INSTITUTIONS, REFORMS AND AGRICULTURAL PERFORMANCE

Pranab Bardhan
University of California at Berkeley
California, USA

1. Introduction: institutions and economic change

In the immediate post-war decades underdevelopment was largely attributed to deficiencies in factor endowments, particularly of capital (physical and human) and of foreign exchange to buy essential intermediate and capital goods. In the last couple of decades it has been increasingly recognized that the escape routes out of poverty are often blocked by various kinds of institutional impediments that go far beyond deficiencies in factor endowments (and are more difficult to resolve than by simple infusions of foreign aid or even rise in domestic saving). These institutions include those in the form of legal structures, customary rules, property rights, implicit or explicit contracts, and governance systems. These define the framework in which factors of production are utilized and developed. This paper starts with the general issues of institutional change (or lack of it) in developing countries. In the first two sections the paper draws upon the burgeoning literature in institutional economics and critically examine the institutional impediments to development. Then in the next two sections some of the ideas are applied to specific reforms in the agricultural sector in recent years and assess their progress and problems. In the last section the issue of appropriate sequence of reforms is discussed and some concluding remarks are drawn concerning gaps in our knowledge and research priorities.

In the development literature two recent strands of institutional economics have been influential. One is associated with the theory of imperfect information: the underlying rationale of institutional arrangements and contracts (formal or informal) are explained in terms of strategic behaviour under asymmetric information among the different parties involved. This theory has been fruitfully used in modelling many key agrarian and other institutions in poor countries, which are seen to emerge as substitutes for missing credit, insurance and futures markets in an environment of pervasive risks, information asymmetry, and moral hazard. It started with the literature on sharecropping, then on interlocking of transactions in labour, credit, marketing, and land lease, on labour tying, on credit rationing, on joint liability in group lending schemes, and so on. For examples and overviews of the models, see the edited volumes by Bardhan (1989), by Nabli and Nugent (1989), and by Hoff, Braverman and Stiglitz (1993).

The other school, associated primarily with North (1981, 1990) and Greif (1992, 1997), concentrates on comparative historical analysis of development processes (mainly in Western Europe and North America). North has pointed to the inevitable trade-off in the historical growth process between economies of scale and specialization on the one hand, and transaction costs on the other. In a small, closed, face-to-face peasant community, for example, transaction costs are low, but the production costs are high, because specialization and division of labour are severely limited by the extent of market defined by the personalized exchange process of the small community. In a large-scale complex economy, as the network of interdependence widens the impersonal exchange process gives considerable scope for all kinds of opportunistic behaviour and the costs of transacting can be high. Greif examined the self-enforcing institutions of collective punishment for malfeasance in long-distance trade in the late medieval period and in a comparative study of the Maghribi and the Genoese traders explored the institutional foundations of commercial development. Beyond the face-to-face village community the institutions a society develops (or fails to develop) for large-scale commercial operations, long-distance trade, credit and other intertemporal and interspatial markets, where the transactions are not self-enforcing, provide an important indicator of that society's capacity for development.

In Western societies over time complex institutional (legal and corporate) structures have been devised to constrain the participants, to reduce the uncertainty of social interaction, in general to prevent the transactions from being too costly and thus to allow the productivity gains of larger scale and improved technology to be realized. These institutions include elaborately defined and effectively enforced property rights, formal contracts and guarantees, trademarks, limited liability, bankruptcy laws, large corporate organizations with governance structures to limit problems of agency, and what Williamson (1985) has called *ex post* opportunism. Some of these institutional structures are non-existent or weak or poorly devised and implemented in less developed countries. The state in these countries is either too weak to act as a guarantor of these rights and institutions and/or much too predatory in its own demands, posing a threat to them.

One of the as yet inadequately resolved issues in institutional economics in the context of underdevelopment is why dysfunctional institutions often persist for a long time. Unlike the followers of the property rights school, who often displayed a naive presumption of the survival of the 'fittest' institution, the two strands of institutional economics identified at the beginning of this paper are quite clear in not ascribing optimality properties to the institutions as (Nash) equilibrium outcomes. North (1990), Bardhan (1989), and others have pointed to the self-reinforcing mechanisms for the persistence of socially suboptimal institutions when path-dependent processes are at work. Borrowing an idea from the literature on the history of technological change, one can see that there are increasing returns to adoption of a particular institutional form — when, the more it is adopted, the more it is attractive or convenient for the others to conform on account of infrastructural and network externalities, learning and coordination effects, and adaptive expectations — and a path chosen by some initial adopters to suit their interests may 'lock in' the whole system for a long time to come, denying later, maybe potentially more appropriate, institutions a footing.

In this path-dependent process North, more than others, has emphasized how the interaction between the 'mental models' or social norms the members of a society possess and the incentive structure provided by the institutions shapes incremental change. One related example may be cited from the comparative study in Guinnane (1994) of credit cooperatives in German and Irish history. The Raiffeisen agricultural credit cooperatives that were successful in nineteenth-century rural Germany provided a model for the introduction of similar organizations in Ireland in 1894. But they did not succeed in Ireland partly because the social and cultural norm of mutual monitoring and collective punishment among members of a cooperative, which worked in rural Germany, did not in the Irish countryside.

The path-dependent process is also made more complicated by the frequent cases of unintended consequences in history. More than a century back Menger (1883) made a distinction between 'pragmatic' and 'organic' institutions. The former are the direct outcome of conscious contractual design — as in the institutional models in the theory of imperfect information or transaction cost — while the latter, like in Menger's theory of the origin of money, are comparatively undesigned, and they evolve gradually as the unintended and unforeseeable result of the pursuit of individual interests. Elster (1989) has referred to intermediate cases, where an institution may have originally come about unintended, but agents when they become eventually aware of the function an institution serves for them, consciously try to preserve it from then on.

2. Institutional Impediments to Gains from Trade

In the new institutional economics literature the major stumbling block to realizing potential gains from trade is political. Looking over the last few hundred years of history North, Weingast,[1] and others have focused on a particular political mechanism of credible commitment that made much of the difference between the success story of Western Europe and North America and the stagnation in large parts of the rest of the world over this period. This mechanism essentially involved self-binding by the rulers (like the king giving up royal prerogatives, increasing the powers of the Parliament, etc. in 1688 in England) in the former regions credibly committing themselves to be non-predatory and thus securing private property rights and allowing private enterprise and capital markets to flourish. While not denying that such self-binding mechanisms can play a very important role in history, is possible to argue that they are

1 See North and Weingast (1989). For some empirical criticisms of the argument for English history, see Carruthers (1990) and Clark (1995).

neither necessary nor sufficient for economic development. They are not sufficient, as there are other (technological, demographic, ecological and cultural) constraints on the development process, not all of which will be relaxed by the rulers disabling themselves. They are not necessary, as a few non-Western success stories (Japan since Meiji Restoration, Korea and Taiwan since 1960, coastal China since 1980, etc.) suggest; in most of these cases while the rulers often adopted prudent policies (and sometimes even acquired reputation to this effect), they were far from disabling their discretion. Major economic transactions in the successful East Asian cases have often been relation-based rather than rule-based. While charges of cronyism have been bandied about in the diagnosis of the recent Asian financial crisis, the more long-term success stories even with relation-based systems cannot be denied.

Montinola, Qian and Weingast (1995) have applied the idea of self-binding of the state to their understanding of the phenomenal economic success of Chinese reforms in the last two decades (even when the usually prescribed prerequisites of secure private property rights and rule of law did not obtain in China). By devolving regulatory authority to the local governments, they claim that the central government has committed itself to limiting its own interventions, and fiscal competition among local governments in a situation of factor mobility has kept the opportunity costs of bail-outs of enterprises high, thus hardening their budget constraints and keeping them on their toes. They describe this as a successful example of "market-preserving federalism". While not denying the importance of competition among local governments and of fiscal incentives, this account of Chinese reform success is rather inadequate at best. First, it is not clear how the Chinese party officials actually resisted the substantial pressures they must have faced for bail-outs when a rural enterprise (TVE), providing livelihood to thousands of local people, actually failed in the competition (as many have, while others succeeded famously). In other words the political process of the hardening of the budget constraint needs to be spelled out. A second related point is that fiscal competition and the fear of exit by mobile factors of production to other localities, while making bail-outs costly over the long-run, have not prevented local governments in other countries from continuing with the regime of subsidies and gap-filling transfers in deference to powerful political coalitions of owners of immobile factors of production. In India, for example, for many decades some of the provincial governments have been beholden to the local farm lobbies, and heavy farm subsidies and throw-away pricing of irrigation water and electricity have bankrupted state treasuries, which had an adverse impact on public investments in infrastructure, which in turn encouraged private capital to move away. It is possible that China did not have to encounter such lobbies of rich farmers, because the underlying distribution of land holdings is much more egalitarian. If that is the case, its role should at least get as much emphasis as market-preserving federalism.

Going beyond the self-binding of rulers, several alternative mechanisms through which dysfunctional institutions persist can be thought of. First, there are cases where an institution, which nobody individually likes, persists as a result of a mutually sustaining network of social sanctions when each individual conforms out of fear of loss of reputation from disobedience.[2] Potential members of a breakaway coalition in such situations may have grounds to fear that it is doomed to failure, and failure to challenge the system can become a self-fulfilling prophecy. But while theoretically interesting, this is probably not a common case in agrarian institutions. More often an economically unproductive institution or an unpleasant custom persists because some people benefit from it, (or once did, and it survives now with organizational inertia). In most situations there are winners and losers from a given institutional change, and there are formidable problems of collective action necessary to orchestrate the movement from one institutional equilibrium to another. There are two kinds of collective action problems involved: one is the well-known free-rider problem about sharing the costs of bringing about change, the other is a bargaining

[2] For a well-known static analysis of such a case, see Akerlof (1984). For a more complex model in terms of stochastic dynamic games explaining evolution of local customs or conventions, see Young (1998).

problem where disputes about sharing the potential benefits from the change may lead to a breakdown of the necessary coordination.[3]

Olson (1965) is the classic reference in analysing the first type of collective action problem: when the losses of the potential losers are concentrated and transparent, while gains of the potential gainers are diffuse,[4] it is difficult to bring about change. Then there are cases where within the group of potential gainers in the aggregate there may be individual-specific uncertainty about the gain: this is the problem in bringing about reform as posed by Fernandez and Rodrik (1992) in terms of a median-voter model. There is also the inherent difficulty, emphasized by Dixit and Londregan (1995), that the potential gainers cannot credibly commit to compensate the losers *ex post*.[5] Ideally, the state could issue long-term bonds to buy off the losers and tax the gainers to repay. But in many developing countries there are serious limitations to the government's ability to tax, and its credibility in keeping inflation under control, and the bond market is thin. There is also the fear losers have that once they give up an existing institution, they may lose the *locus standi* in lobbying with a future government when the promises are not kept ('exit' from a current institutional arrangement damaging their 'voice' in the new regime in future), and so they resist a change today that is potentially Pareto-improving (in the sense that the gainers could compensate the losers).

The "new" institutional economists are preoccupied with the lack of credible commitment on the part of the state not to intervene. But the

---

3 While most economists identify the collective action problem with the free rider problem, political philosophers like Elster (1989) and behavioral economists working with ultimatum games like Rabin (1998) have emphasized the bargaining problem arising from unequal benefits.

4 As Machiavelli reminds us in *The Prince*, (1513), ch. VI, "the reformer has enemies in all those who profit by the old order, and only lukewarm defenders in all those who would profit by the new".

5 Of course, some societies may be able to develop in repeated situations appropriate norms of compensation to losers, but preservation of such a norm itself may require collective action.

political stumbling blocks to beneficial institutional change in many poor countries may have as much or more to do with distributive conflicts and asymmetries in bargaining power. The “old” institutional economists (including Marxists) used to point out how a given institutional arrangement serving the interests of some powerful group or class acts as a long-lasting barrier (or ‘fetter’, to quote a favourite word of Marx) to economic progress. The new institutional economists sometimes[6] understate the tenacity of vested interests, and the differential capacity of different social groups in mobilization, organization and coordination. One can formalize the obstruction by vested interests in terms of a simple Nash bargaining model, where the institutional innovation may shift the bargaining frontier outward (thus creating the potential for all parties to gain), but in the process the disagreement payoff of the weaker party may also go up (often due to better options of both ‘exit’ and ‘voice’ that institutional changes may bring in their wake), and it is possible for the erstwhile stronger party to end up losing in the new bargaining equilibrium (how likely this is will, of course, depend on the nature of shift in the bargaining frontier and the extent of change in the disagreement payoffs).[7] As Robinson (1995) has emphasized in his theory

[6] North [1990] is an exception in this tradition. He points to the contrasting and path-dependent processes of change in bargaining power of the ruler versus the ruled in different countries, particularly in the context of the fiscal crisis of the state. In an earlier historical literature on the transition from feudalism in Europe, Brenner (1976]) had provided a major departure from the usual analysis of transition in terms of demography or market conditions: he provided a detailed analysis of the contrasting experiences of transition in different parts of Europe (those between western and eastern Europe and those between the English and the French cases even within western Europe) in terms of changes in bargaining power of different social groups or in the outcomes of social conflicts. Brenner shows that much depends, for example, on the cohesiveness of the landlords and peasants as contending groups and their ability to resist encroachments on each other’s rights and to form coalitions with other groups in society

[7] This is the case even if one is to abstract from the usual case of deadlocks arising in bargaining with incomplete information, with possible misrepresentation of the ‘type’ of the bargaining players.

of predatory states, it may not be rational, for example, for a dictator to carry out institutional changes that safeguard property rights, law enforcement, and other economically beneficial structures even though they may fatten the cow which the dictator has the power to milk, if in the process his pre-existing rent-extraction machinery has a chance of being damaged or weakened. He may not risk upsetting the current arrangement for the uncertain prospect of a share in a larger pie.

In general, economists usually calculate the gains and losses from an institutional change in economic terms, whereas some changes are blocked because they involve a redistribution mainly of *political* rent, and some of the major actors may be prepared to give up some economic surplus in order to retain political power. Also, an important aspect of political rent, that is overlooked in the usual calculations of the surplus generated by a given institutional change, is that all sides may be really interested in *relative*, rather than absolute, gain or loss. In a power game, as in a winner-take-all contest or tournament, it is not enough for an institutional change to increase the surplus for all parties concerned to be acceptable. One side may gain absolutely, and yet may lose relative to the other side, and thus may resist change. If, in a repeated framework, both sides have to continue to spend resources in seeking (or preserving) power or improving their bargaining position in future, and if the marginal return from spending such resources for one party is an increasing function of such spending by the other party (i.e. power seeking efforts by the two parties are 'strategic complements'), it is easy to see why the relative gain from an institutional change may be the determining factor in its acceptability.[8]

[8] For a model of power-seeking on these lines to explain why two parties may not agree to obviously mutually advantageous transactions, even when there are simple enforceable contracts and side transfers of fungible resources to implement them, see Rajan and Zingales (1999).

3. Institutional Issues in Land Reform

The classic example of inefficient institutions persisting as the lopsided outcome of distributive struggles relates to the historical evolution of land rights in developing countries. In most of these countries the empirical evidence suggests that economies of scale in farm production are insignificant (except in some plantation crops) and the small family farm is often the most efficient unit of production. Yet the violent and tortuous history of land reform in many countries suggests that there are numerous roadblocks on the way to a more efficient reallocation of land rights put up by vested interests for generations. Why don't the large landlords voluntarily lease out or sell their land to small family farmers and grab much of the surplus arising from this efficient reallocation? There clearly has been some leasing out of land, but problems of monitoring, insecurity of tenure and the landlord's fear that the tenant will acquire occupancy rights on the land has limited efficiency gains and the extent of tenancy. The land sales market has been particularly thin (and in many poor countries the sales go the opposite way, from distressed small farmers to landlords and moneylenders). With low household savings and severely imperfect credit markets, the potentially more efficient small farmer is often incapable of affording the going market price of land. Binswanger, Deininger and Feder (1995) explain it in terms of land as a preferred collateral (and also carrying all kinds of tax advantages and speculation opportunities for the wealthy) often having a price above the capitalized value of the agricultural income stream for even the more productive small farmer, rendering mortgaged sales uncommon (since mortgaged land cannot be used as collateral to raise working capital for the buyer). Under these circumstances and if the public finances (and the state of the bond market) are such that landlords cannot be fully compensated, land redistribution will not be voluntary.

Landlords resist land reforms also because the levelling effects reduce their social and political power and their ability to control and dominate even non-land transactions. Large land holdings may give their owner special social status or political power in a lumpy way[9] (so that the status or political effect from owning 100 hectares is larger than the combined status or political effect accruing to 50 new buyers owning 2 hectares each). Thus the social or political rent of land ownership for the large landowner will not be compensated by the offer price of the numerous small buyers. Under the circumstances the former will not sell, and inefficient (in a productivity sense, not in terms of the Pareto criterion) land concentration persists.

Of course, even in the context of increasing returns to land ownership in terms of political rent, land concentration is not always the unique or stable political equilibrium. Much depends on the nature of political competition and the context-specific and path-dependent formations of political coalitions. An interesting example of this in terms of comparative institutional-historical analysis is provided by Nugent and Robinson (1998). Holding constant both colonial background and crop technology, they compare the divergent institutional (particularly in terms of small holder property rights) and growth trajectories of two pairs of former Spanish colonies in the same region (Costa Rica and Colombia, on the one hand, and El Salvador and Guatemala, on the other) producing the same principal crop (coffee). Institutional economics will be richer with more such comparative historical studies (instead of more cross-country regressions).

In the reform agenda in many countries land reforms do not occupy a high priority. Even the small number of economists or policy people

---

9 In an interesting paper Baland and Robinson (1998) have formalized this increasing returns in political benefits from land ownership in terms of a model of voting with Shapley Value which determines the political rents each landlord gets as a function of the number of workers whose votes he controls; since a single peasant is very small relative to the size of the landowner, in a wide set of circumstances the single vote he has is never pivotal electorally. As Baland and Robinson note, the analysis is similar if instead of voting, they took the case of the collective action problem of numerous small peasants in deriving political benefits.

who are persuaded by the desirability of land reforms are despondent about their feasibility. This is particularly because some of the conditions under which poor peasants work — seasonal crop cycles, spatial dispersion, covariate risks and extreme dependence on the landlords —- make collective action on their part much more difficult than in the case of urban workers. Given this and the strength of opposition of vested interests, many regard the political prospects for land reform in most poor countries as bleak, and therefore drop it altogether from the agenda of poverty alleviation. This is not always wise. Some aspects of land reform (like extension of tenurial security) may be less difficult to implement than others (like land ceilings). Besides, in the dynamics of political processes and shifting coalitions, the range of feasibility often changes; and options kept open contribute to the political debate and may influence the political process. Some policy advisors (in international lending agencies) who rule out land reform as politically infeasible are at the same time enthusiastic supporters of other policies that may be no less politically difficult; an example is the strict targeting of food subsidies and thus cutting the substantial present subsidies to the vocal urban middle classes. In the game of political coalition formation a radical policy sometimes becomes implementable if it helps cement strategic alliances, say, between sections of the urban upper classes (including white-collar workers) and the rural poor.

Of course, some methods of land reform can be counter-productive particularly in situations of land scarcity and weak organization of the land-poor. Well-intentioned measures like abolition of tenancy often end up driving tenancy underground or leading to large-scale eviction of tenants, and take away a part of the agricultural ladder which the landless could formerly aspire to use to climb out of poverty. Redistributing land without adequate provision of credit and marketing facilities and extension services may make the land recipient worse off as they are obliged to burn their bridges with the erstwhile landlord-creditor patron. In recent years there is increasing support for "market-assisted land reforms" (as opposed to confiscatory land reforms), whereby the government assists voluntary transactions in the land market through credit and subsidies to the small buyers.

4. Agricultural and Rural Policy Reform: the Role of Institutions

In the reform literature there is considerably more emphasis on agricultural pricing and marketing reforms. In developing countries for many years both agricultural output and input prices have been heavily regulated, and import-substituting industrialization under trade protection and overvalued exchange rates have often turned the internal terms of trade against the agricultural sector. Domestic farmers in India, for example, have been largely shut out of export markets in rice and wheat, and in Africa export taxation and restrictions have yielded for the commercial farmers a low share of the border prices (particularly for crops like coffee). On the other hand, import restrictions have artificially raised prices for some crops (oilseeds in India, maize in Africa) and diverted significant amounts of cultivated land to low-productivity uses. On the input front water, electricity, diesel, etc. are often provided at heavily subsidized prices, which inevitably lead to wasteful use of these inputs (often depleting fragile aquifers, and causing problems of waterlogging, salinity, etc.).

There were (and still are) also many restrictions on internal trade and crop movements across regions, state procurement and distribution of foodgrains, and requirements for storage and channelling of agricultural trade through state-controlled agencies, parastatals, and marketing boards. The rationale was in terms of curbing speculation in food prices, controlling excessive price fluctuations and sudden shortages, and providing subsidized food for the poor. Some of these agencies were originally established to serve the perceived need for ensuring food security or supporting producer prices during periods of war or commodity price collapse, but, as often happens with organizational residues of history, ended up as political milch cows for powerful lobbies. These state agencies have often been chronically afflicted by operational inefficiencies, unreliable deliveries and payments, and low prices for farmers. Under the stabilization programmes the prices offered were often much too low even compared to the benefits of more stable prices.[10] In export crops costs of marketing and taxation have been substantially higher for the same crop under marketing boards and stabilization funds than under the free marketing system, depressing the share of border prices received by producers under the former systems.[11]

Subsidized food distribution often catered, at high costs for the government, to the vocal urban middle classes, not the rural poor. India, for example, has a large programme of public food distribution through 'fair price' shops, and it is a significant part of budgetary subsidies of the government. It is a very costly programme (an estimated 72 per cent of the food subsidy is used up in overheads, storage, freight and interest costs, etc. borne by the highly inefficient Food Corporation of India),and reaches only a tiny fraction of the rural poor in the whole country.[12] It has been estimated that for each one rupee of transfer to the poor in India under the public food distribution scheme the total cost for the administration is more than five times that amount.

Although many restrictions remain, food markets have been extensively deregulated in recent years, and controls over movements of crops have been somewhat relaxed. With a reduction in industrial protection and depreciation of the real exchange rate, the relative price

[10] For example, Townsend (1999) in an evaluation of the producer benefits of price stabilization for six crops in Africa over the period 1975-97 concludes : "Over the period examined the benefits from stable, but lower, prices which were offered by various stabilization schemes do not appear to have exceeded the benefits from variable, but higher, prices".

[11] For example, in 1995 the cost of marketing and taxation for cocoa as a percentage of the export price in Ghana (under the marketing board system) and in Ivory Coast (under the Caisse de Stabilisation system) has been more than twice as high as in Indonesia and more than five times as high as in Malaysia (both of these latter countries operating under a largely free market system). See Schreiber and Varangis (1999).

[12] In many states (including some of the poorest states) it has been found that more than 95% of the population did not get any of their foodgrains consumption from the public distribution system.

of agricultural products has improved. The overall tax burden on agriculture has diminished significantly. The opening up of markets to private traders has lowered marketing and distribution costs, smoothed prices between local markets, and improved market integration.

But price and market reforms have turned out to be highly inadequate for boosting agricultural productivity. The price-response of supply presumed in some of the reform programmes has been over-optimistic.[13] Output depends a great deal on what happens to the rural infrastructure (roads, transport, irrigation, power and telecommunications, research and extension services), credit and input delivery systems, etc., not all of which will improve with better prices, without significant and autonomous institutional and organizational changes.

The importance (and difficulties) of asset redistribution measures like land reforms has already been mentioned. Small farmers are potentially more productive in many crops, and a better access to assets would have mitigated the severe problem of insufficient credit collaterals that they inevitably face. Redistributive land reforms also can provide a safety net to poor people facing the displacement effects of market reforms (loss of jobs and business, frictional unemployment, etc.). China has undergone massive and successful market reforms in the last two decades, and it can be argued that the wrenching effects on society were partly cushioned by the highly egalitarian land distribution (following the land reforms and decollectivization of 1978), so that even the poorest rural family bearing the brunt of reforms could fall back upon some land as a last resort. In relatively land-abundant countries provision of credit to enable acquisition of productive assets like cattle is particularly important. For example, with a large panel dataset from rural households in Zambia Deininger and Olinto (2000) analyse econometrically the factors that explain the relatively lacklustre performance of the country's agricultural

---

[13] In poor countries with weak infrastructure Chhibber (1989) estimates a long-run price elasticity of supply in the range of 0.3 to 0.5; Binswanger (1989) estimates a short-run elasticity of 0.06.

sector since liberalization, and conclude that ownership of productive assets like draught animals is the key constraint to higher agricultural productivity. What role the state and community organizations play in enabling adequate provision of the non-price factors mentioned in general in the preceding paragraph becomes crucial in deciding the fate of even the price and market reforms.

One (though obviously not the only) reason why the latter reforms to date have been slow and halting in many developing countries, much to the disappointment of many of the reform missionaries of international lending organizations, is that some of the real problems which provided the rationale of government intervention in the first place (and gave rise to the domination of inefficient state agencies) have not yet been fully resolved. In particular there are many market failures (particularly in the provision of credit, insurance, information, and infrastructural services) which remain unaddressed even as the state withdraws itself. It has been quite common, for example, to find in some African countries[14] that under the fiscal austerity programmes mandated by the international lenders agricultural productivity has stagnated or declined, as state support to small producers (in credit, output procurement, input subsidies, etc.) has shrunk, and the private sector has not quite filled the gap, particularly in activities catering to remote regions and vulnerable groups.

As market integration advances, there is a concomitant increase in market risks, in the need for credit for investment in crop production, storage, and transportation, and in coordination among different branches of a more specialized production and marketing process. Farmers' organizations and cooperatives can play a significant role in group lending schemes (as they can overcome the inherent enforcement and information problems facing official credit agencies), in input and output marketing activities, in collecting and disseminating market information or technical

[14] According to estimates by Townsend (1999), the Malmquist productivity index in agriculture showed negative growth over 1980-96 in Botswana, Tanzania, Rwanda, Madagascar, Cameroon, Burkina Faso, Mali, Sudan, and Senegal.

knowledge, and in enhancing the collective bargaining power of small farmers in markets.[15]

Even with all its limitations (of administrative capacity as well as vulnerability to wasteful rent-seeking processes) the state can play at least as a catalyst in the initial stages in pump-priming agricultural finance and in underwriting risks (while being careful to avoid the associated moral hazard of encouraging dependency). It can take the initiative in establishing commodity exchanges, generating and disseminating information, allowing for contingent contracts, and arbitration in contract disputes. While the process of deregulation should continue, in some respects the regulatory powers of the state have to be enhanced, for example, in ensuring the implementation of the avowed purpose of reforms to increase competition. Otherwise privatization often involves replacement of a public monopoly by a private monopoly. This is particularly the case for some export crops where private marketing chains tend to be monopolistic (in contrast to the case of many domestic food crop markets where there is usually more competition and lower entry barriers). There is also an increased need for public regulation and vigilance in the case of environmental consequences of private application of new inputs and technologies.

In the post-reform period in many developing countries public investment in agriculture has been on the decline. Given the undoubted complementarities between public and private investment in this field, it is not surprising that private investment has been slow to make up for this deficiency. In particular, falling public investment in agricultural research and development in many countries is slowing the rate of technological progress in agriculture, and the decline of investments in maintenance and repair of irrigation and drainage systems, rural roads, and in prevention of soil erosion have curtailed the effectiveness of earlier investments in agriculture. (Recent IFPRI projections for China suggest

[15] The cotton sector in Mali is an interesting case where the union of cotton farmers has signed up a profitable partnership with the multi-national cotton company and the state.

that each yuan invested in the coming decades in research and irrigation could yield returns of between 3.6 and 4.8 yuan.) The issue of public investment will be increasingly important also in the case of biotechnology research to develop technologies in plant and livestock breeding and in native crops suited to local conditions (sorghum in Africa, millets in India), a need that is likely to be neglected by the patent-protected multi-national biotechnology companies. Funding cuts at international public organizations like CGIAR, once at the leadership of research and development on the Green Revolution, have made it particularly difficult for them to serve the special needs of poor farmers.

In public investments in agriculture the emphasis is shifting from massive state investment in large dams (that often cause large displacements of people, environmental damage, waterlogging and salinity, and arbitrary water control operations run by a corrupt and distant bureaucracy) to better local management of existing irrigation systems and minor irrigation projects under some form of community control to improve the effectiveness of investments. In a comparison of the mode of operation of canal irrigation bureaucracy in Korea and in India Wade (1997) finds the former to be more sensitive to the needs of the local farmers and thus more effective. The Indian canal systems are large, centralized hierarchies in charge of all functions (operations and maintenance as well as design and construction). Their ways of operation (including the promotion and transfer rules for officials, rules designed to minimize identification between the irrigation patrollers and the local farmers, and the frequent use of low-trust management and supervision methods) and source of finance (most of the irrigation department's budget comes in the form of a grant from the state treasury) are totally insensitive to the need for developing and drawing upon local social capital. In contrast, in Korea there are functionally separate organizations in the canal systems: the implementation and routine maintenance tasks (as opposed to policy-making and technical design work) are delegated to the Farmland Improvement Associations, one per catchment area, which are staffed by local part-time farmers (selected by the village chiefs), knowledgeable about changing local conditions, dependent for their salary and operational budget largely on the user fees paid by the farmers, and continually drawing upon local trust relationships.

The same problems of low accountability to the local population afflict the volume and particularly quality of provision of local public goods and services in many developing countries. In a study by McLean et al (1999) scores were calculated from a detailed analysis of the institutional arrangements for decision making and resource allocation in six important aspects of rural development in nineteen developing countries (rural primary education, rural primary health care, rural roads maintenance, agricultural extension, rural water supply and forestry management). Of the nineteen cases in the sample, the scores of decentralization are particularly low for Nigeria, Ivory Coast, Burkina Faso, Senegal, Bangladesh, Egypt, and Tanzania. Fisman and Gatti (1999) document a significant negative correlation in cross-country data between the subnational share of total government spending and various measures of corruption, controlling for other factors, suggesting that decentralization can mitigate corruption. Of course, the adverse effects of lack of local accountability on the quality of public goods and services show up in even less tangible forms of leakages and targeting failures than what the measures of corruption indicate.

Going beyond the impact of local accountability on the quality of service in publicly supplied facilities, it is important to note that a local community organization, if it has a stable membership and well-developed structures for transmitting private information and norms among the members, may have the potential for better management of common property resources (like forests, grazing lands, fisheries and minor surface irrigation works), on which the rural poor depend vitally for their daily livelihood and also for insurance in the form of a fallback food and fodder source in bad crop years. There are several documented examples in different parts of the world of successful and autonomous local community-level management of the commons—see Ostrom (1990), Tang (1991) , Baland and Platteau (1996), and Lam (1998).

But there are also many cases of failure of cooperation in the management of common resources in poor countries, leading to an anarchical regime in the scramble for these resources. With the erosion of the local commons — decimation of forests and grazing lands, silting and increasing toxicity of rivers and ponds, depletion of aquifers and soil erosion and desertification — life of the rural poor in many parts of the world have become more insecure and impoverished in ways that are not captured in the usual poverty estimates based on private consumer expenditure data. Many of these countries have actually a long history of balanced resource management under highly informal local community arrangements. The erosion of the commons set in only with major demographic and institutional changes in recent decades, often accelerated by commercial or bureaucratic appropriation of the common resources, supplanting the traditional historical rights of local communities over these resources. A devolution of power back to these communities can succeed in regulating, conserving and maintaining these resources. In some cases — for example, in forest protection and regeneration and wasteland development in India — there are now some successful instances of joint management by the state and the local community, with the latter taking major responsibilities.

A major problem that hinders most schemes of decentralized governance is related to distributive conflicts. In areas of high social and economic inequality, the problem of 'capture' of the local governing agencies by the local elite can be severe, and the poor and the weaker sections of the population may be left grievously exposed to their mercies and their malfeasance. The central government can also be 'captured', but there are many reasons why the problem may be more serious at the local level. For example, there are certain fixed costs of organizing resistance groups or lobbies: as a result the poor may sometimes be more unorganized at the local level than at the national level where they can pool their organizing capacities. Similarly, collusions among the elite groups may be easier at the local level than at the national level. Policy making at the national level may represent greater compromise among the policy platforms of different parties, capture at the national level may be subject to greater media attention, and so on. When the local government is captured by the powerful and the wealthy, instances of subordinate groups appealing to supra-local authorities for protection and relief are not uncommon. The intervention by the long arm of the state from above in remote corners of a poor country have been in such cases by invitation, and not always by arbitrary imposition (as is usually implied in the public choice or the new institutional economics literature). Ultimately, of course, tendencies of the elite to capture local bodies and use them for their corrupt purpose can be kept in check only as accountability mechanisms and local institutions of transparency and democracy take root (and as any experience the poor acquire in self-management, say, in cooperatives, unions, and other rural social and political organizations starts spilling over from one activity to another).

The same problem clearly afflicts local (non-government) community organizations in management of the commons. Extreme social fragmentation in India, for example, makes cooperation in community institution-building much more difficult than in socially homogeneous Korea, Taiwan, or Japan. One beneficial by-product of land reform, underemphasized in the usual economic analysis, is that such reform, by changing the local political structure in the village, gives more "voice" to the poor and induces them to get involved in local self-governing institutions and management of local commons.

In terms of sequencing of reforms there is some general agreement that one should try price reforms (movement towards market-determined prices) before removal of marketing regulations and that one should initiate measures to promote a competitive private sector long before dismantling the public sector. For example, in order to reduce the high storage costs of large public sector marketing boards, long before attempts at privatization, they can invite tenders from private traders to supply grains and other produce at given times and at given places, and in general encourage futures trading. In order to prevent the conversion of a public monopoly into a private monopoly, it is important to strengthen the public regulatory framework before attempts at privatization. Competition between public agencies and between public and private agencies should be encouraged. In the Chinese reform process competition among public agencies of different localities was encouraged, but this competition was enforced with a hard budget constraint, i.e. bail-outs of failing local enterprises in rural areas by supra-local authorities were ruled out in general. In countries heavily dependent on export crops for income, foreign exchange, and public revenue reduction of restrictions on external trade should be only at the later stages of reform, later than domestic trade liberalization. Imports of critical agricultural inputs like fertilizers should be liberalized at an early stage (in any case in countries like India the fertilizer subsidy has been less to help farmers and more to prop up inefficient domestic fertilizer firms).

Issues of land reform, credit reform, and decentralization of governance in the matter of delivery of local public goods and infrastructure that have been emphasized in this and preceding sections are, of course, to be carried out with a longer horizon in mind. Private investment in infrastructure is not likely to be forthcoming until the reforms in the pricing and user fees of infrastructural services are in operation. In post-reform India there has been a dearth of private investment in electricity generation and distribution, in spite of many inducements by the government, since the electricity rate structure for farmers remains extremely low under pressure of powerful farm lobbies. Partnerships between the government, private sector, and community organizations or cooperatives sometimes smoothen the reform process in these matters. There are fixed costs in the building of local community organizations; once some organization gets going in some particular aspect of rural development, the marginal cost of extending the functions of the organization to cover other aspects may be relatively low, and there are externalities across different organizational domains. The state can play as a catalyst in the initial stages of such institution building, covering losses, pooling risks, and supplying technical and professional services towards building local capacity.

Political-economy issues dominate the feasible sequencing of reforms. Different types of reforms need to be packaged in such a way that there is some give and take by different interest groups involved, that the big losers from reforms are compensated in some small ways; cuts in subsidies and import restrictions may, for example, be somewhat counteracted by suitable exchange rate changes. In any case arranging for a basic social safety net for losers facilitates political support for reforms. If reforms follow a fiscal crisis, some of the weakened vested interests may be prepared to compromise if the winners from the reforms show some inclination to share (or the government makes them share). Since the potential winners from the reforms take some time to consolidate, the reformers need to spend efforts as much to build new political constituencies as to administer the new policies.

The Chinese case also suggests that in the beginning one should start with legitimizing de facto changes already taking place in the fringes of the system before the formal onset of reforms. In the decollectivization (and the introduction of the household responsibility system) of 1978 the Chinese rulers were merely formalizing what some farmers already started doing on their own. It started with several households in a village in Fengyang County of Anhui province. Then the practice was imitated by other counties in the province and promoted by the provincial government before it was promoted by the central government. By 1984 almost all households in China were covered by this reform. In other respects also decentralization allowed the Chinese rulers to try out new experiments in market reforms in some localized coastal areas first, long before other regions came to learn from the demonstration effects of reform success. This paved the road to reform elsewhere and made it easier for them to overcome opposition.

Finally, in the transition period it is very important to provide a consistent and stable policy environment in the sense of maintaining some continuity of reforms, however slow. Frequent changes of directions and policy reversals, however important from the political or tactical point of view, may damage the credibility of reforms and increase the political resistance of the losing interest groups persisting in their hope of the ultimate restoration of the status quo ante.

5. Towards a Research Agenda: Priority Areas for Future Research

A. While much of the discussion in the literature (and in this paper) is in terms of broad generalities of institutional change, the next step has to be an intensive exploration of context-specific institutional details relating to property right systems, governance structures, social networks, and labour relations that work in synergy with community norms and technological and ecological compulsions. This calls for comparative-historical micro-level case studies of the institutional environment in which different countries (and regions) have achieved differential success in carrying out agricultural reforms.

B. The gender-related issues of agricultural reform are usually given only a token recognition. Detailed case studies are called for, particularly in Africa (where women are heavily involved in food production and marketing), about the way globalization and liberalization affect the structuring of gender relations in production and environmental resource use.

C. There are many unresolved issues in the theoretical and empirical literature on intellectual property rights. As bio-technological research becomes more important for agriculture and issues of patent-protected pricing and appropriateness of commercially developed technology to the agro-climatic and economic environment of poor countries become salient, one will need more theoretically-informed empirical analysis of the various trade-offs involved in case by case.

D. A related issue is the analysis of an appropriate institutional response to several international public goods that are important for the agricultural sector in poor countries. For example, ideas of promoting institutions of cooperation between multinational companies involved in research, international organizations and donor agencies (guaranteeing a minimum threshold of demand and compensating for access to proprietary research results), and recipient farmer organizations in poor countries (coordinating use and monitoring piracy) — somewhat on the lines international cooperation on vaccine research for malaria and other tropical diseases is being currently envisaged – should be encouraged in the case of new seeds, animal breeding or pest management or plant nutrient management techniques that are of particular benefit to the millions of poor peasants in the world.

E. This paper emphasizes the importance of distributive conflicts interfering with productivity-enhancing institutional changes and the management of local governance and common property resources. While this is a plausible idea, its salience has to be empirically established in specific cultural-historical contexts, controlling for other economic, social and physical factors. The interrelationship between inequality and institutional arrangements is quite complex and is as yet somewhat underresearched.[16]

F. In view of the looming water crisis in many parts of the world it is urgent to think about innovative institutional mechanisms of water use that help conservation (with appropriate price signals) and yet do not shut out the small users (as many of the emerging water markets do), with devolution of power to water user associations and user fees charged by public irrigation agencies answerable to local villagers. It is also important to study why these water user associations work reasonably well in some areas but not in others. The research on this area (particularly by economists) is still in its infancy. The same applies to the management of other collectively owned resources (forests, fisheries, and grazing lands) and coordination of activities (integrated pest management, watershed development, and soil conservation).

---

[16] See, for example, Benabou (1996) and Bardhan, Ghatak and Kaivanov (2000).

References

Akerlof, G.A. 1984. *An economic theorist's book of tales*. Cambridge, UK: Cambridge University Press.

Baland, J.M. & Platteau, J.P. 1996. *Halting degradation of natural resources: is there a role for rural communities.* FAO, Rome.

Baland, J.M. & Robinson, J.A. 1998. *Land and power.* University of Southern California Discussion Paper, Los Angeles, USA..

Bardhan, P. (ed.). 1989. *The economic theory of agrarian institutions,* Oxford, UK: Clarendon Press.

Bardhan, P., Ghatak, M. & Karaivanov, A. 2000. *Inequality and collective action problems*. University of California, Berkeley, USA. Working Paper, March.

Benabou, R. 1996. Inequality and growth. *NBER Macroeconomics Annual.*

Binswanger, H. 1989. *How agricultural producers respond to prices and government investments.* Annual Bank Conference on Development Economics, World Bank, Washington DC..

Binswanger, H.P., Deininger, K. & Feder, G. 1995. Power, distortions, revolt and reform in agricultural land relations. *In* J.R. Behrman & T.N. Srinivasan (eds.), *Handbook of development economics* III. Amsterdam: Elsevier.

Brenner, R. 1976. Agrarian class structure and economic development in pre-industrial Europe. *Past and Present,* February.

Carruthers, B.G. 1990. Politics, popery, and property: a comment on North and Weingast. *Journal of Economic History,* September.

Chhibber, A. 1989. The aggregate supply response in agriculture: a survey. *In* S.Commander (ed.). *Structural adjustment and agriculture: theory and practice in Africa and Latin America,* London: Overseas Development Institute.

Clark, G. 1995. The political foundations of modern economic growth: England, 1540-1800. *Journal of Interdisciplinary History*, Spring.

Deininger. K. & Olinto, P. 2000. *Why liberalization alone has not improved agricultural productivity in Zambia: the role of asset ownership and working capital constraints.* Washington DC: World Bank Working Paper.

Dixit, A. & Londregan, J. 1995. Redistributive politics and economic efficiency. *American Political Science Review*.

Elster, J. 1989. The cement of society: a study of social order. New York, USA: Cambridge University Press.

Fisman, R. & Gatti, R. 1999. *Decentralization and corruption: evidence across countries.* World Bank Working Paper, Washington DC.

Fernandez, R. & Rodrik, D. 1991. Resistance to reform: status quo bias in the presence of individual-specific uncertainty. *American Economic Review,* December.

Greif, A. 1992. Institutions and international trade: lessons from the commercial revolution. *American Economic Review*, May.

Greif, B. 1997. Microtheory and recent developments in the study of economic institutions through economic history. *In* D. M. Kreps & K.F. Wallis. *Advances in economic theory*, Cambridge University Press, vol. II.

Guinanne,T. 1994. A failed institutional transplant: Raiffeisen's credit cooperatives in Ireland, 1894-1914. *Explorations in Economic History*.

Hoff, K., Braverman, A. & Stiglitz, J.E. (eds.). 1993. *The economics of rural organizations: theory, practice, and policy.* New York, USA: Oxford University Press.

Lam, W.F. 1998. *Governing irrigation systems in Nepal: institutions, infrastructure, and collective action*. ICS Press, Oakland.

McLean, K., Kerr, G. & Williams, M. 1998. *Decentralization and rural development: characterizing efforts of 19 countries.* World Bank Working Paper, Washington DC.

Menger, C. 1963. *Problems of economics and sociology*, 1883, translated by F. J. Nock, University of Inequality and Growth', unpublished, 1995.Illinois Press, Urbana.

Montinola, G., Qian, Y. & Weingast, B. 1995. Federalism, Chinese style: the political basis for economic success in China. *World Politics*.

Nabli, M. and Nugent, J.B. (eds.). 1989. *The new institutional economics and development.* Amsterdam: Elsevier.

North, D.C. 1981. *Structure and change in economic history*. New York, USA: Norton.

North, D.C. 1990. *Institutions, institutional change and economic performance*. New York, USA: Cambridge University Press.

North, D.C. & Weingast, B. 1989. The evolution of institutions governing public choice in 17th Century England. *Journal of Economic History*.

Nugent, J.B. & Robinson, J. 1998. A*re endowments fate? On the political economy of comparative institutional development*. University of Southern California, Department of Economics Working Paper, Los Angeles, USA.

Olson, M. 1965. *The logic of collective action: public goods and the theory of groups.* Cambridge, Mass., USA: Harvard University Press.

Ostrom, E. 1990. *Governing the commons: the evolution of institutions for collective action.* New York, USA: Cambridge University Press.

Rabin, M. 1998. Psychology and economics. *Journal of Economic Literature*.

Rajan, R.R. & Zingales, L. 1999. *The tyranny of the inefficient: an enquiry into the adverse consequences of power struggles.* University of Chicago, Graduate School of Business, Working Paper, January.

Robinson, J.A. 1995. *Theories of 'bad policy'*. University of Southern California Working Paper, Los Angeles, USA.

Schreiber, G. & Varangis, P. 1999. *Cocoa marketing and pricing in West Africa*. World Bank Working Paper, Washington DC.

Tang, S.Y. Institutional arrangements and management of common-pool resources. *Public Administration Review*.

Townsend, R.F. 1999. Agricultural Incentives in Sub-Saharan Africa: Policy Challenges", World Bank Technical Paper No. 444, Washington DC, 1999.

Wade, R. 1997. How infrastructure agencies motivate staff: canal irrigation in India and the Republic of Korea. *In* A. Mody (ed.). *Infrastructure strategies in East Asia*. Economic Development Institute, World Bank, Washington DC.

Williamson, O. 1985. The economic institutions of capitalism. New York, USA: Free Press.

Young, H.P. 1998. *Individual strategy and social structure: an evolutionary theory of institutions.* Princeton, USA: Princeton University Press.