Population Control: Pakistan Tries a Major New Experiment

Islamabad, Pakistan. After several decades of awareness that uncontrolled population growth is a serious threat to global stability and a great obstacle to the economic development of the poor countries, planners are still without an adequate body of theory for dealing with it. Understanding of both the social and technical, to say nothing of the political, problems of population control in underdeveloped societies remains far behind the perception of the need.

Recently Pakistan embarked on a major new experiment which, in a sense, bypasses the deficiency in social theory. Its proponents are wary, having been disappointed before by population control experiments, but they are hopeful that the approach will demonstrate some useful new techniques, whatever the theoretical framework in which they function.

The experiment, which has been under way for barely a year, contains two essential components, a "continuous motivation system" and a "contraceptive inundation program."

The first, developed by the Pakistani government, consists of establishing trained male and female teams that are assigned to population groups of 10,000 to 15,000 people, most of them in rural areas. It is calculated that these population groups will have among them some 1500 eligible fertile couples. The team's task is to identify these couples, visit them every 3 months, and provide encouragement and training in birth control. More than 8400 trained field workers are officially reported to have been deployed.

The "contraceptive inundation" component consists of flooding the countryside with birth control pills and condoms, making them available at a price—a few pennies a month—that even the poorest Pakistani peasant can afford. Financed almost exclusively by the U.S. Agency for International Development (AID), this program is said by now to have reached almost all of Pakistan's 43,000 villages. Its goal is the operation of 100,000 distribution points in the country within the next year.

Thus far, Pakistani men have shown no resistance to condoms, and current experience indicates that they are the preferred means of contraception. But, according to those responsible at the AID mission for keeping the supply channels filled, sales of the pill have also grown from 15,000 per month in 1973 to 170,000 at last count. The Pakistani government authorizes dissemination of the pill without medical or paramedical sanction. Such unsupervised distribution may shock Americans, who are conscious of the pill's side effects, but health services in Pakistan are in such short supply that use of the pill would come to a halt if medical authorization were required. Furthermore, since Pakistan's mortality rate for women in pregnancy and childbirth is five or six times higher than that in the United States, the risks associated with use of the pill are not taken seriously. Evidence compiled thus far indicates that rural women are much more comfortable with the pill than with intrauterine devices (IUD's), which proved a failure in most underdeveloped countries because of pain, frequent expulsion, and bleeding.

In fact, both condoms and the pill have been leaking out of regular distribution channels and showing up on the black market. Thus far, according to AID officials, the government has kept supplies moving quickly enough to keep the black market price from rising significantly above the authorized price. What the phenomenon seems to indicate, however, is that the demand for contraception, happily, is continuing to grow.

One of the recognized flaws in the experiment lies in the "continuous motivation" teams; it is a facet of the characteristic weakness of bureaucracy in the Third World generally. The team members are poorly paid, relatively uneducated, inadequately trained, and badly supervised. The teams make fewer visits to their target couples than they should, and probably fewer than their records indicate. Since the measurement of the program's effectiveness will be largely dependent on the accuracy of these records, there is no doubt that the paper results and the real results might be quite different.

Yet, what is encouraging to planners at the AID mission is that the system seems to be improving. The fact that the villagers are responding positively to the program, in contrast to an earlier hostility, has raised team morale. The government's supporting publicity on radio and billboards has been intensified. In general, the central government has made increasingly clear the importance with which it views family planning, which helps explain why the demand for jobs on the continuous motivation teams has been growing as the months have passed.

This commitment on the part of the government is crucial, not only in terms of the funds it is willing to allocate but of the prestige it is willing to stake. The Pakistani government has been toying with population control programs for 20 years or more. A decade ago, President Ayub Khan incorporated a family planning organization, emphasizing the IUD, into the government's five-year plan. When Ayub was overthrown, there were villages in which family planning centers were attacked and burned, though it was unclear whether the violence was directed against Ayub himself or his population programs. In any event, Ayub's claims of success were later determined to be based on dubious if not corrupt statistics, so it may have been no loss that his successor, Yahya Khan, saw the population control programs as a political liability and scrapped them. Yet it is important to note that even during Yahya's regime, a few creative minds at top levels of the bureaucracy continued to build on the experience of the Ayub years, and took the first tentative steps which led to the continuous motivation system.

Prime Minister Bhutto, successor to Yahya, has since become a strong supporter of population control. He assigned responsibility for it directly to the central government so that its impact would not be dissipated by provincial administrators, and in June of 1973 he concluded the agreement with the United States which led to American financing of the contraceptive inundation experiment.

Bhutto's wife, furthermore, has closely identified herself with population planning, a gesture of some practical importance in a country where men normally give women's preferences scant attention. When I asked Bhutto in an interview whether he shares the view sometimes expressed in the Third World that population control is a Western strategy to retain its power, he answered: "No, not at all. It is simple arithmetic, simple economics, to realize that something has to be done to curtail the growth of population. We have no suspicions or qualms. We realize the urgency."

The urgency is apparent in the statistics. As nearly as one can calculate, the current rate of about 45 births per thousand is about the same as it was in 1911, when the population stood at 20 million, and even in 1951, by which time the population approached 40 million. The difference, of

course, comes from the death rate. Though one Pakistani child in four still dies by the age of 5 and life expectancy is barely 50 years, the death rate is nonetheless a third of what it was only 20 years ago. Pakistan's current population is estimated at 71 million. An even greater problem is that, because of the soaring survival curves, more than one-half of this population is under 15, so that even if the ideal of the two-child family is achieved in the near future, Pakistan's population will still double by the first quarter of the next century.

Scrutinizing those figures more closely, the experts have figured that if the percentage of couples using contraception remains at the 1973 level—estimated at 4 percent—the population will rise to 84 million by 1980. If, under the current program, the contraceptive percentage rises to 10, the 1980 population will be 83 million, a difference that seems almost negligible. The government's goal is a contraception level of 20 percent, which will lower the birth rate from 45 to 35 per thousand, but, even if this is attained, it will still leave the population at 81 million in 1980. No real difference will be felt until the 35 percent level of contraception is reached, which is still well below Western practice. At that point, the 1980 population can be kept to 77 million. Yet, realistically, no one believes that, whatever the availability of contraceptive devices, the process of changing habits can be accelerated to such a pace.

It is these habits, of course, which experts have tried to understand in order to devise a body of theory on which to base birth control programs. Currently, the conventional wisdom among the experts holds that parents in underdeveloped societies have many babies because they want them—to work in the fields, to provide for old age, to assure a measure of immortality, to bring them status in the community. This conventional wisdom holds that birth rates are unlikely to come down until societies assure parents that the babies born are likely to survive, that a better life is possible with fewer children, that old age without a huge family need not be a lifelong worry. The theoretical purists have gone so far as to suggest that birth control programs are futile without prior economic and social development.

Pakistan's current experiment rejects this view as extreme, and looks to a more modest theory. It recognizes that no one is quite sure why couples choose to have or not to have children. It holds that, whatever the level of social and economic development, some of these couples at least would like to limit their families, and they ought not, out of official indifference or rigid devotion to dogma, be deprived of the chance by lack of knowledge or material.

Paradoxically, if Pakistan's experiment is successful, it may be because the conventional wisdom is actually right. There is evidence of sociological change in Pakistan which corresponds nicely with current theory. Most notably, the experts say, the introduction of the Green Revolution's methods of agriculture—chiefly fertilizer and new seed—have broken age-old patterns of cultivation. Farmers who were once considered wedded to tradition are now calling for more technology. Perhaps for the first time, they have been introduced to the notion that they might have some control over their destiny. There are signs of resistance to the subdivision of their plots among sons; there are also signs of a reexamination of the old attitude of marrying off daughters at the earliest possible age. Peasants may not yet have electrified homes but they do have transistor radios—which have exposed them to the outside world, as well as to the birth control propaganda the government transmits over the air waves. Such changes may, indeed, be the preconditions for successful population programs.

If it is these changes that have led in Pakistan to new attitudes on family planning, then the current experiment might have quite different results if tried in, say, India or Egypt, where patterns are emerging quite differently. No one is sure, and it will take years before the figures confirm whether the current experiment is having a real impact. Yet, after a long period of despair, the experts think they may be onto something in Pakistan, and are hopeful.

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Materials Research: Scientists Show Scant Taste for Breaking Ranks

A controversy over the fairness of materials research grant awards made by the National Science Foundation (NSF) has been heating up ever since it was first ignited by a woman researcher at the University of Virginia in congressional testimony last summer. But all the letter writing, new studies, and meetings on the subject have produced so far only one discernible lesson—namely, that he or she who marches to a different drummer, by questioning the way federal research grants are awarded, runs a great risk of being beaten over the head.

In August, Doris Kuhlman-Wilsdorf, University Professor of Applied Science at the University of Virginia, presented the results of a study of NSF funding patterns to a subcommittee of the House Committee on Science and Technology. The burden of the study was that the Metallurgy and Materials Section of NSF's Division of Materials Research (DMR) was taking a "populist" approach to grant awards by lavishly funding departments of only medium quality while giving disproportionately little money to the top-ranked, elite schools (*Science*, 22 August).

Her testimony, and reports of it in the press, have stirred strong reactions among materials researchers around the country. Most of the mail received both by the House committee and by *Science* has bestowed kudos on NSF while making some less-than-charitable asides about her.

Both in for-the-record statements and in private conversations, several materials scientists have accused Kuhlmann-Wilsdorf of attempting "political blackmail" of the NSF and called her a "disgruntled seeker of research funds," a "difficult person" who is "outside the club." They have termed the NSF in its decisions on materials grants as "fair" and "unbiased."

But many of those who have written to *Science* and to the House committee would seem to have a stake in the status quo. A tally of mail received at both places shows that much of it came from universities which have benefited handsomely from NSF's materials research division. Among them were the University of Pennsylvania (which Kuhlmann-Wilsdorf ranked 18th in quality but which in 1973–74 received $1,939,800 from DMR); Carnegie-Mellon