CHANGING AND BEATING THE ODDS: LESSONS FROM GAL OYA, SRI LANKA FOR PLANNING AND IMPLEMENTING DEVELOPMENT PROJECTS

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From a social scientist's standpoint development projects can be seen as "tests of hypotheses." Any project design is premised on the identification and diagnosis of certain problems, and its components represent a hypothesized "solution," which will be tested in practice. From the point of view of those who "invest" in development projects, however, these are perhaps more aptly characterized as "gambles." Financial and other resources are "bet," and from time to time they are recouped with windfall returns. But more often, they are lost without commensurate payoff.

Many explanations for this can be offered, but very often it is due to governments' and donor agencies' failure to engage intended beneficiaries sufficiently in project planning and implementation. More is involved than just getting people to partake of services or contribute free labor. This means that the ideas and suggestions of intended beneficiaries are taken seriously at all times, and the leadership and managerial talents that exist within communities are engaged in the processes of development. Otherwise, the full extent of human resources will not be mobilized to match the material resources being invested and to make them more productive.

This conclusion was one which colleagues at Cornell University and I had arrived at based on experience with development work in many countries (see Cohen and Uphoff, 1977; and Uphoff, Cohen and Goldsmith, 1979). But it became an empirical conviction through involvement with colleagues at the Agrarian Research and Training Institute (ARTI) and with farmers in the Gal Oya irrigation scheme in Sri Lanka. Together we planned and implemented a program of farmer organization to help improve the irrigation management in this system between 1980 and 1985 at the same time its physical structures were being rehabilitated.

The Gal Oya system presented more difficulties than any other scheme in the country. The Irrigation Department's Deputy Director for Water Management stated bluntly when we started in 1980:

> If you can make progress in Gal Oya, you can make progress anywhere in Sri Lanka.

The Left Bank sub-system which was to be rehabilitated was the largest irrigated area in the country (65,000-75,000 acres, nobody knew the exact acreage). It was the most complex system hydrologically and one of the most deteriorated physically. Three-quarters of the channel gates were broken or missing, and water was controlled and measured at only seven points in the whole area. The reservoir received less water than expected when it was planned (average seasonal storage was only half of its 770,000 acre-feet capacity). Yet the area to irrigated had been expanded by about 50% through encroachments to meet the needs of a growing population.

Complicating the difficulties presented by insufficient supply and run-down physical structures was haphazard management of the main system by the Irrigation Department (ID) staff. One could sympathize with their situation. They did not have enough water or adequate personnel and structures to distribute it. Ampare, the district headquarters, was regarded by officials as an undesirable posting (even as a punishment). The unreliable deliveries of water and the aloof, even arrogant attitudes of engineers toward farmers added to the disjointed operation of the system.

Gal Oya farmers were though to be particularly uncooperative persons. Many had been resettled in this remote area because their former village headmen considered them to be "difficult" or "undesirable." Murders over water were known to occur. The Government Agent in Ampare, the top administrative officer for the district, told the first group of young organizers at the end of their training that the local population contained even "criminal elements." He said:

> If you can bring even 10 or 15 farmers in Gal Oya to work together, that in itself will be a big achievement.

The project plan expected us to organize 19,000 Left Bank farmers.

To make matters worse, the population in the project area was divided ethnically, between Sinhalese living in the upper reaches and Tamil and Muslim communities located downstream. This reflected historical settlement patterns rather than government discrimination, it should be said.

However, this meant that the predictable tensions between head-end and tail-end farmers were made worse by ethnic identities and suspicions. No wonder the ID's Deputy Director had tried to encourage us with his words.

In early 1981, 32 young unemployed college graduates were trained and deployed to live and work in Gal Oya communities as Institutional Organizers (IOs), to act as "catalysts" for farmer organization. Within six weeks, almost all (90%) of these reputedly uncooperative farmers in a 5,000 acre pilot area were cleaning their water channels (sometimes for the first time in 15 or 20 years), rotating water deliveries so that tail-enders on their channels would get a fair share, and/or saving water to send downstream to farmers they didn't even know. In some cases, Sinhalese head-enders were saving water to share with Tamils at the tail.

Officials began taking more interest in working with farmers, as farmers were themselves working together for the first time. When there were communal disturbances in the area in August 1981, Sinhalese farmer-representatives went to the homes of two Tamil engineering staff (whom they had previously criticized publicly) to make sure no harm would come to them. Since the majority of the ID's engineers were Tamil, such initiative and solidarity contributed to the program's momentum.

Three years after the Government Agent warned IOs about the incorrigibility of Gal Oya farmers, he said in an interview that these farmers through their own organizations were now handling many irrigation responsibilities themselves and were solving problems very effectively.

> When I came here in 1980, about 100 people would come to my office on Mondays and Wednesdays [his public days] to speak to me about water problems. Now not a single farmer comes to complain to me about water problems. (D. M. Ariyaratne, in Desativa, October 1984, p. 19)

The District Minister, the top elected official in the area, said virtually the same thing on several occasions, that he no longer hears farmers complaining about irrigation management. The Deputy Director of Irrigation who became project manager in Ampare in September 1981 told me four years later:

> I used to get hundreds of complaints about water each season, in the form of registered letters with copies sent to the minister, the prime minister, the president, etc. . . . Now with farmers cooperating among themselves and with the Irrigation Department staff, such letters are only a handful. (S. Senthinathan, personal communication)

These statements, even though from knowledgeable and authoritative sources, may not satisfy readers who want "hard data." Summary figures on improved water use efficiency in the Left Bank system are possibly even more impressive. During the 1984-85 and 1985-86 maha (wet) seasons, the issue of water for the Left Bank was only about 2 acre-feet per acre, **two-thirds** of the ID's national norm of 3 acre-feet, which was and is frequently exceeded. (Before 1980, the target water issue for maha season had been 5 acre-feet.) In the 1985 and 1986 yala (dry) seasons, water issues came to about 5 acre-feet, the national norm, compared to over 8 acre-feet before the project was started.[1]

These improvements were in good part due to the physical rehabilitation of the system and to better main system management by the Irrigation Department. But credit must be shared with the farmers and their organizations, and therefore with the young organizers who helped to transform this previously unhappy situation, as the USAID final project evaluation recognized (ISTI, 1985).

The three accomplishments of the program of farmer organization can be summarized as:

(1) mobilizing farmers' efforts and talents for better management,

(2) improving the attitudes and performance of officials, and

(3) contributing to a new national approach to irrigation management.

This last point is particularly hard to gauge, but the current Director of Irrigation in Sri Lanka said at a workshop held last May at the International Irrigation Management Institute:

> Without active involvement of the farmer, I don't think any irrigation system can succeed... It is necessary to motivate and educate farmers, and also the officials.. No government officer can distribute water at the field channel level. We must rely on cooperation with farmers....
>
> At the beginning [1979], there was certain doubt and resistance, I can say... There was no concept [then] of getting farmers involved as we have today. USAID brought the IO program and farmer participation in design. We were not very convinced. But now we can look back and see that we have been making useful changes. We are learning and continue to learn. (Mr. K. D. P. Perera, May 16, 1986; notes from IIMI workshop, Digana, Sri Lanka)

This statement echoes the "learning process" theme which underlay the farmer organization effort launched by ARTI and Cornell with the Irrigation Department. Instead of relying on a predetermined "blueprint" those involved with the project continually and critically assessed their progress based on experience and information from the field (D. Korten, 1980). The program had many shortcomings, setbacks and even failings, which we are keenly aware off. It often fell short of its potential for lack of resources (the whole socio-economic component, including special studies and farmer organization was less than 10% of project cost), and our own understanding and insight were often limited. Problems and solutions were clearer in retrospect than when we were grappling with them.

There were some other serious constraints. Despite the Ministry's agreement in principle (as early as July 1982) that at least the best IOs should become a permanent cadre working with farmers, four years later this had still not been implemented. As a consequence, there was continual turnover of IOs, who left to take permanent jobs such as teaching appointments when these became available. We could not blame them for seeking a more secure career. Most said they would rather work as organizers, if this offered them "a future." By the end of 1985, out of the 169 IOs trained and fielded, only 11 IOs were left in the program. ARTI also had staff turnover so that after an initial period of stability during 1980-82,

there were six different program heads within the next three years. Such "flux" normally devastates a program. Yet this one continued to make progress year by year, "beating the odds."

In addition to adopting a **learning process** approach to planning and implementation, which was central to the whole effort, six program elements contributed to the progress.

(1) active **participation** of intended beneficiaries, mobilizing their ideas, talents and leadership skills, not just their labor and money,

(2) development of **local institutions** -- farmer organizations with small informal groups at the base linked vertically into a four-tiered structure interacting at each level with officials,

(3) use of **catalysts**, young organizers who lived and worked closely with rural people, to encourage and assist them, but not to usurp leadership functions or other responsibilities,

(4) **decentralization** in program management, specifically deploying organizers in "teams" and relying greatly on a field supervisor at district level; this participatory style of management set an example for similar modes of operation among farmers and officials,

(5) gradual and sometimes dramatic **bureaucratic reorientation** (Korten and Uphoff, 1981), a concept gaining acceptance within government and donor circles; for our effort to succeed, the Irrigation Department and other government staff had to become more willing and able to work cooperatively with members of the public, and

(6) **on-going monitoring and evaluation** through "process documentation" and other means, so that modifications and corrections in the program could be introduced on the basis of experience, facilitating the needed "learning process."

We avoided, almost superstitiously, using the word "success," a word governments and donor agencies love to hear. We knew that there is no "success" that cannot be undone, by financial cutbacks, by political shifts, by ethnic explosions, etc. The project area has remained free of violence since 1981, and there have even been demonstrations of ethnic solidarity and cooperation. Still, given the tensions and violence now prevailing in Sri Lanka, one cannot know whether the spirit of altruism and the system of collective action built up among farmers and with officials can be sustained. The Gal Oya experience, thus rather than offering a prescription for "success," should be seen as indicating what is **possible** rather than what is probable. The question is, how to change and beat the odds against what is conventionally called "success" in development projects?

The Gal Oya Project

In 1978, the Government of Sri Lanka and USAID agreed to cooperate on a long-term program to improve irrigation water management. They judged the efficiency of water use and the resulting agricultural production in irrigation schemes to be unnecessarily low. A prospective 20-year effort to reverse this decline was mapped out. The Gal Oya rehabilitation project was to be the first phase. It was recognized that little knowledge base or institutional capacity existed in Sri Lanka for improving run-down systems and instituting better management regimes.

Two consultant reports were commissioned, the first by an agronomist who wanted to tackle irrigation management problems at the field channel (farmer) level, where water "waste" and unequal distribution were most visible. He proposed physical improvements such as concrete-lining of channels, and a program of strict legal sanctions to enforce technically-planned water use among farmers. His solutions involved heavy capital investment and a large foreign technical assistance component. The second report (by the present Director-General of the International Irrigation Management Institute) attributed the deficiencies in operation and maintenance mostly to flaws in main system management. Farmers' faults were seen more as a consequence than a cause of poor system performance. This diagnosis de-emphasized physical works and stressed improvement in the training and incentives within the Irrigation Department. Making only certain needed improvements in structures would require relatively little capital and technical assistance. This was less attractive to USAID and the Sri Lankan Government than was the first consultant's approach, so he was asked to head the project design team.

The team's original design included no provision for farmer organization. Moreover, it stipulated, without consulting them, that farmers would "participate" in the project by providing free labor to rehabilitate all field channels. An AID staff member familiar with the contributions of

farmer organizations to irrigation management elsewhere in Asia added them to the final project design almost as an afterthought. It should be said that the sociologist member of the design team had not supported introducing farmer organizations as part of the project. Like the second consultant, he regarded getting Irrigation Department personnel to do their jobs properly as the principal problem. He feared that prescribing farmer organizations as a solution would permit engineers (already disposed to "blame the farmers" as convenient and silent scapegoats) to avoid facing up to their own shortcomings.

This sociologist, it should be added, revised his view after revisiting Gal Oya just 9 months after organizers had started working with farmers.

> I argued [previously] that work on farmers' organisations would tend to divert attention from the primary goal of reforming the Irrigation Department. Hindsight reveals that this was wrong. The farmers' organisations under the IO programme have at least the potential to become an effective catalyst and pressure group to reform Irrigation Department practices. (Moore, 1981: 1-2)

Unfortunately, the initial conception of "organizing farmers" was rather mechanistic. The Irrigation Department contracted with ARTI to develop and test a "model" of farmer organization with Cornell technical assistance. This model was then to be replicated throughout the Left Bank so that by the end of the project four years later, all of its 19,000 farmers would be "organized."[2]

There was an understandable though inadvisable temptation on AID's part to try to speed up the process without due regard to the solidity and sustainability of the organizations. The design team leader when revisiting Sri Lanka in 1981 proposed that the AID mission bring down two persons from Pakistan who, he said, could get all the Gal Oya farmers "organized" (sic) within six months! An American consultant who had drafted a water users' association law for Pakistan was brought in, and he submitted essentially the same law to be enacted in Sri Lanka, with Sinhalese names in place of Urdu ones.

Fortunately, the AID project manager was willing to support an approach which was grounded in social science theory and in experience with catalyst approaches in the Philippines (D. Korten, 1980; F.Korten, 1982; Bagadion and F. Korten, 1985) and Nepal (Ghai and Rahman, 1981; Rahman, 1984). Hence the program was able to introduce local organizations in a more "bottom-up" manner than would have been possible with more legalistic or bureaucratic alternatives (Uphoff, 1982, 1985). Nevertheless, the farmer organization component of the project (the "software") got less official attention and many fewer resources, about 5%, than the more visible physical rehabilitation work (the "hardware"). There seems to be a natural tendency to focus on and emphasize the concrete aspects of a project, the things that Ministers can dedicate with ribbon-cutting ceremonies and evaluators can measure with greater precision.

The Sri Lankan project manager for the first year and a half of the project was, like most of the Irrigation Department staff, unsupportive. Behind the scenes he actually opposed formation of farmer organizations. In May 1981, a Cornell agricultural engineering Ph.D. student doing thesis research on irrigation system management in Gal Oya wrote to us:

> There is no indication [here] that the Irrigation Department from top to bottom, has any interest in getting genuine farmer participation beyond the draft guidelines [requiring meetings informing farmers of plans] for labor input at field channel level. Without a change in attitude here, it is very hard to see how there is going to be any significant involvement by farmers in deciding, for example, on redesign, on water scheduling, on operation, and so on. The signs all point to yet another scheme that within a few years will be substantially the same as it was before rehabilitation. (D. Hammond Murray-Rust, letter, May 16, 1981)

As if the Department's attitude were not enough of a handicap, when the organizers first started their work with farmers in yala season 1981, the reservoir was only one-quarter full (which amounted to half the average amount available). In such a water-short situation, one would expect there to be greater selfishness and even conflict among farmers rather than the cooperation we were seeking. Yet as reported already, the response from farmers was quick and positive, more altruistic than anyone had expected.

Fortunately, the number two engineer in the district, responsible for redesign and reconstruction of the system, was willing to "break ranks" with his superior by meeting frequently and sympathetically with farmers

to discuss their problems and his plans. He took along a number of young engineers each time so they could get accustomed to such interchange. This was the "good news." The "bad news" was that he and most of the engineers around him left the project area four months after these meetings started, in the wake of communal violence. So we had to begin again working with a new set of technical staff. Still, this one engineer had set a good example, and the new Sri Lankan project manager, quoted above, who took over in late 1981 was as willing to work closely with farmers as his predecessor had been adverse.

The first phase of the organizing effort, covering over 5,000 acres, lasted a year and a half. During this time we lost about one-third of the cadre to permanent jobs elsewhere. In September 1982, another 30 IOs and another 10,000 acres were added to the organizing area. Attrition continued, but new batches were added until the program reached over 25,000 acres, including Tamil-speaking areas. Most of the Tamil IO cadre was lost in November 1984 and could not be replaced due to difficulties caused by separatist guerillas operating on the fringes of the project area. While 10,000 acres in Tamil areas had to be withdrawn from organizing work, the addition of more Sinhala areas maintained the overall area covered at 25,000 acres. This occurred even though Ampare District was increasingly on the edge (and sometimes part of) the "war zone."

Within the first few months, farmer-representatives at field channel level had gotten the idea of holding regular monthly meetings with the relevant government officials in their respective areas. Farmers themselves organized and chaired these meetings, which came to be known as Area Councils. These established a third tier of organization before our program had started its planned second tier at the distributary channel level. In February 1982, Farmer-Representatives suggested and the Government Agent agreed, with the approval of the District Minister, to include four farmer-representatives on the District Agriculture Committee (DAC). This constituted a fourth tier of representation and farmer participation.

Having farmers chosen by their peers sitting on this policy-making body, heretofore made up of MPs and district department heads, was a real boost to the program's standing among farmers. They were also very pleased when the Government Agent and DAC approved their planting 12,000 acres (out of 60,000) in the 1982 yala season. The Irrigation Department had authorized Left Bank farmers to plant only 5,000 acres because the water level in the reservoir in 1982 was even lower than in 1981. In fact, farmers planted about 18,000 acres, and by careful water management (and some fortunate rains toward the end of the season), they got a "normal" crop. This was seen as a great "victory" for everyone.

Premises of the Program

There is no need to describe the program and its results in more detail here. My semi-annual trip reports on what I was seeing and hearing when I visited Gal Oya every winter and summer from 1981 to 1986 are available and provide much detail. Also several published analyses are available (e.g. Uphoff, 1985, 1986; Wijayaratna, 1985). Here the premises on which the program proceded will be enumerated, to identify the conceptual and practical principles underlying it, which we thought would produce results. We now have more basis for affirming them, though their relevance and application will always have to be considered with regard to specific situations.

The approach taken will be outlined briefly in a following section, and then some conclusions about the planning and implementation of rural development projects will be ventured. These suggestions may seem somewhat unorthodox, and I would have disputed or discounted some of them myself before my experience with this project. They are offered as ideas which now seem important based on observations and conclusions made over the past six years.

(1) Developing a "Process" Rather than a "Model". The original assignment given ARTI and Cornell was, in standard social science terms, to develop and test a "model" of farmer organization. However, when we

considered how many different experimental trials we would need to have in order to draw statistically valid conclusions about cause and effect -- with even four variables when controlling for background and other factors -- we saw that such an approach was untenable. Besides, the Government needed to know how to establish viable water user associations, not whether this kind or that kind of water user association would probably work best. By getting involved in project implementation, we became engaged in an effort to achieve some positive results, by whatever means were practical. Rather than formulate and carry out "tests," we turned our attention to evolving a process and a capacity for establishing WUAs. Our work was highly empirical in that there were trials and errors to be assessed, at the same time we drew on whatever available theory seemed relevant. But this branching of our path away from the usual kind of "detached" social science was an important first step toward new kinds of knowledge and toward achieving results.

(2) Starting with Informal Organization. Much analysis of development experience suggests that it is preferable to work with existing local organizations and institutions where they exist (Esman and Uphoff, 1984: 239-246; Uphoff, 1986a). However, since Gal Oya was a resettlement scheme, there were few social structures on which to build. One option would have been to create formal organizations by law or administrative

initiative. But this was rejected because this approach had produced too many ineffective "hollow shells" of organization in Sri Lanka in the past.

The Institutional Organizers got farmers together informally to identify and discuss their problems, to come up with solutions, and to begin taking collective action on the basis of consensus and volunteer effort. After such action had shown results, the groups would choose (again by consensus) a farmer-representative to speak and act on their behalf. The field channel organizations remained informal groups, while more formal organizations were subsequently established at the distributary channel level. This reversal of the usual sequence -- where organizational structures are set up before "work" begins -- proved to be effective.[3]

(3) Starting "from Below". The organizing strategy was quite literally bottom-up, beginning at field channel level and working upwards from a base of small "solidarity groups" of 10 to 15 (sometimes 20) farmers. As noted above, our systematic approach was "leapfrogged" by the farmers and by the Government Agent when third and fourth tiers of organization were instituted before the second. But these initiatives accelerated the program and gave farmers and the GA the feeling that the program was theirs.

The "legalistic" approach proposed by another consultant would have had engineers call large meetings of farmers at the distributary channel

level (or higher) to inform them of the program and to have them elect officers by secret ballot. In such circumstances, one could expect that the best-known "leaders," often self-aggrandizing and politically active, would take over control of the water user associations. Instead, the more "sociological" approach mobilized a largely new cadre of local leadership from within the farming community as discussed below (Uphoff, 1982).

(4) Focusing on Water Management First. Rather than make the groups multi-functional at the start, they were encouraged to work on solving their very real irrigation problems. However, given that the groups were not "ours," they could take on other responsibilities whenever members felt they had a need and the collective capability to deal with it. Once their water supply became more adequate and reliable, farmers started trying to change their uncreditworthy status with the banks, buying inputs in bulk, cultivating "model farms" to demonstrate the value of improved technology, tackling marketing problems, initiating group savings schemes, etc. Traditional religious festivals were revived in connection with planting and harvesting. One group of farmers even started acting as a "temperance society" to reduce drunkenness among their neighbors when this was judged a pre-requisite for improving their water management This flexible approach meant that some quick and important results could be achieved at the outset, to help cement groups

together, but it then allowed the groups to meet other needs identified by members.

(5) Linking Organization and Technical Activities. The original project design provided that ARTI would "organize farmers" while the Irrigation Department rehabilitated the system, with farmers expected to take over operation and maintenance responsibilities at their level when the system had been renovated. This amounted to a "turnkey" approach, which we rejected. Although there were many difficulties and headaches (on both sides) from this closer working relationship, ultimately it paid off. It was important for farmers to be involved in the planning of rehabilitation and not just doing physical work at field channel level. This gave them a much greater identification with the improved technical system being created.

(6) Bureaucratic Reorientation. ARTI and Cornell, somewhat naively, accepted the assignment to "organize farmers" as their socio-economic contribution to the project. Initial field visits quickly showed, however, that many of the undesirable actions of farmers occurred in response to poor management of the system by the Irrigation Department, and were compounded by the ID's negative attitudes toward farmers. Our conclusion in January 1980 was that unless and until technical personnel changed their attitudes and behavior vis-a-vis farmers, one could not reasonably expect farmers to change their attitudes and behavior. From this realization came

the concept of "bureaucratic reorientation," which was intentionally stated somewhat abstractly to mute objection (Korten and Uphoff, 1981).

In fact, this initial premise had to be modified based on experience. There was no way we could affect engineers' orientation directly. But we found that once farmers took some initiatives that debunked the negative stereotypes engineers had of them, greater cooperation and respect were forthcoming from the official side. (Recall the Sinhalese farmers' efforts to assist Tamil farmers and engineers.) Once officials began working with farmers more supportively and respectfully, this in turn encouraged farmers to take more initiative and responsibility, which further improved relations between the two sets of irrigation actors. What resulted was an interactive process in which officials, rather than being just "part of the problem," became an important "part of the solution."

A former Director of Agriculture, who had worked in Gal Oya in the early 1960s and had seen the system decline through the late 1970s (and who had also been a critic of our program while a previously a member of ARTI's Board of Directors) visited Gal Oya in January 1985 for the first time since the project started. He characterized the changed relations between farmers and officers that he observed as "a transformation." (Chris Panabokke, personal communication, January 18, 1985) Even with changeover in staff, the cooperative relations have by and large persisted.[4]

(7) Need for "Catalysts". Upon learning in 1980 how estranged were the relations between farmers and government officials, we concluded that the latter could not be effective agents for establishing self-sustaining farmer organizations. Accordingly we looked to examples from the Philippines and Nepal cited above where young organizers were recruited, trained and deployed to live and work in rural communities. (This role is analyzed in Esman and Uphoff, 1984: 163-167, 253-258). Despite the continuing turnover, ever-new leadership and dedication emerged within the IO cadre. The ideals and strategy of the program were conveyed in training by ARTI and reinforced among new recruits by the veterans. Farmers came to speak of IOs fondly as "sons and daughters," and ID and other staff accepted them as helping to improve irrigation management. The Deputy Director of Irrigation concluded that IOs should be fielded as much as two years in advance of future rehabilitation projects to initiate social organization and facilitate subsequent technical activities.

(8) Farmer Response. The corollary of our premise that organizers would be effective, was that farmers would respond actively to the opportunities for participation offered to them. In this we were not disappointed. My trip reports document continuous examples of farmer generosity, innovation, responsibility and initiative. Farmers reported there were no longer serious disputes over water, let alone violence or murder. They cited many

examples of preventive maintenance where farmers kept channel bunds from breaching by building up embankments or opening gates at their own initiative, thereby avoiding costly damage. By sharing water, even in water-scarce seasons, fields that had not been cultivated for a decade or more were able to produce a decent crop. Long-neglected roads were renovated with community labor, and when given a chance to do some rehabilitation jobs on contract, farmers did better quality work than private contractors and were able to earn profits they could invest in improving their crop production. The seriousness and competence demonstrated by farmers once they were approached and treated with respect impressed all who came into contact with the program.

(9) Local Leadership. Organization is not something abstract or impersonal, and the key to effective organization and participation is leadership. The great majority of farmer-representatives chosen at field channel level proved to be good leaders, and some were outstanding. The selection process which worked by consensus rather than election helped get good farmer-representatives. They were chosen only after groups had already done work together. We encouraged groups to discuss the qualities they wanted in a representative before making a choice. This tactfully screened out some persons who did not match the criteria everyone could agree on, and it communicated to whomever was then selected just what

were the expectations of his (once in a while her) peers. Because selection was by consensus, everyone had publicly agreed to this person's having responsibility on behalf of the group, and that induced more compliance.

(10) Avoiding Partisan Politics. Sri Lanka, even in rural areas, has had a strong tradition of partisan politics, and we knew this could be fatal for the water user associations. IOs were careful to avoid any appearances of political activity. But the farmers themselves appreciated how deadly partisan politics would be for their organizations. Even when over 3,000 farmers held a "convention" to commemorate the third anniversary of "their" organizations in October 1984, and invited the Ministers of Lands and of Agriculture, they maintained complete neutrality, decorating the stage and lampposts with white, a color having no political association.

One of the powerful farmers in the area, formerly chairman of the Village Council, president of the Multi-Purpose Cooperative Society, campaign manager for the former MP, and local organizer for the opposition party, who initially opposed the program, told me what he had publicly told farmers in a neighboring irrigation scheme: "Politics is cancer for water management." The District Minister also accepted the organizations' neutrality, which once established was respected on all sides. A rival farmer organization started in 1983, with covert political motivations, faded quickly ("like the fizz in a soda bottle," one farmer-representative said) because farmers would have no part of it.

These premises are not presented for direct use in other projects but rather to map out the logic which underlay the program. The premises were not laid down by consultants a priori but rather jointly by the ARTI and Cornell professionals based on their knowledge of and interaction with field conditions and with regard to the specific socio-technical task at hand. Some of the premises should have broad relevance, and others may have analogues for other kinds of development projects. What is important here is that each of these premises proved to be valid, and each in its own way helped to change the "odds" against success in the very difficult and unpromising environment of Gal Oya.

Essential Elements of the Approach

The approach taken to farmer organization in Gal Oya can be characterized in the following ways.

(1) Learning Process. The activity proceeded from premises rather than from a "plan." The eventual shape of the program emerged from the interaction and insights of many persons. It therefore became "common property," with many persons having a stake in its success. There were periodic reviews and revisions, but also a continuous distillation of learning so that it could be simplified and communicated more widely within the program.

(2) Graduates as Catalysts. Initially we planned to have secondary school rather than university graduates as Institutional Organizers, thinking that there would be less of a status gap between IOs and farmers. But to avoid having political influence in the selection of IO trainees, we decided to recruit only persons with B.A. degrees. We did the "right" thing for the "wrong" reason. As it turned out, graduates with a service orientation could establish strong rapport with farmers. That graduates were coming to live in rural communities and help farmers become more self-reliant was itself a strong motivating factor for the latter. Graduate IOs also had more status for dealing with engineers and other officials on behalf of farmers. As the program is expanded to other irrigation schemes, we may now rely on a "core cadre" of graduate IOs supervising a "contract cadre" of IOs having less formal education. Given the wide acceptance of IOs and of farmer participation now achieved, this strategy (if effective) will be more economical. But we would not probably have achieved the results we did if we had started with less than university graduates.[5]

(3) The "Lodging" Strategy. Our experience corresponded with the conclusions of a study done at the University of Leiden on how to promote grassroots participation (Galjart and Buijs, 1982). Buijs describes a "lodging strategy" where an organizer "approaches the village where he wants to work and lodges with someone, or moves into an empty house."

> By this willingness to live in the village and to take part in village life, discussing and advising often till late in the evening, the field worker builds up a trust relation. Through this trust, people are willing to accept his ideas about a project. (Buijs, 1982: 54)

We too came to believe that there is no substitute for the intimate mutual knowledge and confidence developed in this manner if one wants to create local capacities for planning and implementation of development efforts. Villagers are used to "outsiders" coming and going after some admonitions or promises (seldom kept). Living with them creates altogether different relations. That almost all of our Organizers, even if university-educated, came from rural communities helped them adjust and become accepted.

(3) Organizing from the Bottom Up: IOs' strategy was not to call a meeting of the whole community and to work through existing channels. Rather, organizers went house-to-house, getting acquainted individually with farmers and their families. They explained the participatory and egalitarian objectives of the program and gained acceptance based on their knowledge of the actual problems farmers faced. Once all households had been contacted, small group meetings were held to discuss mutual problems. Eventually informal meetings were held with all the farmers served by a single field channel. From there the process of "work before organization" discussed above was introduced.

(5) Initiative from the Bottom Up. The organizers and farmers themselves conceived and followed a "bottom-up" strategy emphasizing self-reliance as the first principle. First, farmers would identify and begin to deal with problems that were within their collective capability of solving. Second, they would approach field-level officials to get their assistance in tackling problems not menable to self-help measures. Third, when joint efforts had been made by farmers and field staff, remaining problems requiring higher-level financial, technical or legal support were taken to the district level.

Farmers found that when they had begun doing things for themselves, no longer coming as mendicants, they got a better response from local officials. And when farmers and officials had already begun mobilizing and using available resources, their claim on district decision-makers' assistance was stronger. This sequence, found now in a number of rural development programs, can create some "power" in rural areas.

(6) Staged Expansion. The organizing effort was conceived, after some experience in the field, in three phases: (a) an organizing phase, when IOs were working intensively with farmers in areas of 200-500 acres to get field channel groups established, (b) a consolidation phase, when IOs were reduced in number, covering 500-1,000 acres each, working more with the farmer-representatives than with individual farmers, and more

with distributary channel organizations and area councils than with field channel groups, and (c) a **maintenance** phase, when IOs could handle 2,000-5,000 acres on an "extensive" rather than an "intensive" basis, keeping the existing organizations strong by training new farmer-representatives, acting as ombudsmen, trouble-shooters, monitors, etc.[6]

We were able to persuade the Government and USAID that it would be unwise to expect to pull all IOs out of the area when the project "ended." Social infrastructure resembles physical infrastructure in that some maintenance investments are required, though the level of expenditure should be less than during the period when the infrastructure was created.

(7) Decentralized Management. As noted above, the management strategy devolved most of the decision-making and problem-solving to the IOs and their supervisor (a government official, the District Land Officer, who was assigned half-time to the program after we selected him; his personal qualities, commitment and continuity were important sustaining factors which mitigated somewhat the adverse effects of rapid IO turnover). It was fortunate that ARTI and Cornell were unable, given their logistical and personnel limitations, to provide as much field supervision as originally planned. Our initial concept of program management would have created too much "dependency" among IOs, by operating a "bottom-up" program in too "top-down" a manner.

Because we wanted to experiment with having women organizers, we decided to deploy IOs in teams to get around the social inhibitions of having unmarried young women living and working by themselves in rural areas. As it turned out, women IOs encountered no more difficulties than men as they were quickly accepted (and often assisted) by farmers.[7] However, we had (once again) done the right thing for the wrong reason, as the team concept of organizing and managing the program proved invaluable.

Groups of 4 to 6 IOs were collectively responsible for a large area, while each IO was responsible for an individual area (3-6 field channels). The IOs helped each other and got to know each others' areas and farmers. This meant they could contribute more to problem-solving and could fill in for each other when there were illnesses or leaves. Morale was kept high as the more energetic and idealistic among the IOs pulled the others up. The reverse usually happens when no explicit group responsibility is given and no leadership roles are designated within groups.

(8) Embracing Error. One of the principles highlighted by Korten (1980) is "embracing error," so that the organization is a learning one, rather than a self-deceiving or defeated one. From the start, IOs were told that we expected there would be "mistakes," and they should not be hesitant to discuss their problems and misstakes with us and others, so the

whole program could gain experience. We told the IOs we would not believe them if they said there were no difficulties or false steps, and we were gratified by the candor which resulted. This meant ARTI and Cornell had to be self-critical also and to accept criticism of our shortcomings from the IOs. That a very open relationship was maintained through most of the project's life (not all of it, I am sorry to say) was important for the progress we made. Program shortcomings were usually associated with a failure on our part as to live up to this principle of open communication and internal democracy.

(9) Mode of Operation. This latter consideration relates to (7) above and points to one of the few generalizations which can be made from organization theory. **Organizations tend to replicate in the organizations they deal with the values and relationships they exhibit in their own internal operations.** If ARTI and Cornell wanted self-reliant, problem-solving, democratically-run farmer organizations, the cadre of IOs with which they worked had to exhibit these qualities, and so did the ARTI and Cornell staff in their dealings with the IOs and each other.

(10) Tactical Pessmism, Strategic Optimism. Through all of the difficulties and the many setbacks, not detailed here, the ARTI-Cornell team tried to keep a deliberate "realism" in its assessments of the situation, expecting problems and failures, while persisting in a conviction that the

overall strategy could nevertheless succeed. Negative bureaucratic decisions affecting the program were not accepted as final but as requiring a revision of tactics and maybe strategy. Perseverence was a way of life.

The initial successes due to innovation and persistence on the part of IOs and farmers buoyed them and us throughout the five-year period even when bureaucratic inertia (and sometimes bungling), government fiscal crises, ethnic violence, political dangers, etc. threatened to capsize the program. It may have appeared that we were "muddling through," but the validity of our premises and the increasing coherence of our approach made for more deliberate progress than that characterization implies.

(II) Problem-Solving Approach. By the third year, it became clear that we needed to adopt -- within ARTI and Cornell, within the IO cadre, and within the farmer organizations -- an explicit "problem-solving" strategy which would concert people's best ideas and efforts to deal with the most critical of the many problems we faced. There were always many problems at hand, but fortunately they were more often "new" ones, sometimes even stemming from our progress, than "old" ones still nagging the program from the start.

The "steps" of the problem-solving approach as it evolved were:

(1) **Problem identification, analysis and prioritization.**

(2) **Information gathering about problems** (if necessary).

(3) **Consideration of alternative strategies and reaching consensus on the most promising strategy.**

(4) **Formulation of an action plan** (who does what when)

(5) **Implementation of action plan**

(6) **Assessment of results and appropriate modifications of action plan and strategy** (and even of problem identification, analysis and prioritization)

We often failed to follow through systematically with such a process of analysis and action. Even if these "steps" are overlapping or sometimes out of sequence, such a conceptualization of the process is helpful.[8] We considered it relevant not only for farmer organizations, IOs, ARTI and Cornell, but for everyone, even at the highest levels of government.

(12) Accepting Paradoxes and Invention. Any presumptions of linear-logical reasoning we brought to the task were undermined by experience in the field. Finding out we were "right" for the "wrong" reason, or that the "worst" irrigation system in Sri Lanka could become one of the "best," perhaps because it **was** the worst, called for some rethinking. At first we had envied those persons introducing farmer organization in the new Mahaweli irrigation projects, where physical structures were new, channels were not so complex, and field channel command areas were all about the "right" size, having about a dozen farmers (Uphoff, 1986b). Yet we learned that Gal Oya farmers, having been neglected and looked down upon for so long, were most ready for a self-reliant approach. They knew

after 30 years that if they didn't help themselves, nobody else was likely to.

Our experience in Gal Oya made it abundantly clear that "development" itself is full of paradoxes, such as the "rich" helping the "poor," or "putting the last first," as argued by Robert Chambers (1983).[9] Non-linear world-views are anathema to most project planners and reviewers, but they are conducive to making progress in an environment that is invariably changing, with openings as well as obstacles. Implementing development projects has more in common with the game of rugby than American football, though even the set plays of the latter are a sequence of attempts to move the ball downfield, with opportunism being rewarded. An old military maxim says that no battle plan survives its first contact with the enemy. The same can be said of project designs and "the field."

In Gal Oya, we came to accept as normal such inversions as seeking the District Minister's support to keep "politics" out of the farmer organizations, and mobilizing farmer self-help to get engineers to change their performance. Indeed, the whole IO program was paradoxical in that it rested on "top-down" initiatives to create "bottom-up" capacities. This represents a paradoxical strategy which we have called "assisted self-reliance," best promoted by "inductive planning" (Esman and Uphoff, 1984: 258-265).

One would probably not want to choose to work under the most adverse conditions for launching new initiatives and for developing new capacities, yet we were again and again surprised at how difficult it was to predict consequences in specific situations. The most important determinants of outcomes seemed to be how well we understood the situation, how attentive we were to the ideas and interests of others, how flexible and experimental we were in approaching it, how well morale was maintained, and how persistent we were. With such factors working in our favor, the "odds" could be changed. It is even possible that, in an unexpected way, adversity was actually favorable. Hyden (1981), for example, has suggested that confronting an "obstructive power" can be an advantage for starting viable rural organizations. Such ideas seem to take us far from the "practical" considerations of project design and implementation, but Gal Oya experience suggests otherwise.

Conclusions

This has not been a typical "case study," in that it went beyond the presentation of "facts" and offered analysis of experience and suggestions of strategy. Rather than summarize these, I would propose here some ways in which we might usefully revise our thinking about development and development projects.

(1) Concurrently Considering Possibilities and Probabilities. Most social science theory is constructed around "central tendencies," which are the most likely occurrences or outcomes. These need to be taken seriously, but they reflect the "normal" interactions of many variables, not the effects of "out-of-the-ordinary" interventions. Unfortunately, the most probable outcomes are seldom the most desirable ones. In development work, we should be seeking "deviant" rather than "typical" results, ones less likely but more beneficial than what ordinary efforts and outcomes will produce. Probabilities and possibilities should be continuously juxtaposed in planning and implementation, seeking to narrow the gap between what is most likely and what is most desirable. One wants to know what the "odds" are, but then to change them, shifting the distribution of probabilities in desired directions by one's strategies, efforts, alliances, redefinitions of objectives, removal of obstacles, etc.

(2) Taking Values Seriously. Even non-Marxist social scientists (and administrators) are surprisingly "materialistic" in their orientations, continually depreciating and even neglecting ideals, norms and values in an effort to be "objective." Persons with a penchant for being "value-free" discard some very important and potentially powerful elements shaping individual and collective performance. It is unwise to be preoccupied with norms and ideals to the neglect or exclusion of material considerations, but

in Gal Oya we were struck again and again by the influence of the former on levels of effort and achievement of goals. By paying attention only to material incentives, which are too often zero-sum in their dynamics, planners and administrators overlook and fail to mobilize many motivations that can be more positive-sum in their effect. By continually emphasizing individual and material interests, situations are promoted where some persons' gain is at others' expense. More attention to building up common interests and jointly desired futures, where people take some satisfaction in others' well-being in addition to their own, can create more positive dynamics of cooperation.

It is curious that there is no antonym in English for "demoralization." It may be worthwhile to create a concept of "moralization" that reflects the power of values and ideals, which is all the more important to mobilize where material resources are scarce. To be sure, scarcity creates pressures for zero-sum logic, but the negative thinking and non-cooperation this engenders is likely to lead to negative-sum outcomes ("lose-lose"). Much more needs to be learned about how ethical considerations relate to the very tangible dynamics of material production and distribution.[10] My observation of positive outcomes of collective action, motivated by more than the self-interest maximizing logic of Olson's theorizing (1965), has shaken my confidence in the productivity of "value-free" social science.

(3) The Power of Ideas. Just as I neglected values in my earlier efforts to apply social science to development, I rejected the philosophical stance that saw ideas as having some autonomous role in socio-economic change. I accepted the reductionist position that only material things were "real." This is not the place to reopen the millenia-old debate between the idealist and realist schools of philosophy. I would simply propose that we pay much more attention to ideas. This is not to deny the importance of material interests, but rather to call attention to the attraction and motive force of ideas. We know from our own experience that a lack of clear ideas (confusion, ambiguity) is a deterrent to action. I have seen in the field how often cogent ideas can give impetus to action, the more so, of course, when they have a normative dimension and/or coincide with material interests.

(4) The Role of Friendship. If I may add to the number of provocative assertions, I would like to comment also on the empirical (and eventually, I think, theoretical) significance of friendship. At a national workshop in Sri Lanka in January 1982, I was asked to explain the dramatic changes that were already occurring in Gal Oya within one year. I acknowledged that the usual explanations I would draw from social science were not adequate and suggested maybe "friendship" had something to do with what was going on -- friendship between and among ARTI and Cornell staff, organizers, farmers, and increasingly, Irrigation Department officials.

Upon reflection, this makes sense as an explanatory variable. Anyone who has worked in a bureaucracy, no matter how explicitly its relationships and responsibilities are arranged according to the impersonal, formal-legal norms described by Max Weber, knows that "connections" and "old school ties" make things happen. Lack of them leaves action in abeyance, since cooperation requires continuous and easy communication, much mutual confidence and high levels of trust. Relations where people attach some value to each other's well-being and advancement are much more motivating than ones where costs and benefits are coldly calculated, and conferring benefits is constrained by the necessity that they always be matched with costs.

One of the gratifying aspects of the Gal Oya project for all who participated in it was the extent of friendship, at and between all levels, that energized the program from the start. Whenever these bonds broke down (and they did at various times, under communal, personality, financial or other pressures, more often than we liked), the progress of the program suffered. Not to nurture friendly relations within a project (as deliberately as one fights to preserve budgets or works to acquire data) is a mistake. Maintaining impersonal, emotionally neutral relationships will handicap projects rather than help them. There can be enormous energization among people when they enjoy each other's company and take satisfaction in each other's well- being.

(5) The Limits of "Objectivity". Similarly, efforts to remain carefully "objective" will hamper projects' progress more than they protect them, in my view, in as much as they discourage engagement, commitment and enthusiasm. One wants to prevent self-deception about projects' progress, problems, benefits and costs. Our emphasis on "embracing error" and our continuous encouragement of self-criticism served to mitigate the possible ill-effects of "subjective" attachment to the idealistic goals of the program and to the people involved in it. There were surely some lapses in the program attributable to occasional "lack of objectivity." But this means one should seek an optimum which combines both objectivity and subjectivity in a positive-sum manner, not limiting both in the name of tradeoffs that are zero-sum (or maybe negative-sum). This self-imposed constraint tends to force a choice between them, so that the motive force of values and commitment is sacrificed for the sake of objectivity and detachment.

* * * *

These considerations sketch some of the behavioral and normative underpinnings for a systematic approach to forming local organizational capacities for planning and implementing rural development using "catalysts."[11] The importance of working in a "learning process" mode should need no further elaboration. This concept guided the Cornell and ARTI efforts from the outset, when David Korten was a member of our first joint team doing reconnaissance in Gal Oya to start planning farmer organization work.

Additionally, I would emphasize the importance of cadres at various levels, persons who embody the values of the program and are prepared to take initiative and to adapt, innovate and persevere in the process of implementation. This concept applied first to the Institutional Organizers as a group, but then to the high-calibre representatives coming forth from the farmer organizations, and then to the Irrigation Department and other government personnel who were willing and able to work with farmers in a new and productive way. Finally, we realized that it applied also to us from ARTI and Cornell, who were serving as catalysts of catalysts of catalysts.

The key to this process was "energization," which may be one antonym for "demoralization." Because of the ideals, the ideas and the friendship flowing at and between different levels of the program, reaching from field channel up to district headquarters and beyond that to Colombo and to Ithaca, New York, a system of action and innovation was created. It had many flaws and weaknesses. While it performed beyond our and others' expectations, we also knew it fell far short of its potential, due to our own failings and constraints in the environment. We would like to think we could do much better if able to do this over. But the world does not present itself the same way twice, so a "repeat performance" would have to be an adaptive learning experience as was this one.

This is to say that the "odds" are always changing. They are not immutably inscribed on some graven tote board. The choices and actions of people, shaped by their ideas, values and friendships, continually alter the probabilities of alternative outcomes. Physical things, money and materials, the most proximate instruments available in development projects, are important. But they are to be converted through projects into "benefits," and these quickly blend into non-material causes and effects. Economic resources are too often regarded as both the ends and means of development, but however important and productive they may be, they are only intermediate. Human capacities are the ends and means of development, and with such an understanding, it becomes easier to "beat the odds" than if all calculations and interventions are conceived in the usual material terms.

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FOOTNOTES

[1]Given the sandy soils and longer-than-average channel lengths in the Left Bank area, and since some of the water issued to the Left Bank is re-used by the River Division, just meeting the national norm was a notable accomplishment. A FAO study (1975) reported that yala water issues at the time were 8.8 acre-feet per acre.

[2]The project was originally designed for eight years, not unreasonable if there is to be institutional development and effective "learning process." For reasons mostly of administrative convenience, however, it was shortened to four years, creating the anomaly that "master planning" was to be done concurrently with (and actually after) the rehabilitation design. This also created great pressure to speed up the pace of farmer organizing.

[3]We chose our terminology carefully to convey desired connotations. In South Asia, it is hard to keep "leaders" accountable to members. "Leaders" find it difficult to step down and let others rise above them, so we deliberately avoided using that word. Farmer-members appreciated the significance of our using the term "farmer-representative" instead. Similarly, we used the Sinhala words kandayam (group) and sangvidane (organization) for the first and second levels of farmer association, which respectively implied less and more formalization.

[4]Along with the contributions of the farmer organizations and IOs, we should credit also the Government Agent (1980-85) and the Deputy Director of Irrigation (1981-85) who made important contributions to this process.

[5]I am more convinced of this having "compared notes" with Dr. Lynn Bennett, now with the Ford Foundation in New Delhi, on the UNICEF-supported program of women's rural development in Nepal that she designed and implemented with Nepali colleagues. They had the same experience that high status of the catalysts was important for mobilizing rural people and for gaining acceptance by officials of rural groups.

[6]These three phases parallel but are different from the three stages David Korten (1980) identified in the histories of successful rural development programs in Asia: (a) learning to be effective, (b) learning to be efficient, and (c) learning to expand. Because of the continuing turnover in IOs, we were not able to proceed in an orderly way, having always to

redeploy and adjust our organizers over shifting areas. Roughly speaking, we spent the first year-and-a-half (with the first batch of IOs as "pioneers") learning to be effective. Then the next three-and-a-half years were spent learning to be efficient. This could have been quicker and more efficient if there had been more stability in the IO cadre, which had a 95% turnover. At the end of five years, we were in a position to expand to other irrigation systems with a modified structure and strategy. This is being done under a new USAID-funded Irrigation Systems Management Project in Sri Lanka.

[7]This was also the experience of the UNICEF-supported Nepal rural women's program referred to above.

[8]This schematization we developed is virtually identical with one which John Rouse, who oversees FAO's People's Participation Programme in seven African countries, outlined to an FAO workshop on participatory monitoring and evaluation that I attended in Ghana in June 1986.

[9]See my review of Chambers' book in Economic Development and Cultural Change, January 1987.

[10]Interest in "altruism" is growing within the social sciences. See, for example, Axelrod (1984), Hirschman (1984) and Drescher et al. (1986).

[11]The elements of such a strategy are presented, with supporting case materials, in Uphoff (1986a). The broader implications of our Gal Oya experience for social science understandings are still being thought through and should eventually appear in a book which the author is working on.

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