

ISSN 0010-4159

# Comparative Politics



Published quarterly by  
The City University of New York  
Volume 12, Number 1, October 1979

## Public Policies in Conflict

### Land Reform and Family Planning in Costa Rica

*Mitchell A. Seligson\**

In recent years social science research on industrialized nations has increasingly turned its attention from a focus on the formulation of public policy to the evaluation of the impacts of policy. It is now widely recognized that public policies frequently have unintended and in some cases highly undesirable consequences.<sup>1</sup> Unfortunately, in the less developed countries (LDCs), policy evaluation is still in its infant stages despite the critical role that public policies are having in shaping the future of these nations. This article will attempt to demonstrate the need for increased attention to policy evaluation in the LDCs by presenting the findings of a research project conducted in Costa Rica. The paper focuses on land reform and family planning policies.

As recently as 1900, Latin America's total population amounted to 65 million people. Most countries in the region felt the need to increase their population and several embarked upon policies which both encouraged large families and attracted foreign immigrants. Partly as a result of these policies, and also as a result of lowered mortality rates, the population of Latin America in the present century has soared. From 1900 to 1940 it doubled, and between 1940 and 1975 it doubled again. By 1980 the total population of the region will be about 380 million persons and by the year 2000 perhaps 640 million.<sup>2</sup>

Population growth has been greatest in the cities. Whereas in 1950 two-fifths of Latin America's population lived in urban areas, that fraction will reach three-fifths by 1980. The urban population has increased from 65 million in 1950 to 160 million in 1970 and is projected to rise to 510 million by the year 2000.<sup>3</sup> The inability of governments to provide needed services in these burgeoning urban agglomerations has induced most Latin American countries to shift from a pronatalist to an antinatalist policy. Even Mexico, which had

long maintained a strong pronatalist position, has recently shown a change of heart.<sup>4</sup>

Fertility levels in many urban areas of Latin America have dropped in the last few years, apparently as a result of the availability of contraceptives, the increasingly middle-class character of the urban populations, modernization, and intensive family-planning programs. Despite the reduced birthrate in the cities, urban growth rates continue to climb, with rural-to-urban migration responsible for 40 to 70 percent of this growth.<sup>5</sup> Between 1960 and 1970, 21 million people migrated from rural to urban areas.<sup>6</sup> Policymakers increasingly recognize that unless the flood tide of migration is stemmed, urban Latin America will become hopelessly overcrowded.

Land reform is increasingly being seen as the primary means by which migration to the cities can be stemmed. Although Latin American countries have had land reform programs on the books for many years, new life is being infused into some of them in an effort to make the countryside more capable of retaining its population. Many believe that land reform will help reverse the high rates of rural unemployment which drive peasants to the cities. Before policymakers embark upon land reform as a means of reducing the urban explosion, however, they would do well to consider the possible unintended impact of such reforms on rural population growth. Whereas effective reform programs may significantly reduce the rate of urbanbound peasant migration,<sup>7</sup> they may also stimulate (or slow the decline of) rural population growth. While there is little systematic evidence which directly links land reform to fertility increases,<sup>8</sup> some research suggests the existence of strong incentives for large families among landed peasants.<sup>9</sup> Labor shortages on family-sized farms reach acute levels during planting and harvest times, and large families help to ensure the farmer a pool of unpaid labor. A large family may provide a steady source of income from the farm once the father is too old to work the fields himself. Research in Poland, for example, has indicated that operators of large farms tend to marry earlier and thus produce larger completed families than those with small farms.<sup>10</sup>

Since land reform converts landless peasants into landed ones, we might suspect that reform may increase fertility. Referring to Latin America, David Chaplin warns, "In the event of a land reform . . . it is possible that, as occurred in Ireland in the late eighteenth century, the age-at-marriage could drop, the percent married rise, and thus considerable increase in fertility result."<sup>11</sup> Consequently, rather than alleviate the population problem in Latin America, agrarian reform may exacerbate it.

Research is needed to determine whether agrarian reform is accompanied by the unintended consequence of increases in fertility. This paper uses survey data from Costa Rica to examine the impact of land reform on fertility. The findings, one hopes, will suggest an appropriate course of action in Latin American policymaking.

### Problems and Policy Responses in Costa Rica

**Population problem and policy response** One of the smallest countries in Latin America, Costa Rica had a population of 1.87 million in 1973. With an overall population density of 116 persons per square kilometer of arable land, it ranks seventh in density in Latin America.<sup>12</sup> Beginning in the early 1960s, two factors stimulated serious national concern over the population question.

First, Costa Rica's population growth rate in the 1950s and early 1960s was among the highest in the world. More significantly, the crude birthrate (i.e., the number of births per thousand population) for the period 1955-59 rose to 48.1, the highest in the country's history, higher than any country in Latin America except El Salvador (49.3) and Guatemala (48.7). By comparison, the crude birthrates of Argentina and Uruguay were 24.0 and 20.8.<sup>13</sup> In 1970 Costa Rica's population was projected to double within eighteen years, faster than any other Latin American country.<sup>14</sup>

Second, Costa Rica's population is not evenly distributed but is highly concentrated on the *meseta central*, a highland valley characterized by a much more comfortable climate than the surrounding lowlands. The *meseta central* comprises only 6 percent of the land area of the country but contained, in 1973, 57 percent of the total population. Moreover, greater metropolitan San José, the nation's capital, accommodated 25 percent of the nation's population within .4 percent of the land area in that year. In the same year, the population density of the greater metropolitan area reached 2,070 persons per square kilometer. The pace of urban concentration is revealed by the fact that whereas in 1950 only 30 percent of the population lived in urban areas, by 1973 42 percent did.<sup>15</sup>

Costa Rica's rapid population growth and rising urban density resulted in the establishment in 1962 of the first formal population program in Latin America. The Asociación Demográfica was formed to study the population problem and to train doctors in the administration of contraceptives.<sup>16</sup> Since then, several additional programs have been organized; they were integrated into the Oficina de Población in 1967 under the Ministry of Health. The Caja Costarricense de Seguro Social (Social Security) administration also provides an extensive program of contraceptive distribution and a limited program of sterilization. Although the government provides institutional and financial support for the various birth control programs, there is no official birth limitation policy. Rather, the government directs its efforts at "responsible parenthood" and family planning in general. The government has avoided an official stand in order to circumvent potential conflicts.

While the population programs include both education and the distribution of contraceptives, the distribution program has been more active in the urban areas because of the scarcity of adequately trained medical personnel in rural areas. Contraceptive use in urban Costa Rica became quite common by the late 1960s, when an estimated 70 percent of urban women of child-bearing age were using

them. Rural women, however, were less likely to use birth control devices.<sup>17</sup> Overall, crude birthrates fell dramatically from a high of 48.1 in 1955-59 to 29.6 in 1976, a drop exceeded in only one country in Latin America (Barbados) and four other LDCs (Hong Kong, South Korea, Singapore, and Taiwan). Population growth fell from 4.8 percent annually in 1963 to 2.4 percent in 1975.<sup>18</sup> Nevertheless, although rural birth rates have declined, they are still quite high, much higher than urban rates. Thus, in 1973, counties (*cantones*) with 90 percent or more of their inhabitants residing in a rural area ( $N=17$ ) had a crude birthrate of 34.5; 80 percent or more rural ( $N=38$ ), a rate of 30.1; and 70 percent or more rural ( $N=56$ ), a rate of 29.3. On the opposite end of the spectrum, the seven counties with 70 percent or more of their populations residing in urban areas had a birthrate of 27.2 and the three most urban counties (80 percent or more urban) had a birthrate of 26.6.<sup>19</sup>

**Agrarian problem and policy response** The need for land reform has emerged slowly in the twentieth century as a result of major changes in the agrarian structure which began the century before. Throughout the colonial period (1564-1821), nearly all families in Costa Rica owned land. However, the expansion of coffee cultivation in the postindependence period, coupled with the establishment of a foreign-owned banana enclave, slowly produced increasing inequality in the distribution of land. By the 1950s, over three-fourths of the peasant population was landless and the bulk of the landowning peasantry possessed tiny plots too small to be economically viable.<sup>20</sup>

Agrarian reform laws were drafted in the late 1950s and were put into effect in 1961. In 1962, the Instituto de Tierras y Colonización (Institute of Lands and Colonization) opened its doors (the same year as the beginning of the population program). In its first decade of operation, the reform program frequently changed emphasis and produced an uneven record of accomplishment. Land grants totaling 2 percent of all the farm land in the country were made, affecting 1.7 percent of the 145,000 landless peasants in the country. Beginning in 1975, however, the program was revitalized with a large infusion of public funds and increased political support. At that time, a major attack on the problem of landlessness was begun. If these plans are fully implemented, major changes will be made in the agrarian structure.<sup>21</sup>

### **Policy Impacts in Conflict**

Public policies may often work at cross-purposes. This appears to be the case in Costa Rica. On the one hand, population policy has been working to lower the birthrate and has had some success. On the other hand, agrarian reform policy appears inadvertently to favor increased natality. What is the evidence for this assertion? I will first establish that land ownership in Costa Rica relates to

**Table 1** Mean Family Size, Landless and Landed Peasants, 1973 Sample

Analysis of Variance				
	Sum of Squares	DF	F	Sig of F
<b>Main effect</b>				
Land tenure status .....	281.5	1	25.7	.001
<b>Covariates</b>				
(age, income, education) .....	1577.4	3	48.0	.001
Explained .....	1858.9	4		
Residual .....	4973.6	454	42.4	.001
Total .....	6832.6	458		
<b>Multiple Classification Analysis</b>				
Grand Mean = 5.52 (total number of children) multiple R = .52				
Type	N	Unadjusted Deviation from Mean	Adjusted Deviation from Mean	Adjusted Mean
Landed* .....	274	.64	.43	5.95
Landless ....	185	-.95	-.61	4.91
	459**			

\* Grouped in the landed category are land owners (both titled and untitled), squatters, renters, and sharecroppers. The landless peasants include steady plantation and nonplantation workers, day laborers, and migrant workers. A complete discussion of land tenure types in Costa Rica is found in Seligson, "Prestige Among Peasants: A Multidimensional Analysis of Preference Data," *American Journal of Sociology*, 83 (November 1977), 632-52.

\*\* Males currently or previously married total 465. Six cases of missing data lowered N to 459.

higher fertility than that found in landless groups and then demonstrate the impact of reform (i.e., giving land to landless peasants) on fertility.

In 1973, the author conducted a survey research project in Costa Rica in which 531 male<sup>22</sup> peasant heads of households were interviewed. Some 66 respondents who had never been married (civil or common law) were eliminated from the sample because of the probable irrelevance of fertility-related questions. Peasants were defined as persons who earned their living by cultivating the soil. The probability sample was stratified and clustered. It included sixty-six peasant communities distributed throughout five of Costa Rica's seven provinces. The sample was divided into two groups, landed and landless, to determine if there was any difference in fertility among landed and landless peasants. Table 1 reveals that landed peasants have larger families than do landless ones. For the entire sample, the average total family size was 5.52. The landed peasants, however, had a mean of 5.92 and the landless 4.91, a difference significant at the .001 level. The difference is not a result of differences in age, income, or education between the two groups (the landed group is older, more affluent, better educated) since the effect of these variables was partialled out by covariance analysis. The addition of other covariates (e.g., age at first birth) does not alter the conclusions. When these variables are not partialled out, the difference between the two groups is even greater, the landed having an average of 6.16 children and the landless 4.57.

Although landed peasants had more children than landless peasants (in the 1973 sample), peasants who obtain land through agrarian reform programs may not necessarily have more children or alter their attitudes toward fertility. To determine the actual impact of reform on fertility, it was necessary to analyze two new samples. In 1976, 527 male peasant heads of households who were beneficiaries of land reform were interviewed. The sample included twelve of the country's twenty reform projects and covered 24 percent of the population of the reform heads of households. The second sample was drawn approximately three months after the conclusion of that survey. It was a national probability sample with a total  $N$  of 1,707. This sample covered urban and rural areas, including 359 sample segments distributed in all seven provinces. Every second respondent was asked questions relating to fertility, yielding a total  $N$  of 865 for these questions. Of these 865 respondents, 422 were male and hence comparable to the reform sample.

Comparing actual fertility (i.e., total number of pregnancies and/or births) of the two samples would not be meaningful. Most peasants in the first sample have participated in the reform project for only a part of their adult married lives and most respondents are still in their reproductive years. Hence, the overall impact on completed family size cannot be determined. Therefore attitudes were examined instead. The particular measure used in this comparison is the one which has been used more than any other in fertility research—ideal family size.<sup>23</sup> While there is not a one-to-one correlation between ideal and actual family size, research in Costa Rica has clearly indicated that there has been a close relationship between the *decline* in the ideal family size and the *decline* in fertility over the past ten years.<sup>24</sup>

A comparison of the recipients of agrarian reform with the landless peasant population confirms that there are higher ideal family sizes among the former. The two samples were combined into a single data file and an analysis of variance was performed, controlling for age, education, and income. Ideal family size among the landless peasants in the national sample averaged 2.75, 1.58 below the reform peasant sample mean.<sup>25</sup>

Apparently, agrarian reform does indeed encourage attitudes more favorable to larger families and hence directly conflicts with the antinatalist efforts of the government. As the land reform program widens its scope and incorporates a larger segment of the landless peasant population, one would expect the overall impact on fertility to be considerable. Moreover, many of the children born to the beneficiaries will probably eventually solicit additional land from the national government in order that they, too, may have a plot to farm. A revolving door will thus be established in which land redistribution increases human fertility which, in turn, creates new demands for more land redistribution. In time, however, the arable land will run out and no further distribution will be possible. That time is not in the too distant future since there remains little public domain land for distribution.

### **Solution to Policy Conflict: Communal Land Reform**

When two public policies are in conflict, it is sometimes easy to stop one so that the other may succeed. In Costa Rica, this would be impossible for two reasons. First, most leaders in government agree that both problems which the policies are attempting to meet are very serious and must be resolved if the present rate of economic development is to continue; population growth must be slowed, migration from the countryside diminished, and rural unemployment reduced. Second, both policies enjoy widespread popular support and no government could risk abandoning one or the other. The 1976 national survey referred to above revealed that 80 percent of Costa Ricans agree that the government should provide family-planning services. Similarly, 85 percent agree that the government should take land from those who have a great deal to give to those peasants who have none. With strong popular support for both policies, it appears necessary to find some way that they can be simultaneously implemented without counteracting one another.

The solution to the conflict lies in finding some way to eliminate or at least reduce the desire among land reform recipients to have a large family. How might this be done? We know that for small landholders there are several structural incentives for having large families, incentives that are not operant among landless peasants. Consequently, a land reform system is needed which eliminates or at least reduces these incentives. Since it is the ownership of individual plots which seems to stimulate the desire for more children (to obtain free family labor) and it is the fixed wage (which does not vary regardless of the number of children) which seems to deter landless peasants from having large families, a system of reform which does not grant individual parcels of land but puts each beneficiary on a fixed wage would seem to resolve the conflict between land reform and family planning. Several Latin American countries have experimented with precisely this sort of land reform since the late 1960s. The programs are known as "self-run communal enterprises" (*empresas comunitarias de autogestión*).

The self-run communal enterprise is a hybrid type of land reform, having some elements of the Israeli *kibbutz*, and the Mexican collective *ejido*. The communal enterprise is established with the aid of the state, usually the agrarian reform agency, and organized under national cooperative laws. Each member of the enterprise is a shareholder in the cooperative. Each share entitles one member of the family, typically the head of household, to share in the profits and management of the enterprise and requires him to supply a full day's labor on each work day. Hence, while the communal enterprise is established and sanctioned by the state, it is not a state-owned collective (as is the *kibbutz*). Profits from sales are usually reinvested in the purchase of new equipment, seed, and fertilizer and are sometimes put into the construction of schools, housing, or other common benefit projects. Some enterprises have been highly



successful, particularly those in Honduras, Panama, and Colombia where members enjoy a standard of living never before experienced. Honduras and Panama each have several hundred communal enterprises, while Colombia has over 2,000.<sup>26</sup> In Costa Rica, the first enterprise was begun in 1971 and seventeen such projects now exist with a combined membership of 517 families. The agrarian reform agency is presently evaluating the effectiveness of this model of reform in order to determine if it will play a major role in the projects now being planned. It may well be that many of Costa Rica's future land reform efforts will be communal in nature, especially if the fertility hypothesis tested in this paper is confirmed.

To test the hypothesis that the communal enterprise type of land reform reduces fertility among beneficiaries, 226 Costa Rican peasants in eleven communal enterprises were interviewed at the same time as were the individual parcel-holders referred to above. In total, the 1976 sample included 753 peasants, 226 communal, and 527 individual owners. Each respondent was asked the same question (see note 23) regarding ideal family size. The results of the analysis of variance comparison are shown in Table 2. A significant difference is found between the two groups ( $p = .009$ ) in the direction hypothesized. Communal peasants have an ideal family size—.24 children below the general mean—whereas the individual parcel-holders have an ideal family size of .10 above the mean. When adjusted for the relevant covariates,<sup>27</sup> the difference between the two groups increases somewhat so that the adjusted ideal family size of the communal peasants is 3.73 and the ideal for the individual parcel-holders is 4.26. Repeating the analysis with the married subset of respondents leaves the results virtually unchanged. Hence, it is found that the ideal of the communal enterprise peasants is one-half a child lower than that of the individual parcel-holders.

How meaningful is the difference of one-half of a child? While we cannot translate differences in ideal family size into differences in actual fertility levels, we can make some observations which will help us understand its probable impact. First, the data from the 1976 national probability sample revealed that rural respondents had an ideal family size of .19 above the national mean. The difference of .53 encountered between the communal and individual parcel-owners is more than twice the difference between the rural population and the total population.

Second, although recent research links ideal and real fertility,<sup>28</sup> we should not assume a one-to-one correlation between them. However, it is possible to approximate the probable impact of communal reform on fertility by using census and survey data from the recent past. The ideal family size for female residents of greater metropolitan San José in 1964 was 4.07.<sup>29</sup> The metropolitan female portion of the 1976 national probability sample analyzed earlier in this paper produced a mean ideal family size of 3.0. In 1964 the crude birthrate was

**Table 2** Ideal Family Size, Communal and Individual Parcel Peasants, 1976 Sample

Analysis of Variance	Sum of Squares	DF	F	Sig of F
<b>Main effect</b>				
Reform type.....	17.3	1	6.9	.009
<b>Covariates</b>				
(age, income*, education total children, Banana Zone)....	101.8	5	8.0	.001
Explained.....	119.1	6	7.8	.001
Residual.....	1773.6	700		
Total.....	1892.7	706		
<b>Multiple Classification Analysis</b>				
Grand Mean = 4.10 (ideal family size) multiple R = .25				
Type	N	Unadjusted Deviation from Mean	Adjusted Deviation from Mean	Adjusted Mean
Communal.....	215	-.24	-.37	3.73
Individual parcel.....	492	.10	.16	4.26
	707**			

\*A surrogate for income had to be used since all members of each communal enterprise receive the same wage (usually the minimum daily wage for agricultural workers). An index was created based upon the artifacts present in the home (sewing machine, radio, television, refrigerator, motorcycle, wrist watch). The condition of the house was also noted on the interview schedule, but since many of the communal enterprises had identical houses, built with government aid, this information was not useful in discriminating among respondents.

\*\*The N is less than 753 owing to missing data.

43.0, whereas by 1975 (a year prior to the 1976 sample) it had declined to 29.5 (data for 1976 are not yet available). Consequently, we see that a drop of 1.07 in ideal fertility corresponded to a drop of 13.5 births per 1,000 population in actual fertility in Costa Rica. If the same ratio of ideal to real holds up in rural Costa Rica, then we could expect a drop of approximately 6.7 births per thousand among communal peasants. Unfortunately, calculations such as these leave much to be desired because it is not known if the ratio found in metropolitan Costa Rica will apply to rural areas. Furthermore, we do not know if the relationship found in the period 1964 to 1976 will apply to future years. Finally, the 1964-76 comparisons of ideals were made on a female sample and we do not know if the same effect will be seen in our male sample. Nevertheless, a good case can be made for the argument that a drop in one-half a child in ideal family size will have a significant impact in lowering fertility among the communal peasants. All of the evidence from Costa Rica indicates a close link between drops in ideal and drops in real fertility.<sup>30</sup>

Further evidence that the communal land reform program reduces fertility was found in responses to the question, "Are you and your wife in agreement in

doing something to space or avoid having more children?" There is a significant difference ( $p = .002$ ) between the two types of reform projects; the communal peasants are more inclined to agree with their spouses on the need for family planning than are the individual parcel-holders.<sup>31</sup>

These comparisons indicate that the communal peasants desire fewer children than the individual parcel-owners. One would expect them to accomplish this reduction in fertility through increased use of birth control. However, a comparison of the birth control practice<sup>32</sup> in the two samples shows only weak support for this expectation. Among the married communal respondents, 33.5 percent said that they were using birth control, while 30.2 percent of the married parcel-holders were doing so; the difference is not significant at the .05 level. At first it was thought that the absence of a significant difference in use of birth control might have been a result of differences in knowledge of birth control practices (communal peasants having less knowledge). A series of questions regarding knowledge of such techniques were asked and analyzed and no significant differences appeared between the two groups (even when covariates were included). As a result of the birth control campaign of the government, most of the respondents had heard about birth control and were able to name at least one method (81.8 percent of the entire sample, 83.2 of the married respondents).

The above findings, taken together, present a paradox. We know that the communal enterprise peasants have a lower ideal family size, and have the same level of information on birth control practices, but they do not use birth control more extensively than do the individual parcel-holders. Why does the lower ideal family size in a situation of equivalent information not produce increased use of contraception? The answer must be speculative since no questions were asked whether the respondents would use birth control if the devices were available. Nevertheless, barriers to obtaining contraceptives may account for this paradox. When I worked as a rural community development volunteer in rural Costa Rica, I found that peasants had difficulty in obtaining contraceptives for four reasons. First, modern birth control devices are often difficult to obtain in rural Costa Rica; pharmacies are found only in the larger towns, and rural general stores (*pulperías*) rarely sell contraceptives. Second, despite government-supported rural health programs, regular medical care in rural areas of Costa Rica is more difficult to obtain than in urban areas. Women find it difficult to obtain long-term medical supervision of their birth control regimen. Unable to obtain continued medical care, women correctly fear the effects of contraceptives (especially the pill and IUD, the most commonly used techniques). Third, not all medical personnel support the use of contraceptives; some of them discourage it despite official policy to the contrary. Fourth, in rural Costa Rica, priests are frequently more outspoken in their opposition to artificial methods of birth control than are priests in urban Costa Rica.

### **Conclusions: Policy Implications**

This paper has demonstrated that the policies of family planning and land reform are in conflict in Costa Rica. Conventional reform programs based upon individual ownership of land stimulate attitudes conducive to population growth. It has also been shown that the communal enterprise variety of land reform results in attitudes conducive to fewer children. However, use of contraceptives is not significantly greater among communal peasants than among those who hold individual parcels.

What needs to be determined at this point is how receptive communal peasants would be to contraceptive use if the problem of availability were overcome. While it can be expected that such peasants, given their stated preference for fewer children, would make use of contraceptives if they could easily do so, we do not know this for certain. Unfortunately, it is not an easy task to increase the availability of birth control devices in rural Costa Rica, given the scarcity of doctors and the unwillingness of members of the medical profession to serve in remote regions. Costa Rica does have a law which requires a year of social service of all physicians upon receiving their license to practice, and these individuals make up the bulk of rural doctors at the present time. It is difficult to see how more doctors could be attracted to the countryside, given the comparatively primitive living conditions found there and the general poverty of prospective clients.

One solution to the problem would be the incorporation of communal land reform peasants into the national social security system. Since communal peasants all belong to cooperatives which pay their salaries, it would be administratively easy to deduct social security premiums from their weekly paycheck. Costa Rica has greatly expanded its social security system in recent years, so that by 1975 54 percent of the economically active population was covered by the health program part of the social security system.<sup>33</sup> If communal peasants could be included in the system and receive regular medical attention, then it is probable that fertility rates would begin to fall. Furthermore, provision of old-age social security pensions (a separate social security program) might help lower fertility by reducing the need for the informal "social security" which children frequently give their parents in their old age.<sup>34</sup>

Costa Rican policymakers need to consider the implications of these findings, which suggest that future land reform should be communal in nature and coupled with the availability of social security health coverage. Failure to implement this sort of policy would seem to imply a slowing of fertility decline in the rural areas, ultimately placing further pressures on the already crowded urban areas.

The greatly accelerated pace of reform since 1975 and the plans for a more extensive program in the future increase the probability that reform will affect

overall rural fertility levels. Some planners within the reform agency ultimately hope to provide land for half of the three-fourths of the peasant population who are presently landless. A reform of this magnitude (involving some 65,000 individuals, or nearly 20 percent of the economically active rural population) would have a major impact on fertility and hence population growth rates in rural Costa Rica. However, even if the projected reform program is unable to make the extensive impact on land distribution that the agency now hopes it will, the impact of the program on fertility in local areas could result in major problems. For example, in 1975 ITCO purchased from the United Fruit Company 22,270 hectares of land and settled 1,500 families on the property. This settlement was of the traditional individual parcel type and, if the findings of this paper are correct, we should expect to see a decline in the rate of fertility reduction or possibly even rising birthrates among the beneficiaries, many of whom were landless peasants working for the banana company prior to receiving land. In the short run, the increased birthrate will require considerable government investment in maternity clinics, medical care for children, nutrition programs, and schools. In the long run, the "baby boom" produced by the reform program will come to haunt the reform program as the children grow to adulthood and seek to establish their own farms.

Land reform in Costa Rica, whether it proceeds on a large or small scale, presents population problems which planners should consider when determining the nature of future reform efforts. Developing nations, caught up in the resolution of the simultaneous multiple crises, must begin to pay more careful attention to contradictions in development policy.

#### NOTES

\*This paper was originally delivered at the International Seminar on Agrarian Reform and Institutional Innovation in the Reconstruction and Development of Agriculture, University of Wisconsin, July 14-22, 1977, and revised for presentation at the Comparative Seminar on Agrarian Reform in Latin America, La Catalina, Santa Bárbara de Heredia, Costa Rica, June 25-30, 1978. The research was supported by the Ford and Rockefeller Foundation Joint Program in Population and Development Policy, the Social Science Research Council's Foreign Area Fellowship Program, the Danforth Foundation, the University of Arizona Foundation, and the Institute for Government Research of the University of Arizona. Special thanks go to Lic. Miguel Gómez B., director of the Unidad de Opinión Pública, Oficina de Información, Casa Presidencial, Costa Rica for making the 1976 national probability sample data available; to Lic. José Manuel Salazar Navarrete, Director of the Instituto de Tierras y Colonización, for institutional support in Costa Rica; and to Lic. Elena A. Wachong of the Universidad de Costa Rica for collaboration in the design and execution of the 1976 field research. I would also like to thank Charles Brockett, Otis Dudley Duncan, Margarita Kay, Robert Michielutte, José Manuel Salazar X., and Michael Sullivan for their helpful comments on an earlier draft of this paper.

1. See the symposium "Evaluating Public Policy and Policy Impacts," *Social Science Quarterly*, LVII (December 1976).

2. Gilberto Loyo, "The Demographic Problems of Mexico and Latin America," in Terry McCoy, ed. *The Dynamics of Population Policy in Latin America* (Cambridge, 1974; United

Nations, *Urban and Rural Population: Individual Countries, 1950-1985 and Regions and Major Areas, 1950-2000* (New York, 1970).

3. United Nations, *Growth of the World's Urban and Rural Populations, 1920-2000* (New York, 1969).

4. McCoy, "A Paradigmatic Analysis of Mexican Population Policy," in McCoy, *Dynamics*. Guyana, as a result of complex political motivations, still retains a firm pronatalist policy. See Jay R. Mandle, "Guyana: Pronatalist Policies," in Aaron Lee Segal, ed. *Population Policies in the Caribbean* (Lexington, 1975).

5. Bernard J. Sauers, "Peasant Migrations in Latin America: A Survey of the Literature in English," *Peasant Studies Newsletter*, III (April 1974), 19-25.

6. United Nations, *Urban and Rural Populations*.

7. William C. Thiesenhusen, "Population Growth and Agricultural Employment," in David Chaplin, ed. *Population Policies and Growth in Latin America* (Lexington, 1971).

8. Speculation is provided by Earl E. Huyck, "Population Growth in Ceylon," (Ph.D. diss., American University, 1956).

9. James T. Fawcett, ed. *The Satisfaction and Costs of Children: Theories, Concepts, Methods* (Honolulu, 1972).

10. W. Stys, "The Influence of Economic Conditions on the Fertility of Peasant Women," *Population Studies*, XI (November 1957), 136-48.

11. Chaplin, "Some Institutional Determinants of Fertility in Peru," in Chaplin, *Population Policies*, p. 227. For a contrasting view, see James E. Kocher, *Rural Development Income Distribution and Fertility Decline* (New York, 1973). Kocher's conclusion that rural development brings about declines in fertility fails to take into account the overall fertility trend in the countries on which he reports. Hence, he is unable to isolate the impact of rural development from societal development. Furthermore, Kocher appears to assume that most land reform programs will bring about high standards of living (e.g., more education), which will in turn help lower fertility. The Mexican and Bolivian reforms seem to show that greater equality in the distribution of land does not necessarily result in an improved standard of living for the rural poor.

12. McCoy, "Introduction," in McCoy, *Dynamics*, p. xix.

13. Kenneth Ruddle and Donald Odermann, *Statistical Abstract of Latin America, 1971* (Los Angeles, 1972).

14. McCoy, "Introduction," p. xx.

15. Mario E. Fernández, Anabelle Schmidt, and Víctor Basauri, *La población de Costa Rica* (Ciudad Universitaria, "Rodrigo Facio," 1976).

16. Vivian Epstein-Orlowski, "Family Planning Programs and the Dynamics of Agenda-Building in Costa Rica and Chile," in McCoy, *Dynamics*.

17. Jack Reynolds, "Costa Rica: Measuring the Demographic Impact of Family Planning Programs," *Studies in Family Planning*, IV (November 1973), 310-16.

18. Dirección General de Estadística y Censos, *Estadística Vital-1975* (San José, 1977); Marcos W. Bogan, "Rapid Fertility in Costa Rica," *Intercom*, VI (March 1978), 6-8; and W. Parker Mauldin, "Patterns of Fertility in Developing Countries, 1950-75," *Studies in Family Planning*, IX (April 1978), 75-84.

19. Dirección General, *Estadística Vital-1975*.

20. Details of this discussion are contained in Seligson, *Peasants of Costa Rica and the Development of Agrarian Capitalism* (Madison, 1979). Also by the same author, see "Agrarian Capitalism and the Transformation of Peasant Society," State University of New York Special Studies Series, No. 69 (Buffalo, 1975); and "Agrarian Policy in Dependent Societies, Costa Rica," *Journal of Interamerican Studies and World Affairs*, XIX (May 1977), 201-32.

21. Details of the development of the reform program are contained in several studies by Seligson: *Peasants of Costa Rica*, chap. VI; "The Impact of Agrarian Reform: A Study of Costa Rica," *The Journal of Developing Areas* (January 1979); and "La Reforma Agraria, en Costa Rica: Evolución de un programa," *Estudios Sociales Centroamericanos*, XIX (January-March 1978), 55-82.

22. The study included only males for a number of reasons related to the maximization of sample size for the target population. See Seligson, "The Peasant and Agrarian Capitalism in Costa Rica" (Ph.D. diss., University of Pittsburgh, 1974); John A. Booth and Seligson, "Peasants as Activists:

A Reevaluation of Political Participation in the Countryside," *Comparative Political Studies*, XII (April 1979), 29-59; Seligson, "Prestige Among Peasants," and, "Unconventional Political Participation: Cynicism, Powerlessness, and the Latin American Peasant," in Seligson and Booth, eds., *Political Participation in Latin America, vol. 2: Politics and the Poor* (New York, 1979).

23. While the question has been asked in many forms, two basic styles are most frequent. The first asks the respondent to state how many children constitute the ideal number. This question has been criticized because the socioeconomic context is left unspecified. The second style of question, the one favored in recent research, asks for an ideal family size for people in socioeconomic conditions similar to those of the respondent. In the present study, the latter form was used. For the peasant sample, the respondents were asked: "In your opinion, what is the opportune or ideal number of children that a peasant family ought to have?" For the national sample, since both peasants and nonpeasants were included, the referential context had to be broadened to include all social classes. The following question was used: "If a couple with an economic level similar to yours were to marry at this time, how many children would you recommend that they have?" While the wording is slightly different in the two questions, it is unlikely that the differences had any significant effect on the responses. Both questions were coded as follows: 0-7 children were given codes of 0-7; 8 or more children were given the code of 8.

24. Miguel Gómez B. and José Manuel Salazar X., "Opiniones acerca del crecimiento de la población, la planificación familia y el tamaño ideal de la familia en la Valle Central de Costa Rica," (San José, Oficina de Información de la Casa Presidencial, Unidad de Opinión Pública, 1976, mimeo).

25. Females, it should be noted, report an ideal of 2.86 (.11 greater than the males), indicating that the use of an all-male sample has only the slightest impact on the generalizability of the overall conclusions.

26. José Emilio Araujo G., ed. *La empresa comunitaria: una sistemática reformista en el proceso agrario latinoamericano* (San José, 1975); Programa de Capacitación Campesina para la Reforma Agraria, *Las empresas asociativas campesinas* (Tegucigalpa, 1975).

27. The covariate of "banana zone" was included (in addition to education, age, and total number of children) in order to take into account the ecological influence which is present among those settlements (communal and individual) which are located in areas of large banana plantations. These lowland tropical regions have greater than average numbers of bachelor males who have left their homes in other regions in order to earn the high wages paid in the banana zones, and are frequently characterized by prostitution, drunkenness, etc.

28. Ronald Freedman, Albert I. Hermalin, and Ming-Cheng Chang, "Do Statements about Desired Family Size Predict Fertility: The Case of Taiwan 1967-70," *Demography*, XII (August 1975), 407-16.

29. Miguel Gómez B., *Informe de la encuesta de fecundidad en el área metropolitana*. (San José, 1968).

30. Gómez and Salazar.

31. Additional evidence derives from a similar question, located at a different point in the interview schedule, which reads: "Are you and your wife in agreement on the number of children you desire to have?" The communal enterprise peasants were in significantly more agreement with their wives than were the individual holders.

32. The question asked was: "Have you done something to limit or space the births in your family?"

33. Mark Rosenberg, "Social Security Policy Making in Costa Rica: A Research Report," *Latin American Research Review*, XIV, no. 1 (1979), 116-33.

34. Research on the impact of old age social security pensions has not yet come to definitive conclusions, largely as a result of the problem of multicollinearity between national development (economic and social) and social security. See Charles E. Hohm, "Social Security and Fertility: An International Perspective," *Demography*, XII (November 1975), 622-44, and the rejoinder by William R. Kelley, Phillips Cutright, and David Hittle, "Comment: Charles F. Hohm's Social Security and Fertility: An International Perspective," *Demography*, XIII (November 1976), 581-86. While old age social security may not be responsible for reduction of fertility rates, it probably helps retain those low levels.