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MARKETING SYSTEMS AND INCOME DISTRIBUTION: THE CASE OF MILK PRODUCERS IN HIGHLAND PERU

Analyses of rural inequality in the Third World have tended to focus on inequality in the ownership of land and associated factors of production such as livestock as the principal causes.[1] But income inequality may derive from a number of other sources. One of the most important of these is the nature of the prevailing marketing system: If there are wide disparities between the power of different producers to bargain with the ultimate consumer, then those producers will receive different prices for their produce, and this introduces an element of inequality quite separate from that derived from inequalities in the ownership of land and capital assets. This factor has been acknowledged by writers such as Simpson (1970) and de Janvry (1975), but there is a shortage of studies that investigate the relationship between the prevailing marketing system and inequality of rural income in specific regions of the Third World. This paper reports on such a study, which was carried out in Cajamarca department, Peru, in 1981, in an area that depends largely on milk for cash income. After asking how much inequality is attributable to the milk marketing system and why producers receive unequal prices for their milk, we then conclude by asking if inequality can be reduced by means of reforms in the present marketing arrangements.

THE DATA

The area under investigation, the Catilluc valley, is depicted in Map 1. It is an area of some 300 square kilometers lying about 100 kilometers north-northwest of Cajamarca city in San Miguel Province, Llapa district.[2] It consisted in the 1950s of three very large haciendas, of which one was completely

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[1] See, for example, Griffin (1976, 1978); Lehmann (1974); Edwards (1976).

[2] For a general discussion of the economy of the Cajamarca area and its historical development, see Chambeau et al. (1975) and the thesis by Deere (1978).

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broken up, and two partly broken up, by the Land Reforms from 1969 to 1979. The area varies in altitude from 2,400 meters to 4,000 meters above mean sea level and hence incorporates a number of agronomic and climatic zones (denoted as I to V on Map 1), which between them embrace many of the characteristic patterns of Sierra agriculture. The area was surveyed by means of a sample of 144 farmers (about 25 percent of the total) in each of the months January to December 1981. Twenty-four farmers were chosen by random sampling methods from agro-climatic zones I to IV, and 48 from zone V, the largest. The methodology of sample selection and other aspects of survey design are described in Mosley (1982) and in more detail in Lawrence-Jones, Mosley, and Conlin (1982).

Income

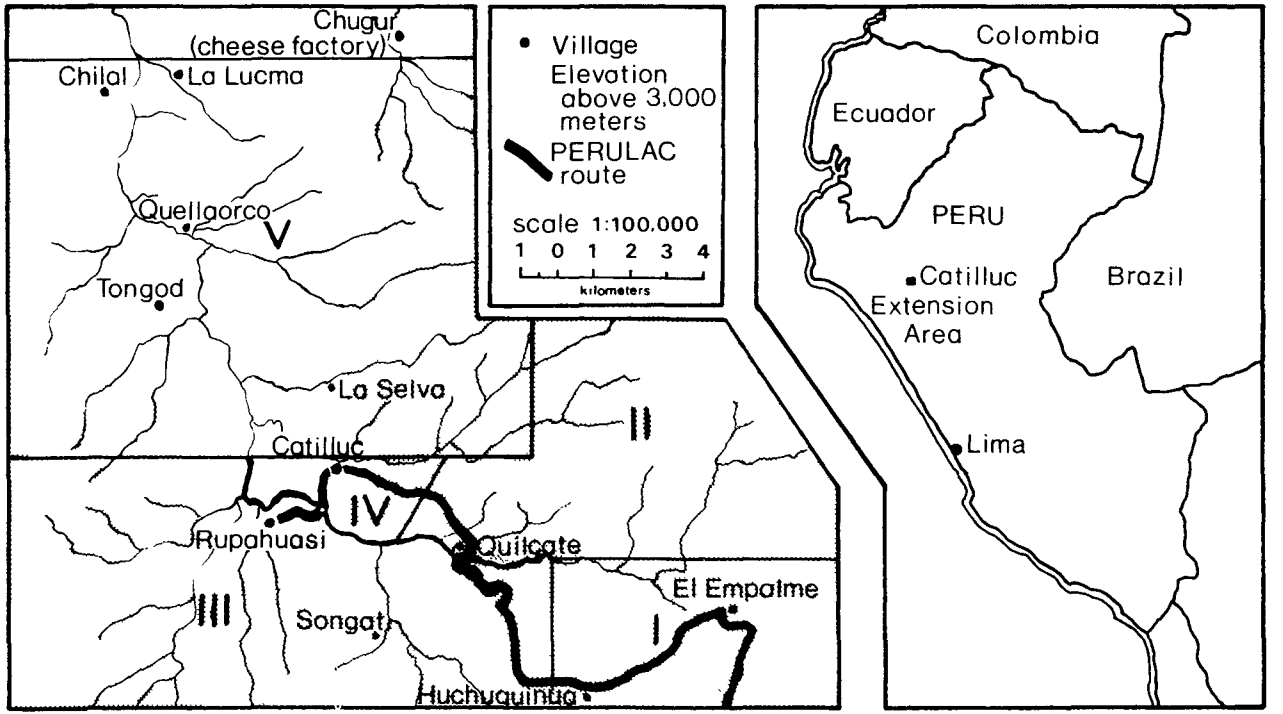
Cattle form the backbone of the farming economy for the majority of people in Catilluc. They provide milk and they are sold, particularly in the months immediately following the harvest, to itinerant traders who buy them for meat, mostly to satisfy demand in the coastal regions of northern Peru. Milk is the more important of these two sources of cash income. Table 1, drawn from the survey, bears witness: It is estimated to have provided 69.2 percent of cash income within the survey area in 1981, as against 24.8 percent from net cattle

TABLE 1.—CATILLUC SURVEY AREA: ESTIMATED AVERAGE FAMILY INCOME PER HEAD BY SOURCE
(*Thousand soles*)

Source of income	Monthly Averages				Annual Total	
	Jan–March	Apr–June	July–Sept	Oct–Dec	Total	Percent
Crop sales	11	4	<1	1	51	5.4
Milk sales	45	51	49	70	648	69.2
Stock sales (net)	46	9	14	8	233	24.8
Other animal products[a]	1	<1	<1	<1	2	0.3
Other products sold for cash[b]	1	<1	<1	<1	1	0.1
Off-farm labor	<1	<1	<1	<1	1	0.1

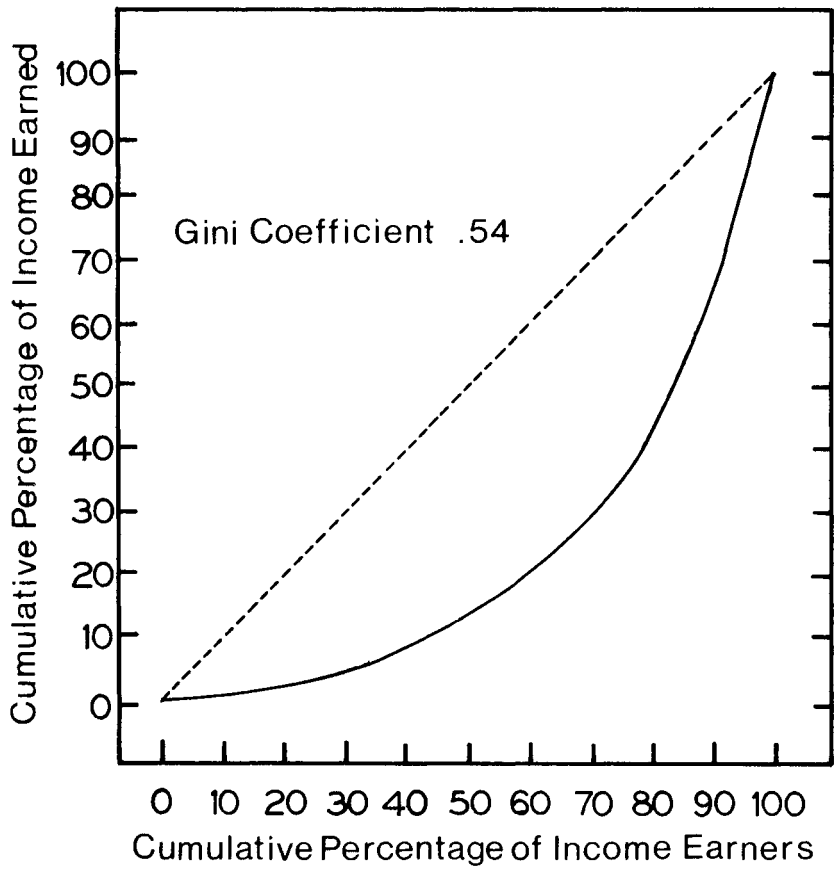
Source: 1981 survey data. Gross farm income, with no deduction for purchased inputs.
[a]Wool, leather, quesillo, and fresh meat.
[b]Wood and handicrafts are examples.

MAP 1.—THE CATILLUC EXTENSION AREA, WITH SURVEY ZONES



Source: S. Conlin, *Agricultural Development Project of Cajamarca, Peru: Report on the Baseline Study for the Evaluation of the Project.* U.K. Overseas Development Administration, Land Resources Development Centre, Miscellaneous Report 278, 1981, text map 1.

CHART 1.—CATILLUC SURVEY: DISTRIBUTION WITHIN SAMPLE OF TOTAL CASH INCOME



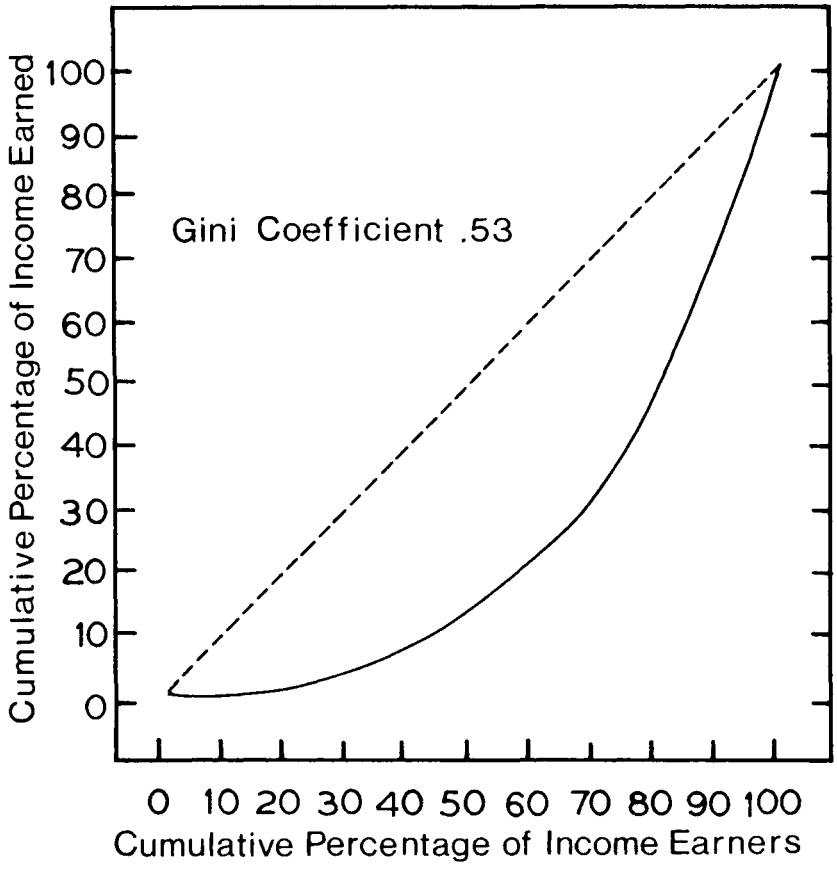
sales.[3] The remaining 6 percent was split between sales of other animal products (such as wool and cream cheese), sales of crops (almost exclusively potatoes), sales of other products, and off-farm labor. The last two are very unimportant.

This cash income is very unequally distributed. At one end of the scale, 54 percent of all cash income is earned by 20 percent of farmers; at the opposite end, only 1.2 percent of all cash income is earned by the poorest 20 percent. The Lorenz curve distribution of cash income for the sample is set out as Chart 1; it exhibits a Gini coefficient of .54.

Much, though by no means all, of this inequality derives from variations be-

[3] Recall that this figure, like all data presented in this paper, is drawn from a sample and is thus subject to sampling error.

CHART 2.—CATILLUC SURVEY: DISTRIBUTION WITHIN SAMPLE OF TOTAL MILK INCOME



tween farmers in the sale of milk. Seventy-seven percent of farmers in the sample sold milk at some point during the year, but the amount varied considerably, with the most prosperous 20 percent of farmers receiving 53.4 percent of total milk income and the poorest 20 percent receiving a mere 1.2 percent. The Lorenz curve of the distribution of cash income from milk sales only is set out as Chart 2; the Gini coefficient of inequality is .53[4].

[4] The Gini coefficient is calculated as

$$\Sigma (P_i - Q_i)(P_{i-1} - P_{i+1})$$

percent, where P_i = cumulative proportion of households and Q_i = cumulative proportion of incomes.

The Gini coefficient for American diary farms in 1974 was about 0.60 in terms of numbers of cows per diary, according to figures reported by Robert H. Forste and George E. Frick (1979). See Raj Krishna's article, p. 219 in this issue of *Studies* for other Gini coefficients. WOJ

The point on which we wish to focus in this paper is that not all of the inequality derived from differences in milk sales can be attributed to the fact that some farmers deliver more milk than others. Much of the inequality is also due to the fact that some farmers get a higher price for their milk than others. To explain this will require us to describe the system by which milk is marketed in the Catilluc area.

The Milk-Marketing System

Milk collection from the Catilluc valley, as from many other parts of northern Peru, is monopolized by PERULAC, a subsidiary of Nestle International of Switzerland and one of the two companies that dominate the industrial processing of milk in Peru.[5] The PERULAC lorry collects milk every morning along the route set out on Map 1. PERULAC pays a government-determined price, 109 soles per liter at the beginning of 1981 and 166 soles per liter at the end of the year, to anybody whom it authorizes to deliver directly to its lorry.[6] To be physically able to do this, a farmer needs one or more milk cans and, unless he lives directly on the PERULAC route, a donkey, horse, or very rarely a motor truck to haul it to the pick-up point. PERULAC will only accept milk delivered to it in its own milk cans, which it leases free of charge to producers authorized to supply it directly. These direct suppliers are hereafter denoted by the term *Supplier* (with a capital *S*) to distinguish them from those farmers who can only supply through an intermediary. To become a Supplier, it is necessary to undertake to deliver 30 liters a day, or a full can, but milk is frequently refused if PERULAC feels that any increase in supply will lead to a pile-up of unsaleable stocks. In addition, milk cans are frequently withdrawn from Suppliers if they have been delivering an excessive amount of sour milk, or if they sometimes fail to deliver their quota of 30 liters a day.

It is apparent from the above that in order to become a PERULAC Supplier it is necessary to command fairly substantial capital resources. To supply 30 liters a day it is necessary to have at least eight cows in milk (implying, if a regular supply is to be maintained, a herd of 12 or 13) or alternatively to have sufficient working capital to make up the balance by purchases from other producers. And the cheapest of the means of transport mentioned above, the donkey, costs on average 30,000 soles ($50). The full PERULAC price thus only goes to those who are already reasonably well-off. Milk producers whose assets do not permit them to deliver 30 liters of milk a day are compelled to sell to Suppliers at a price well under that guaranteed by PERULAC. They are thus doubly handicapped: Their output, at least of milk, is small, and *because* it is small the price they receive is lower than that paid to larger producers. In January 1981, 24 percent of farmers in the Catilluc area were Suppliers, 54 percent—more than twice as many—sold their milk to Suppliers, and 22 percent sold no milk at all. The average price received by non-Suppliers in 1981

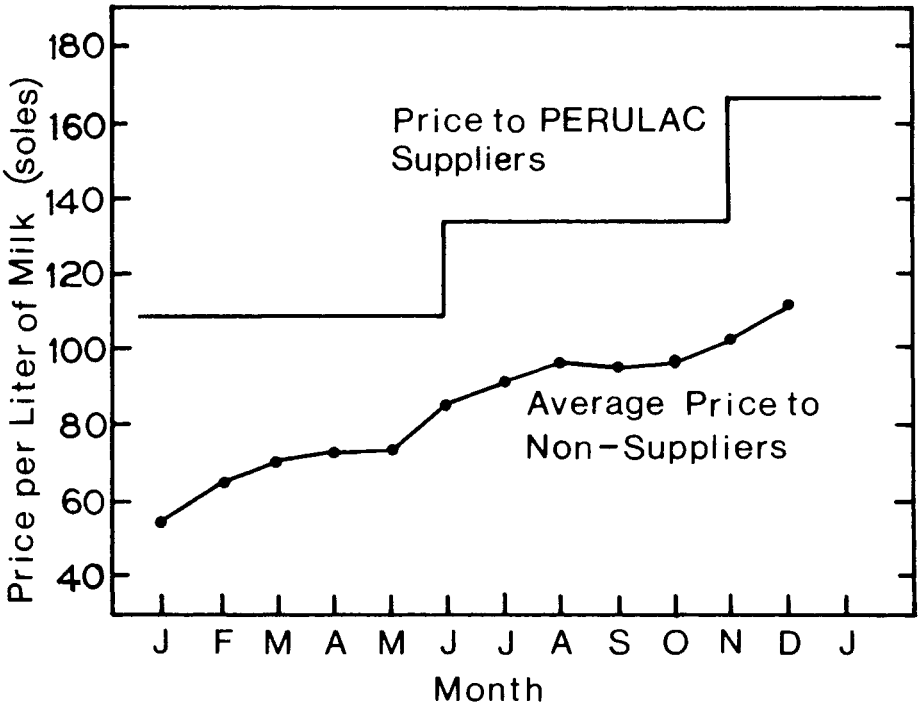
[5] PERULAC and Leche Gloria (a subsidiary of Carnation Milk of the United States) collect more than 50 percent of the fresh milk that is industrially processed in Peru (Lajo, 1980, p. 5).

[6] In 1981 the Peruvian sol was worth on average 0.167 U.S. cents.

was 84 soles per liter, or 65.8 percent of the 127 soles received by Suppliers.

As Chart 3 demonstrates, the price paid to non-Suppliers showed a tendency to slide gradually upwards even in months when the PERULAC price was not increased, reflecting no doubt the fact that news of price increases and the implied profit opportunities for the Suppliers took a while to leak through to other producers.

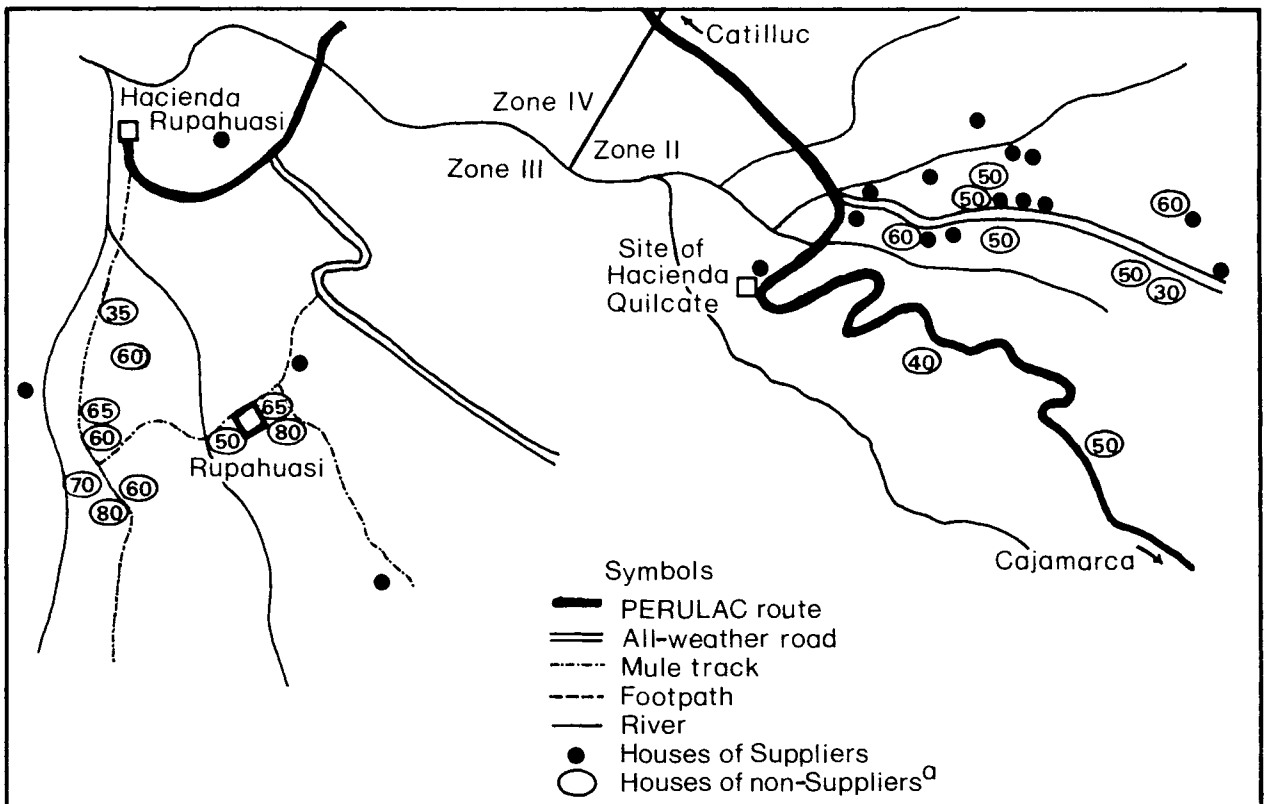
CHART 3.—PRICE PER LITER OF MILK PAID TO PERULAC SUPPLIERS AND THOSE NOT SUPPLYING DIRECTLY TO PERULAC, 1981



Sources: PERULAC and 1981 Survey

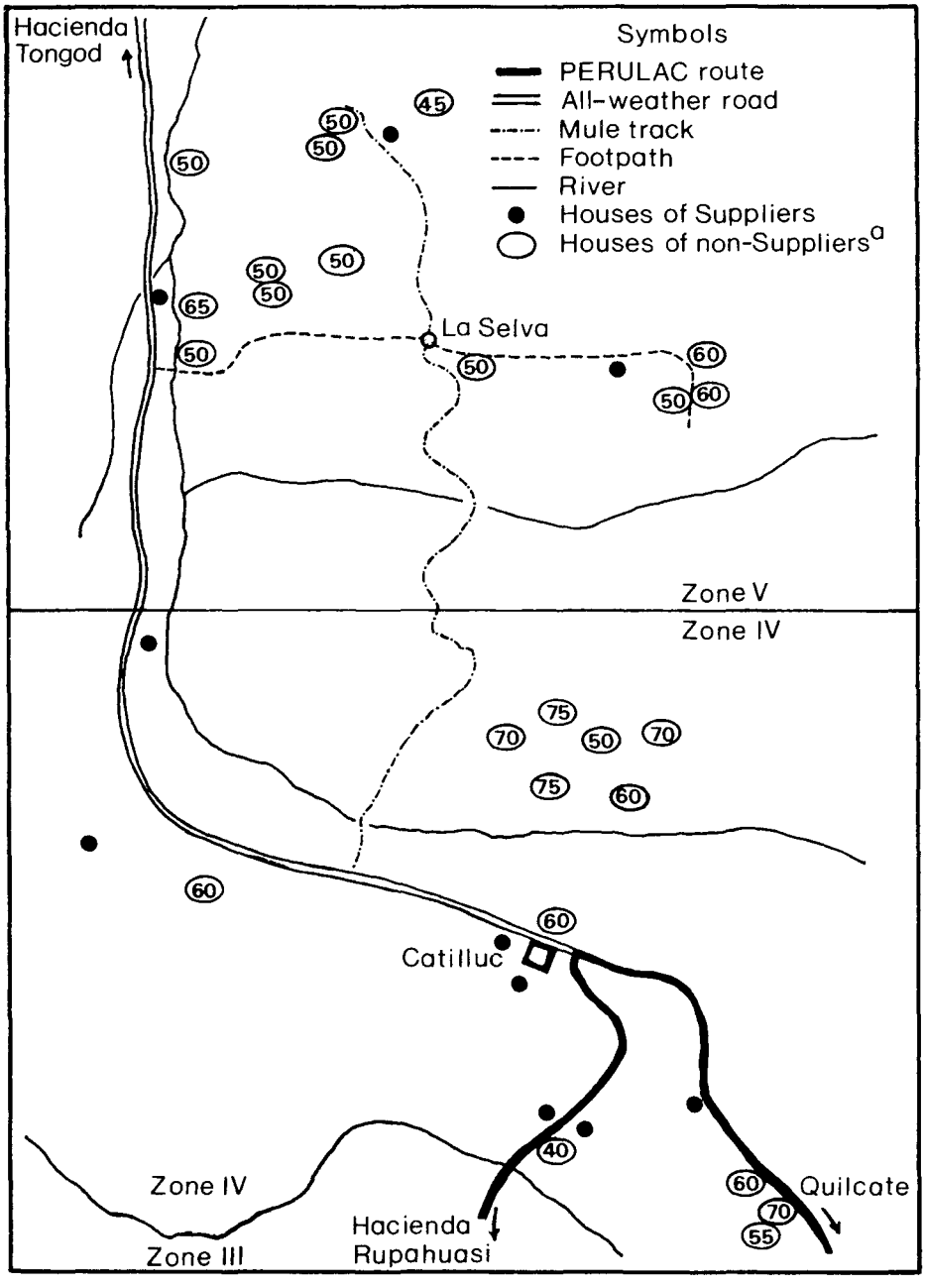
In each month, however, there was a great dispersion around the average levels shown in Chart 3. Maps 2 and 3 show some of the areas sampled within the general geographical area represented by Map 1 and demonstrate that prices received by non-Suppliers in January 1981, when the price to direct Suppliers was 109 soles per liter, varied from 30 to 85 soles. It is also apparent from these maps that prices received by these farmers did not vary systematically with distance from the nearest Supplier, as one might expect. We return in the next section to the fascinating question of what causes these variations. For the moment let us consider the implications for rural income distribution of differences between prices received by producers.

MAP 2.—PRICES PAID PER LITER OF MILK IN RELATION TO THE LOCATION OF FARMS, RUPAHUASI AND QUILCATE, JANUARY 1981



[a]Figure indicates the price paid per liter of milk in January 1981.

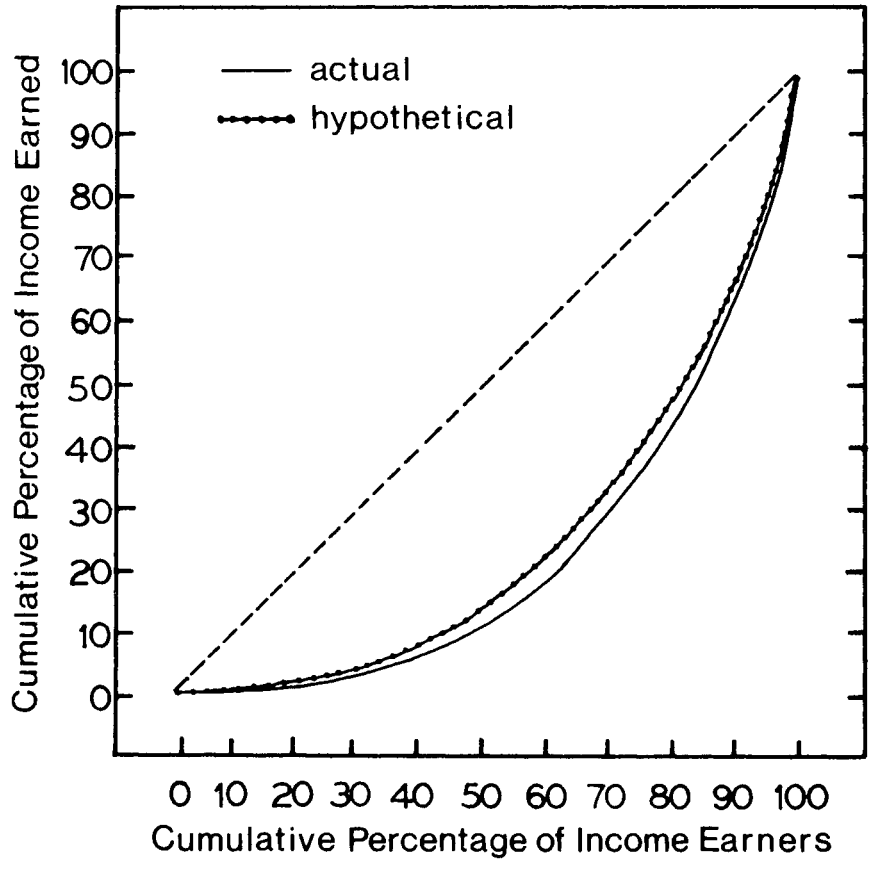
MAP 3.—PRICES PAID PER LITER OF MILK IN RELATION TO THE LOCATION OF FARMS, LA SELVA AND CATILLUC, JANUARY 1981



[a]Figure indicates the price paid per liter of milk in January 1981.

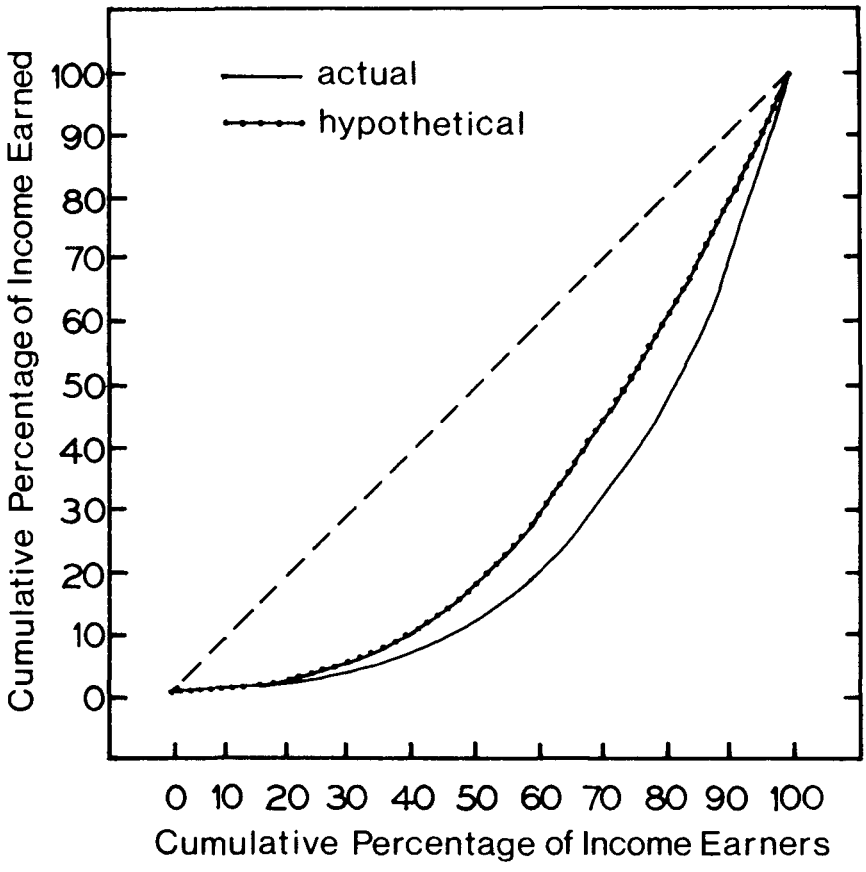
Consider the hypothetical situation in which each milk producer who is not a Supplier received, in 1981, the full PERULAC price of 109 soles for his milk, rather than the price he actually did receive. Such a situation could in principle be achieved if small milk producers organized themselves into cooperatives, each leasing a milk can from PERULAC, and this possibility is considered in our final section. But it would require existing Suppliers who buy in milk to get their milk from other sources, for instance by buying their own cows. The results for income distribution within the sample if this hypothetical situation were to materialize are depicted in Charts 4 and 5. The intrasample Gini coefficient of inequality falls from 53.1 percent to 42.8 percent for milk income and from 54.2 percent to 48.9 percent for total income. It can be said, therefore, that variations in the milk price between producers account for about 10 percent of inequality in milk income and for about 5 percent of inequality in total income.

CHART 4.—TOTAL INCOME, ACTUAL AND HYPOTHETICAL
144 FARMERS



Hypothetical distribution assumes non-Suppliers receive same prices as Suppliers.

CHART 5.—MILK INCOME ONLY, ACTUAL AND HYPOTHETICAL
144 FARMERS



Hypothetical distribution assumes non-Suppliers receive same prices as Suppliers.

VARIATIONS IN MILK PRICES: THEORETICAL ANALYSIS

It may therefore be thought important to provide some kind of explanation of why prices paid to producers vary as much as they do. Part of the explanation, of course, is that some dairy farmers simply cannot afford either the cattle they need to produce a daily quota of 30 liters or a donkey to carry the milk can to the PERULAC route and so have to sell through an intermediary. But there remains the question of why prices vary so much within the group of farmers who do not sell directly to PERULAC. As is apparent from Maps 2 and 3, there are no obvious "price contours" causing price received to vary inversely with the distance from the nearest Supplier. The story must therefore be more complex. In this section we report on the results of an analytical investigation designed to unravel the determinants of price differences within this relatively underprivileged group.

Let us start with a simple supply and demand analysis. The lower limit to the price a milk producer will accept from a Supplier is presumably the price that he can get for his milk in its best alternative market. There is in fact only one alternative market, namely that for *quesillo* (a kind of mozzarella cheese). The upper limit to the price a Supplier will allow himself to pay is presumably the price at which he covers his costs, namely the PERULAC price less the cost of transport.

If the market for milk off the PERULAC route were a competitive one, it would be possible to draw a supply curve that cuts the vertical axis at the level of the price of quesillo (in January 1981 about 50 soles per liter of milk equivalent) and a demand curve that cuts the vertical axis at the level of the PERULAC price less transport costs. This would define an "equilibrium price," variations from which could be explained by transport costs only. In fact, as we have seen this prediction is flatly inconsistent with Maps 2 and 3. And indeed the restraints on the operation of a competitive market in Catilluc, as in other parts of the Peruvian Sierra, are very severe. In principle it is possible for a small dairy producer to hawk his milk around until he gets the best available price for it. A few farmers do this, but even they cannot spend much time shopping around for the best available price because the product is perishable, and the majority of farmers in any case have no container suitable for carrying milk any distance. The only option left for them is to ask the Supplier to call at their farms with his donkey, at which point the milk is poured from a jug or bowl into the Supplier's milk can. Such a situation creates a buyer's market as it leaves the seller in no position to solicit alternative offers for his milk. The buyer is in a particularly good position to push the seller down to his "floor price" if the seller is dependent on him for some vital service, for example credit or the right to do wage labor on his farm. Such relationships of dominance and dependence are common in Catilluc, as elsewhere in the Peruvian Sierra, and occur in a particularly acute form with the two haciendas that survive in this area (see Map 2).[7]

At the same time, the seller is by no means without bargaining power. In particular, if he supplies a relatively large quantity of milk, say 20 liters out of a can of 30 liters, then the Supplier to whom he sells may not be able to replace this supply without inconvenience, and to this extent the producer has some bargaining power; this puts him in a good position to bid the price up. If that Supplier is a member of his own family, as is frequently the case, then the principle of mutual obligation may, on the Supplier's side, override the principles of profit maximization; this too will lift the price off the floor. By contrast, a small farmer who delivers three or four liters in a jug in occasional months

[7] There was no evidence in Catilluc that Suppliers competed for milk by increasing the price paid to indirect suppliers other than their own. This could be because of limits on the amount of milk they could collect in the period before 8:30 a.m. when the milk lorry arrives, and also because of difficulties in obtaining from PERULAC an increase in the size of one's quota. For a study of Eastern Ghana that also investigates the bargaining positions of farmers within the marketing chain, see V. Roy Southworth et al. (1979).

when his one cow is in milk is, from the Supplier's point of view, a nuisance since it is seldom that what he has to offer will exactly fill the buyer's milk can. Such a farmer's price will most likely be driven towards the minimum, particularly if he has no family connection to offer as a bargaining counter.

To sum up, we see the price of milk paid to the non-Supplier as being determined by relative bargaining power between a floor (the price of quesillo, which varies across the region but is highest in the north of the survey area where a cheese factory has recently been built)[8] and a ceiling (the PERULAC price net of transport costs, which also of course varies from place to place). Relative bargaining power will depend on whether or not the Supplier comes to the farm, on whether or not the Supplier needs the vendor's milk to fill his milk can, and on whether the buyer and seller have a family relationship.

Table 2 presents a crude attempt to see whether these hypotheses are borne out by fact. It gives the average price, within the sample, that milk producers who were not Suppliers received for a liter of milk in January 1981 according to their possession of the characteristics specified in the last paragraph.

TABLE 2.—PRICE PAID TO NON-SUPPLIERS PER LITER OF MILK, CATILLUC SURVEY AREA, JANUARY 1981
(*soles*)

Characteristic	Mean Price Received
Sold less than 10 liters of milk a day in previous month (n = 36)	52.6
Sold 10 liters or more of milk a day in previous month (n = 27)	62.9*
Close family relationship with Supplier[a] (n = 28)	61.3
No close family relationship with Supplier (n = 35)	52.8*
Less than 10 kilometers from Chugur cheese factory (n = 13)	52.0
Ten kilometers or more from Chugur cheese factory (n = 50)	59.6
Less than half kilometer from Supplier (n = 37)	58.0
More than half kilometer from Supplier (n = 26)	54.6

Source: Survey of 63 farmers (those in the original sample who stated that they sold milk, but not to PERULAC). Mean price to surveyed farmers was 56.6 soles per liter.

*Difference between two groups of producers statistically significant at .05 level.

[a]Child, parent, or sibling.

[8] Informal interviews suggest that the cheese factory was deliberately set up well off the PERULAC route in order to keep the cost of its raw material as cheap as possible.

The positive influence of delivery size and family relationships is confirmed by these data. The expected positive influence from access to a factory outlet for quesillo is not confirmed. We have no good explanation for this, although it should be noted that the farmers closest to the quesillo factory (essentially those in the northern half of zone V on Map 1) were, as may be seen from that map, those farthest from the PERULAC route. Many of these people in fact did not sell directly to a Supplier, but rather to an intermediary, or *negociante*, who then sold to a Supplier. The need for such a middleman to extract his profit in addition to the Supplier before the milk reached PERULAC tended to depress milk prices in this region and offset the stimulus of the cheese factory. Finally, the average price received by farmers who live less than a half kilometer from their Supplier was higher than the price received by farmers who live farther away, although the difference is not statistically significant.

We have already reviewed two of the reasons why this relationship is weak. A third reason, which is not easily subjected to statistical analysis, is that some farmers who live close to their Supplier are nonetheless involved in social relationships that preclude their bargaining up the price of their milk from a very low level. Two instances illustrate this point. One respondent (No. 158) had only two cows in production and had to earn most of his income from wage labor on neighboring farms. The owner of one of these farms was the Supplier to whom he sold his milk and who took advantage of this fact, and of the fact that the respondent was slightly mentally retarded, to pay him 30 soles per liter for his milk, the lowest price recorded in the survey. A second respondent (No. 312) was a widow, aged 26, with three children. She had one cow, which of course was not always in milk. When she was able to deliver milk, she received 35 soles a liter, close to the bottom of the range. The essential explanation for this is that the Supplier to whom she sold her milk lived close by and was the owner of a hacienda where she and her sister were employed to do domestic work 15 days a month. This, not milk, was her main source of income. The fact that she was absolutely dependent on the Supplier for one of her two sources of income and he was not dependent on her precluded her from exercising any bargaining power whatever in relation to the other. Such quasi-feudal relationships in modern guise are one of many factors that prevent the market for milk in this area of Peru from operating in a manner resembling the economist's model of a perfect market.

POSSIBLE CHANGES TO THE SYSTEM

We have seen so far that a modest but not insignificant part of income inequality in this area of Peru, and presumably in others where the same system of milk collection operates, can be attributed to that milk collection system rather than to variations in the ownership of land or cattle. It may therefore be asked whether that system can be modified to make the distribution of rural incomes more equal. In this final section we consider this question.

Differences in prices received by milk producers in the Catilluc area are of two types. One is the gap between the prices paid to Suppliers and non-Suppliers, and the other is the variation in prices paid to non-Suppliers. The latter stem largely from the nature of the personal relationship between Supplier and producer and from the quantity made available by the producer. To turn either of these into a policy variable requires reforms of a radical nature, which lie outside the scope of this paper. One practical means of pushing up the floor of the non-Supplier milk price does exist, however, and that is to expand the market for cheese and quesillo. This is, in fact, already happening. In November 1981 a buyer from the Chugur cheese factory began to tour the Tongod area offering 100 soles per liter of fresh milk (our survey results suggest that the average buying price to non-Suppliers in Tongod at the time was 91 soles, with a maximum of 110 and a minimum of 80).[9] This gave dairy farmers in the Tongod area, and indeed in the entire valley, a far better market opportunity than existed formerly, when it was necessary for them to carry cheese to the Chugur factory on horseback. The advent of this market opportunity and the recent improvement of communications between Tongod and the rest of the valley should give a slight upward push to the minimum price received by the non-Supplier.

There remains the price gap between the Suppliers and other sellers. In principle, there are two ways to close this gap:

1. PERULAC could accept milk in smaller cans. This would make it possible for smaller producers to become Suppliers and receive the full PERULAC price.

2. Existing non-Suppliers could form cooperatives. Thus, two producers each producing 15 liters a day and selling them for, say 120 soles could apply for a milk can between them and if successful get the full 165 soles on every liter they deliver.

Option 1 is not a practical possibility as long as PERULAC remains a monopoly purchaser of milk in bulk in the Cajamarca area. The government's current milk-pricing policy is forcing the price of milk up to levels that invite the import of powdered milk from New Zealand and Europe,[10] and this makes it difficult for PERULAC to break even with its existing cost structure. A reduction in the size of the can, even for a small number of producers, would involve gratuitously throwing away economies of scale, and thus increase costs still further.[11] The only practical way of keeping PERULAC's costs unchanged would be to impose a levy on, and thus depress, the current price of milk to all Suppliers. This would obviously provoke an outcry, although the bargaining power of PERULAC in relation to milk producers is such as to make it not politically impossible for such a reform to be carried out.

[9] The PERULAC price at the time was 165 soles.

[10] See Dumas (1981), p. 3.

[11] In addition it would require PERULAC to modify the conveyor belts and other machinery that handle the milk cans as they come into the factory; these are at present adapted to cans of a standard size. Interview, PERULAC, April 16, 1982.

This brings us to option 2. In principle it is absurd that two farmers should both accept a price below the standard PERULAC level if by pooling their milk they could fill a PERULAC milk can and receive the PERULAC price. In practice, the situation is complicated by the fact that each producer (if they have no mutual obligations to one another) will hope to become a Supplier and buy the other's milk, rather than embark on a cooperative venture. If—to go back to our original example—each is selling 15 liters a day at 100 soles per liter, and the PERULAC price is 165 soles, then the distribution of gains between them in the four hypothetical situations is:

CASE 1	CASE 2
A and B form a cooperative and divide proceeds equally	A becomes a Supplier and buys B's output at the old price
A's income: 2,475 soles B's income: 2,475 soles	A's income: 3,450 soles B's income: 1,500 soles

CASE 3	CASE 4
B becomes a Supplier and buys A's output at the old price	Situation continues as at present
A's income: 1,500 soles B's income: 3,450 soles	A's income: 1,500 soles B's income: 1,500 soles

It is natural that, if each behaves as an egoist, B will aim to bring about Case 3 if he has a bargaining advantage over A—for example, if B lives on the PERULAC route and A does not, or B has a donkey and A does not. Similarly, if A has a bargaining advantage over B, A will attempt to enforce solution 2 rather than the cooperative solution (1). It is no wonder that things often stay deadlocked in the no-change situation (Case 4). Only where bargaining strength is more or less equal is there any hope of moving towards the cooperative solution, and interviews carried out in the area suggest that even then mutual suspicions were such that serious negotiations towards a cooperative would only begin if the parties were members of the same extended family.[12] In many cases such informal cooperatives have already been formed between members of the same family on different farms. But they are uncommon between farmers who are not blood relations. In an environment that, as we have seen, is characterized both by the influence of multinational capitalism and by the presence of quasi-feudal social relations, a large part of the observable inequality in the income distribution is apparently attributable to neither of these but rather to old-fashioned family loyalties.

[12] Interviews, Rupahuasi and La Selva *caserios* of the Catilluc survey area, February 2–6, 1981.

CITATIONS

Francoise Chambeau, Gloria Garay, and Ramiro Samaniego, 1975. *Projecto Cajamarca—La Libertad: resumen de los estudios de casos*, Cajamarca, Peru.

Carmen Diana Deere, 1978. "The Development of Capitalism in Agriculture and the Division of Labour by Sex: A Study of the Northern Peruvian Sierra," Ph.D. thesis, University of California, Berkeley, California.

Alain de Janvry, 1975. "The Political Economy of Rural Development in Latin America: An Interpretation," *American Journal of Agricultural Economics*, Vol. 57, August, pp. 490–500.

Pierre Dumas, 1981. "Producción Lechera en la cuenca de Cajamarca," unpublished paper. Peruvian Ministry of Agriculture, Lima, Peru.

Clark Edwards, 1976. "The Political Economy of Rural Development: Theoretical Perspectives," *American Journal of Agricultural Economics*, Vol. 58, pp. 914–921.

Robert H. Forste and George E. Frick, 1979. "Dairy," in Lyle P. Schertz and others, *Another Revolution in U.S. Farming?*, U.S. Department of Agriculture.

Keith Griffin, 1976. *The Political Economy of Agrarian Change*, Macmillan, London, England.

_____ 1978. *Land Concentration and Rural Poverty*, Macmillan, London, England.

Manuel Lajo L., 1980. "Transnational Enterprises and Food: A Case Study of Milk in Peru," University of East Anglia Occasional Paper. Translated from "Transnacionales y alimentación en Peru: el caso de la leche," *Comercio Exterior*, October, Vol. 29, No. 10, Banco Nacional de Comercio Exterior SA, Mexico City.

William Lawrence-Jones, Paul Mosley, and Sean Conlin, 1982. *Cajamarca Agricultural Development Project: Baseline Study, Final Report*, London, Overseas Development Administration Evaluation Unit, Document EV 242.

David Lehmann, 1974. *Agrarian Reform and Agrarian Reformism*, Faber, London, England.

Paul Mosley, 1982. "Achievements and Contradictions of the Peruvian Agrarian Reform: A Regional Perspective," unpublished paper, University of Bath, Bath, England.

Peru, Ministerio de Agricultura y Alimentación, 1978. *Estudio integral de subsidios: el caso de los productos lacteos*, Informe No. 003-78, DISE-OSPAL, March.

Morag C. Simpson, 1970. "Marketing Systems," contribution to symposium on Third World agricultural development in *Journal of Agricultural Economics*, Vol. 21, January, pp. 43–47.

V. Roy Southworth, William O. Jones, and Scott R. Pearson, 1979. "Food Crop Marketing in Atebubu District, Ghana," *Food Research Institute Studies*, Vol. 17, No. 2.