region were compared, it was noted that banks not only avoided poorly endowed villages but also poorly endowed farmers.

It will be useful to see to what extent the measures of more subjective variables like attitude towards risk, or commitment orientation of managers reinforces the finding of our study. One important implication of validation of socio-ecological paradigm is that instead of spending considerable resources on training aimed at attitude modification, more attention may be paid for greater precision in planning and monitoring system geared to generate proper attitudes and actions.

### Summary and Conclusions

Given the fact that ecological variables have almost been subsumed by the market forces in Western countries the neglect of these variables in organizational theory literature there is understandable. However, in an agrarian developing society like ours such neglect is difficult to appreciate. Several authors in different disciplines have decried the tendency to either assume the human groups as not differentiated or to ignore their interactions with ecological conditions (Reddy, 1980). Major trend in movement away from descriptive analysis and increased focus on individual as unit of analysis rather than social structure and social process has also been criticised (Shannon and Miller, 1985). The Darwinism in organizational theory (Hanan and Freeman, 1976, Durkheim, 1933) has been criticised because of the obvious tautology inherent in the so called theory of survival of fittest (Agnew, 1981). Some have questioned even the possibility of having a fair test of phenomena in a unfair society (Reason and Ravan, 1981 : XIV), however, we are not as pessimistic. We have argued that a valid theory of organization and its role in social development cannot be evolved unless a theory of environment and its measurement in an unambiguous manner is developed. Our contention is that socio-ecological variables provide one way to make the definition of organization environment more precise. We do not suggest that the behavioural measurement of individual motivations in the organization do not have any bearing on the choices of public organizations. What



we are saying is that given the macro policy biases, institutionalised monitoring system, the underlying world-view of managers generates close correspondence between the play of market forces and resource allocation pattern of public organizations with exceptions apart.

It may be useful to recognise that in foreseeable future there will continue to be spaces in our society where a large section of rural peasantry, landless labourers, craftsmen and women would find it difficult to articulate their demands for resources provided by public organizations and the market forces at given terms and conditions. The only way the decision making options of these people can be widened is by investing in the process of transition of their needs into demand. Two important steps of this process are articulation and aggregation, both require different way of defining the historical context in which poor people suffer a stress and surrender without protesting. The challenge before organization designers is to identify avenues of intervention in a manner that we do not confront a paradox of developing risk averse farmers or peasants, through risk averse organizations. The concept of transfer pricing, cross subsidisation, monitoring through peoples' participation will have to be invoked if the structure and strategy of developmental organizations have to match with the challenge of removing poverty. There is a danger inherent in the attempt to explain variance in behaviour of organizations through only intra-organizational variables. And that is the repeated exhortation for more training, greater motivation and greater commitment. It

is assumed that the purpose of researchers in this field is to take the organizational goals as given. It is obvious that such a bias finds considerable support from policy planners who always raise the bogey of good policy and bad implementation. An inevitable consequence of this perception also is that blame for ineffective implementation of the policies is passed on to the shoulders of people lowest in the hierarchy of the organizations. This is the subject of course for a separate paper.

To prevent 'is' becoming from 'ought', it is necessary that we make the values of the researchers inherent in the definition of organizations and their environment explicit. We have tried just this much in this paper.

## BIBLIOGRAPHY

- AGNEW ROBERT  
1981                   The individual and values in Human Ecology :  
An Examination of the Adaptive Process, The  
Sociological Quarterly 22 (1981) 105-117
- ALDRICH  
HORWARD, B.  
1979.                   Organization and Environments, Englewood Cliffs,  
Prentice Hall, U.S.A.
- ASTLEY, W.G.  
& VANDEN, A.H.  
1982                   Central Perspectives and Debates in Organization  
Theory, Administrative Science Quarterly, 28(2),  
245-273.
- BENSON, J.  
KENNETH.  
1981                   Network and Policy Sectors: A Framework for  
Extending Inter Organization Analysis in Inter-  
Organizational Coordination, Eds. David Rogers  
and David Whetter, Iowa State University Press.
- BENSON, J.  
KENNETH.  
1978                   The Interorganizational Network as a Political  
Economy, in organization and Environment -  
Theory, Issues and Reality, Ed. L.Karpik,  
Sage, London.
- CLEGG, S. and  
DUNKERLY, D.  
1980                   Critical Issues in Organization, Routledge and  
Kegan Paul, London.
- GERLACH LUTHER  
P, and GARY B.  
PALMER  
1981                   Adaptation through Evolving Interdependence in  
Handbook of Organizational Design eds. Paul C.  
Nystrom and William H. Starbuck, Oxford  
University Press, pp. 323-384.
- GOLDMAN PAUL  
1979\*                   Sociologists and the Study of Bureaucracy: A  
Critique of Ideology and Practice, Insurgent  
Sociologist, 8:21-30
- GOODIN ROBERT, E  
1982                   How to determine who should get what, in  
Readings in Management Control in Non Profit  
Organization, Ed. K.V.Ramanathan and  
L.P.Hegstad, John Wiley, Canada, pp. 216-226.
- FRIEDMAN MILTON  
& ROSE FRIEDMAN  
1980 \*                   Free to Choose, Secker and Warburg, London p  
222 quoted in Amartya Sen, 1985, op. cit.

- GUPTA ANIL, K.      Viable Projects for Unviable Farmers: An Action  
 1981                      Research Enquiry into the  
                                  Structure and Processes of Rural Poverty in Arid  
                                  Regions. Paper presented at Symposium on Rural  
                                  Development in South Asia, IUAES-Inter Congress,  
                                  Amsterdam.
- 1981                      A Note on Internal Resource Management in Arid  
                                  Regions, Small Farmers-Credit Constraints: A  
                                  Paradigm, Agricultural Systems (UK), 1981 Vol.(2)  
                                  157-161
- 1984                      "Socio-Ecology of Land Use Planning in Semi-Arid  
                                  Regions", September 1984, IIM Working Paper No.33  
                                  Paper presented at Commonwealth Workshop on Land  
                                  Use Planning in Tropics, BARI & IIM-A, Jan.28-  
                                  Feb.2, 1984, Ahmedabad.
- 1984                      Socio-ecology of Land use in Bangladesh, paper  
                                  invited by BARC, IADS and Ministry of Agri  
                                  & Forestry, Bangladesh ,Dhaka ,1984.
- 1985                      Socio-Ecological Paradigm for Analysing Problems  
                                  of Poor in Dry Regions, Ecodevelopment News,  
                                  No.32-33, March 1985, pp.68-74.
- 1985                      On Organising Equity : Are Solutions Really the  
                                  Problem?, Journal of Social and Economic Studies,  
                                  Vol.2, No.4, October 1985, pp.295-312.
- 1986                      Socio-Ecology of Natural Stress, Technological  
                                  Change and Human Response in Bhutan, written  
                                  under UNESCO's sub-programme on Inter  
                                  Relationship Between Population Environment and  
                                  Technological Progress, 1986.
- 1984                      'Building Self-Design Capabilities in  
                                  Developmental Organization', Paper invited for  
                                  Annual Conference of International Association  
                                  of Schools and Institutes of Public  
                                  Administration, Bloomington, USA, July 1984.
- 1986                      Why Poor don't Cooperate: Lessons from  
                                  Traditional Organizations with Implication for  
                                  Modern Organizations, in Clare G. Wanger (ed.),  
                                  Politics and Practice of Social Research, George  
                                  Allen and Unwin, London, 1986, forthcoming.
- 1983                      Improverishment in Drought Prone Regions: A  
                                  View from within SDC/NABARD/IIM-Ahmedabad,1983.
- 1984                      Small Farmers Household Economy in Semi-Arid  
                                  Regions, CMA, IIM, Ahmedabad,1984.
- Role of Public Enterprises in Backward Regions:

- 1984 Generating Peasants' Perspective, IIM, Working Paper No.511, Ahmedabad,1984.
- 
- 1986 Management of rural credit and support system : An organizational study of financial institutions in drought prone districts,Department of Management, Kurukshetra University,Kurukshetra, unpublished Ph.D. Thesis 1986 .
- GUPTA ANIL K & MANU SHROFF 1985 Learning to Unlearn :An action research enquiry on rural banking ,CMA-PSG project ,IIM,Ahmedabad
- HASSELING PJOTR 1982 Effective Organization Research for Development, Pergamoon Press, Oxford.
- KIGG INDU MOSSES JAN J JORGANSON and TAIAB HEFAI 1983 Administrative Theory and Practice in Developing Countries: A Synthesis, A.S.Q. 28(1), 66-84.
- KHANDWALLA, P.N. 1980 Management in our Backyard, VIKALPA 5(3) 173-184.
- KHANDWALLA, P.N. 1986 O.B. for Social Development: A Position Paper W.P. No. 630, I.I.M., Ahmedabad.
- KHANDWALLA, P.N. 1977 The Design of Organisations, Haxoust Brace Jovanovich, New York.
- KHANDWALLA, P.N 1985 Personal Comments in Response to Author's Paper on 'Why Poor People don't Cooperate'. Transcript of Taped discussion,Int. Meeting of Institutes of Management for Social Development, IIM, Ahmedabad., Jan.
- KHANNA INDRAJIT, ANIL K. GUPTA 1983 Personal Discussions as a Part of CMA-PSG Project on CREATING demand System,iim,Ahmedabad.
- JERMIER JOHN M 1981 Infusion of Critical Social Theory into Organizational Analysis "Implications for Studies of Work Adjustment (i) International Yearbook of Organizational Studies, London.
- McKELVEY, BILL and HOWARD, ALDRICH 1983 Population, Natural Selection, and Applied Organizational Science, ASQ,28(1), pp.110.

- MEYAR, JOHN W.,  
and W RICHARD  
1983      Organizational Environment: Ritual and  
Rationality, Sage Pub. London.
- MLINAR, ZDRAVKO  
and HENRY, TELNE  
1978      The Social Ecology of Change: From Equilibrium  
to Development, Sage, London
- MRELA, K &  
M.J., KOSTECKI,  
1981      Social Science Usurped: Reflections on the  
Americanization of Sociology in Barriers and  
Perspectives, Studies in the Sociology of  
Organizations, the Polish Academy of Sciences,  
Institute of Philosophy and Sociology,  
Warszawa.
- MYRDAL, GUNNER  
1968      Asian Drama: An Enquiry into the Poverty of  
nations, Vol.II, The Penguin Press, London,  
pp. 367.
- OFFE, CLAWS  
1985      Disorganized Capitalism: Contemporary  
Transformations of Work and Politics, Ed. by  
John Kean, Polity Press, New York.
- PAUL, S.  
1985      Personal Comments, Tape Transcript of  
Discussion on Author's Paper on 'Why Poor  
People don't Cooperate', International meeting  
of Institutes of Management on Social  
Development, IIM, Ahmedabad. Jan.
- PFEFFER J and  
SALANICK, G.R.  
1982      The External Control of Organizations, Harper  
and Row, USA, pp. 262-263.
- PFEFFER, J.  
1982      Organizations and Organization Theory,  
Marshfield, Mass Pitman Pub. Inc.
- REDDY A.K.N.  
1980      An Indian Village Agricultural Ecosystem-Case  
Study of Ungral Village Part II - Discussion,  
I.I.S., Bangalore, mimeo. Non-differentiated  
human groups and their interactions with  
ecological contexts.
- REASON PETER &  
J. ROWAN, (eds.)  
1981      Human Enquiry : A sourcebook of New Paradigm  
Research, John Wiley & Sons, Chichester, 1981 -  
xiv "There can be no fair test in an unfair  
society"
- ROZEBOOM, W.W.  
1966      Foundation of Theory of Prediction, Homewood,  
Illinois, Dossey Presis, cited in Bobko,  
op.cit.
- ROSENBERG A,  
Prospects for the elimination of Tastes from

- 1985 Economics and Ethics ,in Ethics and Economics  
Ed. E F Paul ,F D Miller Jr & J Paul ,Basil  
Blackwell,pp48-68
- SEN AMARTYA Description as a Choice, Oxford Economic Paper,  
1980 Vol. 32 (3), pp.367.
- 1985 The Moral Standing of the Market in Ethics and  
Economics, ed. by Ellen F Paul, J Paul and F D  
Miller Jr., Basil Blackwell, Kent pp 1-79.
- SIMON HERBERT A. Introduction to a book by G. Dessler,  
1982 Organizations and Management: A Contingency  
Approach quoted in Hasseling Pjotr, Effective  
Organization Research for Development: Pergamon  
Press, Oxford.
- SINHA DURGANAND Towards an Ecological Framework of Deprivation  
1982 in Deprivation - Its Social Roots and  
Psychological Consequences, Ed. Durganand Sinha  
and Ramcharan, Tripathi, Girchshwar Misra,  
Concept, New Delhi.
- SMITH WILLIAM E, The Design of Organization for Rural  
FRANCIS J, Development Projects - A Progress Report, World  
LETHAM, BEN A Bank Staff Paper No. 375, Washington  
THOOLEN  
1980
- STOKES C SHANNON A Methodological Review of Fifty Years of  
AND MICHAEL K. Research in Rural Sociology, Rudnl Social 50  
MILLER, 1985 (4) 1985, 539-560.

\* originals not seen