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Elizabeth M. King[1/]

The study of time as a productive economic resource subject to optimization of use is a single most important contribution of the new theory of household economics. By redefining productive time as market production time plus work time at home, women who are not active in the labor force are accorded the economic role of producer. Filipino women and other oriental women who still believe that their place is the home, and have been regarded simply as "secondary" or "added" workers because of their meager and vacillating participation in the labor force regain stature as producers along with their male counterparts who have been called "primary" earners. This view of time suggests a new approach towards basic economic concepts such as labor force participation and full employment. It enhances the analysis of fertility behavior, and bears upon the problem of human capital development in the home. Moreover, it is a definite step towards concretizing that concept of social accounting which includes home product as part of the national product and which is regarded as a better indicator of economic welfare.

A few recent studies have applied time economics to Philippine data, with emphasis on the activities of mothers or married women. The study by Mangahas and Ho (1976) used data from the 1968 National Demographic Survey to estimate labor force participation functions of married women. Another study my Mrs. Ho (1976) explores the time allocation of married women using weekly time budgets of ten rural households. The

most recent Philippine studies on mother's allocation of time by Boulier (1976) and Popkin (1976), focused on the impact of children on mothers' activities. Because these two studies and the present paper used data generated by the same survey, their findings will be cited in greater detail further on.

The present paper presents and compares the time budgets of individual household members, particularly those of the father and the mother, in different types of households, using data collected from the province of Laguna. The impact of seasonality on household time budgets is likewise examined. This paper also attempts to analyze the determinants of time allocation through regression analysis. The unique contribution of the study is its focus on how the two main decision-makers in the Filipino household, the father and the mother, influence each other's time allocation behavior.

The General Model of Time Allocation

The total time resources of the household may be spent on three principal activities: first, in income-earning market production which makes possible the purchase

of goods and services in the market; second, in non-income earning work at home which produces goods and services that need not be purchased in the market; and third, in consumption or enjoyment of the Z goods produced. Separating total time into these components, therefore, brings to the fore three concepts which lie at the core of the new household economics, namely, home production technology, home consumption technology, and maximization of household welfare.

Household utility is a function of abstract commodities called Z goods which are produced using goods and services, household time and household capital. Though not all goods and services can be produced in the home, the choice between purchasing them in the market or making them at home exists. This decision, however, is not identical to the choice between a goods-intensive and a time-intensive technology. Goods and time are substitutable inputs even in home production such that work at home is not necessarily time-intensive. The choice of a home production and consumption technology is a separate decision from, say, the decision to enter the labor market.

The general model of time allocation assumes that the household maximizes utility subject to a budget or income constraint and a time constraint. Combining these two constraints into one expression obtains a full income constraint.[2/] Maximizing the household utility subject to this full income constraint yields a set of shadow prices of Z goods. The household demand for Z goods is then a function of these shadow prices, and thus, of the components of these prices, namely the prices of good inputs

and wages. Like any demand function, additional factors such as household size and non-labor income should be considered as well. Inasmuch as the demand for Z goods implies a corresponding use of time, the variables which determine the household demand function for Z also influence the allocation of household time. Such a function may be expressed as

$$T_j = f(P, W, V, \theta), \quad j = 1, \ldots, n \tag{1}$$

where T_j is total household time spent for Z_j; P is a vector of prices of good inputs; W is a vector of the wages of household members; V is wealth or household capital; θ is a set of demographic variables such as household size, its sex and age composition, etc.

Each household allocates its total time resources not only among activities, but also among its members. A specific case of intra-household allocation of time is the division of labor between husband and wife. Marriage is thought to have a fundamental effect on the time allocation of a person because of the possibilities of specialization or division of labor within the family. Husband and wife, in particular, are supposed generally not to act independently of each other. Thus, in allocating time for each activity, husband and wife are influenced by the decision of the other with regard to labor supply, home time, leisure and by the other's tastes, wage, and efficiency in alternative activities.

By supposing that learning-by-doing makes the mother or wife more efficient in the work at home and that sex discrimination results in the wife obtaining a lower wage than her husband, then less time will be spent on market

production by the wife than her husband, given her tastes and preferences. In fact, if W^m / W^f, the ratio of the wage of males to the wage of females, and $(\partial Z/\partial T_h)^f / (\partial Z/\partial T_h)^m$, the ratio of marginal product of the female's home time to the marginal product of the male's home time, were large enough, married women might altogether shun work in the market and concentrate their energies in the home. The earnings differential between men and women then acts as a critical factor determining time allocation of married couples.

However, more important considerations other than wage differentials may better explain time allocation within the household. One such factor is education. Besides the effect of education on the value of an individual's time or wage in market employment and on home efficiency, education also influences tastes and preferences. More educated wives who desire to use their training in some meaningful way may put a higher value on a career outside the home over and above wage considerations. Moreover, education determines the availability of alternatives facing husband and wife such as their ability to enter the market. For instance, the higher the level of a women's education, the greater the chance of her employability.

Whether or not educational differences determine market employment also depends upon the labor market conditions such as the level of unemployment; and upon the extent of sex discrimination in occupational opportunities. Finally, society in varying degrees seems to have defined the division of labor and division of roles within the family. To the male is ascribed the role of breadwinner

and protector of the family, and to the female, that of housekeeper and mother. Thus, the social context of the family may be an important determining factor of time allocation behavior within the household.

To recapitulate: the household has a time allocation function for each activity. By assuming that each individual actually controls his labor force participation, his work time at home, and his leisure time, such a function exists for every household member. The interplay of time allocation decisions among individuals in the household can be entered as variables in the individual time functions. These variables characterize the household, and the tastes and preferences of its other members. Thus, from (1) we can imply an individual time allocation function,

$$T_j^k = f\ (P, W, V, \theta, \gamma, \alpha),\ j = 1, \ldots, n \qquad (2)$$

where T_j^k is the time spent by the k^{th} household member on the j^{th} activity; P, W, V and θ are as defined in (1); γ is a set of labor market conditions such as the unemployment rate; and α refers to the outcome of decisions made by other household members, particularly with regard to labor force participation. Thus, if k refers to the husband or father, his time allocation function would include not only his wage, his age, and his tastes and preferences, but also other factors such as the working status of his wife, her wage, the size of his family and the age of his children.

The Data

The data used in this study were gathered through a survey of rural households in the province of Laguna. The survey, which collected a wealth of information on consumption expenditures, household assets and income, and time budgets of individuals, was divided into two phases. The time data obtained during phase 1 were collected from 573 households distributed over some 34 Laguna barrios using the recall-record method. The time data of phase 2 were gathered using a more intensive data-gathering technique which required interviewers to observe and record the daily activities of all members of the 99 respondent household. The sample of the second phase is much smaller for two reasons: first, the method used involved greater expense; and second, not all households would welcome an observer in their homes.

Nevertheless, the phase 2 or "intensive" data should be able to contribute greatly to the study of Philippine time budgets. For one, these are expected to give much more accurate records than the phase 1 or "recall" data. For another, the "intensive" data, being collected on three separated periods of the year from the same set of households, permit an analysis of the impact of seasonality on time budgets. These three "seasons" are the following: the first which covers the later part of the wet season (mid-September to November); the second, the cooler Christmas season (December to mid-February); and the third, the beginning of the dry season (mid-February to March).

The Evidence of Time Budgets

The activities of the household members may be divided into three major activities: economic or market production, home production and leisure. Market activities

refer to various types of work such as wage employment, practice of profession, business, farming of rice and other crops, fishing, poultry and livestock raising, hunting, and income-earning home production. The last activity includes washing, weaving, sewing, food preservation, building a fence, and other such work done at home but the product of which is sold, wholly or partly, for cash income or income in kind. Total market time also includes travel time to and from the place of work. The average travel time for the father in the sample is half an hour everyday and much less for mothers. On the average, the father of the family in the sample spends about seven hours a day in market production while the mother devotes to it less than three hours of her day. It must be noted that the nature of most market production activities in the rural sector permits a household member to be engaged in more than one market activity at a time. For instance, the mother who daily tends a sari-sari store next to her house may also raise hogs in her backyard. Thus, total market time of an individual may be divided among even smaller market activities.

The activities comprising work at home are more difficult to specify. One problem relates to income-earning home production because its product may not be entirely offered in the market. A household which raises poultry for the market may keep some of the eggs for home consumption. A second question is that certain home activities such as child care can be considered both as "work" or as leisure. The average time a mother in the Laguna sample allocates for the care of her children (cuddling them, bathing them, or simply telling stories to them) is about two hours a day. Although the survey considers such time as work at home (because the mother can actually pay someone else to take care of her children), some child care time may be

regarded by the mother as leisure. A third problem refers to joint activities in the home: that is, a household member may be engaged in two or more activities simultaneously. For example, the mother may be feeding a child while entertaining visitors or she may be cooking while supervising the activities of her children at home. Since time for such joint activities have been considered additive, a person may have more than 24 hours of activity per day.

The average mother in the sample spends more than seven hours a day for home production, dividing this time among household chores as follows: about two hours for food preparation, more than an hour and a half for child care, and over three hours for other household tasks like washing and ironing clothes. The father, on the other hand, generally devotes more than an hour for home production: caring for his children for half an hour, fetching water or fetching firewood for 10 minutes or so, helping with meal preparation for more than half an hour a day. The Laguna data further show that children contribute much to home production. Older children by working over younger children or sweeping the yard are substitutes for the parents' child-care time and other household time.

The last major activity group is leisure time which includes time for personal care and hygiene such as eating, sleeping and bathing oneself, and recreation time. In the sample, the leisure hours of father and mother consist chiefly of time spent for fulfilling physiological needs - sleeping and eating. It takes up less than nine hours of the father's day and more than nine hours of the mother's day. Passive recreation, which refers to watching movies or television, cockfighting, reading, entertaining visitors and other such activities that do not require much physical effort, accounts for about three to four hours of each day of father and mother.

Very little or no time, however, is devoted to any form of active sports by the father and mother. Another component of leisure time, festival time, relates to attending weddings, fiestas, vigils for the dead in the barrio, and others. The data show that men spend more time for such occasions than women. Mothers, on the other hand, allocate more time than men for church activities like attending Mass or joining religious processions.

The Laguna project listed about 40 different activity groups under which to classify the activities of household members (See Appendices I and II). Regrouping these finer divisions into bigger classificatory groups, however, provides more insights into time allocation and facilitates the analysis of the time data. In particular, this study takes interest on some of the market activities, a few home tasks such as child care and food preparation, and on time for personal care and for recreation.

(i) Since the intensive data of the Laguna survey cover three separate periods and thus, allow an analysis of the effect of seasonal changes on time allocation, all the tables below provide the time budgets of individuals during the three seasons.

Seasonality, when it refers to the vagaries of the weather, is expected to affect farmers more than non-farmers. For instance, the economic time of farmers would be greater during the planting and harvest months unless they also have regular non-farm market activities. However, seasonality also relates to fluctuations in the demand for certain commodities such than even non-farm activities like commerce may show periodic peaks and troughs.

It seems reasonable to contend that seasonality would have a greater effect on market or economic production time than work time at home. Thus, the time budgets of men probably exhibit greater seasonal fluctuations than those of women, who have little or no participation in the market place. Yet, some seasonality may be found even in the home time of mothers. For instance, when children are on vacation, time for household chores of the mother or weeding time in the farm of the father may be replaced by children. Isolating the impact of seasonality from the influence of other factors on all time components, however, is not an easy task. The following analysis focuses on the fluctuations in market time of father and mother across the seasons.

(ii) The division of labor in the family is evident from the table which gives the intra-family allocation of time. The average family in the smaller Laguna sample is composed of both parents and four children.[3/] About fifteen hours a day is spent by the family on market activities and about twelve hours for household chores. On the average, a family allocates about five to six hours a day for crop cultivation, one hour and half for raising poultry or livestock, half an hour for fishing, and five to six hours to non-farm employment such as business. In the home, three hours go into food preparation, and a little less for child-caring.

The father's market time alone accounts for nearly half of the family's total market production time, confirming his role as primary breadwinner. On the other hand, the mother's primary contribution to family production time is her non-income earning work at home, which occupies almost all of her waking hours. The market work time of children, being, on average, more than 30 per cent of the total for

the family, exceeds the mother's, and their work time at home, being 28 per cent of the family's, is greater than the father's. This underscores the fact that children do contribute significantly to family welfare. One interesting observation is the importance of children in crop cultivation, livestock raising and fishing. In this, one may find support for the hypothesis that children are an important investment particularly for farmer parents because, needing all the help they can get on their farm, their only source of free labor is perhaps their own family. The significant role that children play in market and home production, therefore, seems to ba an important consideration in the study of the demand for children.

(iii) Because every household is unique, possessing different attributes, each is expected to exhibit a pattern of time allocation different from that of other households. Time budgets, therefore, should differ between rich and poor households, farm and non-farm households, urban and rural households, big and small households. Such variation is evident from the Laguna "intensive" data (See Tables 7-11).

More than 64 per cent of all fathers and 11 per cent of all mothers are farmers, that is, reporting farming, fishing or livestock raising as their main occupation. The market time of fathers who are farmers is less than that of non-farmers. On the average, three-fourths of their total market time is spent on crop cultivation, fishing and livestock raising. Due to some degree of diversification in economic activities, some time is also devoted to non-farming employment and income-earning home production. In like manner, though the greater portion of total market work of non-farmer fathers is spent on non-farming activities, about

one hour a day is still allocated to livestock raising, crop farming and fishing. The greater amount of time spent by non-farmers in the market may be attributed to the fact that wage employment, such as work in the factory, generally means a regular number of working hours, usually eight, for five days a week, whereas farming activities do not need such regular working hours. Farming, however, may require attention during the entire week (including weekends) so that the economic time of farmers may really be greater, if not equal, to that of non-farmers for the week.

The time allocation observed for fathers is not similar to that seen for mothers because the market time of farmer mothers is much greater than that of non-farmers.[4/] Moreover, mothers who consider farming as their main occupation seem to have important non-farm employment as well. As a result of this diversification, their non-farm time exceeds that of non-farmers themselves. It is further observed that non-farmer mothers devote more time to work at home, particularly to food preparation and other household chores. A probable reason for the smaller hours of market participation by non-farmer mothers rests on the relationship between the occupation of father and mother. If non-farmer fathers usually have non-farmer wives, then the shorter market time of the latter may be due to the division of labor within the household, that is, between father and mother. The data from the Laguna survey which show that 97 per cent of all non-farmer fathers have non-farmer wives and that 85 per cent of farmer fathers are married to non-farmers seem to support this statement.

Some amount of seasonal variation may be noted in the market production time of father and mother though this paper presents no test of how significant these changes are.

In particular, the market activity of farmer fathers and mothers rises during the cooler season and drops during the warm months. The crop time of the farmer fathers declines but their non-crop time increases. During the warm season the crop farming and non-farming time of the non-farmer fathers increase greatly such that their market time also rise through the three periods at the expense of their home production and leisure time which rise and fall to accommodate the changes in market work. Very little change in market activity can be observed for non-farmer mothers, whereas that of farmer mothers increases during the cooler months and then decrease notably during the warmer period. The increase in the market work of the latter during the cooler season is explained by a big increase in their non-farm time. While almost no variation in home time can be noted for non-farmer mothers, that of farmer mothers declines from season to season because of a reduction in child care time.

(iv) Total household wealth is the sum of the values of real assets, farm and fishing implements, consumer durables and other forms of wealth owned by the household. Households that belong to the highest wealth quartile, called rich households, possess total wealth valued at more than ₱ 10,000. A rough picture of the distribution of wealth among households tells that 96 per cent of these do not own land, that 12 per cent do not own their homes, and that nearly all possess some consumer durables (e.g., furniture, radio sets, etc.).

The time budgets show that fathers and mothers in rich households spend more time working in the market and less time for work at home than fathers and mothers in poor households. Rich fathers devote about half an hour more

each day to market employment, about a quarter of an hour less in home production, and less of time for leisure as poor fathers. It may be noticed further that rich fathers actually spend more hours in crop farming than in non-farm employment, suggesting that, on the average, rich fathers are probably farmers rather than non-farmers. On the other hand, rich mothers who are more active participants in the market have greater non-farm time than poor mothers. In fact, 70 per cent of rich fathers are indeed farmers and 85 per cent of rich mothers are non-farmers, though only 28 per cent of farmer fathers and only 26 per cent of non-farmer mothers are rich.

The market time of fathers in rich and poor households rises during the cool season and then decreases somewhat during the warmer months. The differential in the time spent by rich and poor mothers on market production narrows significantly during the cooler season, because the market work of rich mothers decreases and that of the poor mothers increases. This gap, however, widens again during the warmer months when the non-farm activities of the poor mothers slacken.

It may be noticed that the work time at home of poor mothers exceeds that of rich mothers by one or two hours a day. Mothers in poor households devote much more time caring for their children and preparing meals than rich mothers, except during the cooler months when they spend just about the same time for these activities. This observed pattern of time allocation hints at the trade-off between market production and work at home of mothers and between market goods and home-produced consumables. Furthermore, from this one can infer that the consumption technology of households in

which mothers are active participants in the market is more goods-intensive than time-intensive. Rich households own more home implements (e.g., electric or gas stove) which considerably shorten the time needed to prepare meals or to clean the house. Also, someone else may be hired to take care of the children while the mother works. Yet, with regard to child care time one must be careful about making conclusive statements because rich households may, in fact, have fewer children and thus require less child-care time.

(v) As education of parents, notably that of the mother, is said to affect the parents' preferences with regard to labor force participation and number of children, their productivity in the household as well as in the market, and thus the value of their time in alternative employments, it seems reasonable to hypothesize that the time budgets of parents who have had none or very little formal schooling would differ significantly from those of parents who had more years of formal education. Table 2 presents the distribution of Laguna fathers and mothers by years of schooling. More than half of all fathers obtained only less than five years of schooling, the mode being four years, whereas almost half of women have reached the intermediate grades. In fact, a third of all mothers in the sample graduated from the elementary school. However, of the parents who finished the elementary grades, more men than women entered and graduated from secondary school. Thus, although the average mother has attained a higher level of education than the average father, more fathers have actually reached the highest level of formal education.

The occupational distribution of fathers and mothers in the three levels of education will help in the analysis of their time budgets. Twenty per cent of fathers who had none or little schooling are non-farmers while the remaining 80 per cent are farmers. Thirty-one per cent of fathers who have reached the intermediate grades and have finished elementary school are non-farmers; the rest are farmers. Of those who reached high school or college, 54 per cent are non-farmers and 46 per cent are farmers. Thus, one expects fathers who have less formal education to have greater farming time than more educated fathers. As for mothers, 86 per cent of those who had very little schooling, 86 per cent of those who reached the intermediate grades, and all of those who stepped into secondary school are non-farmers. No farmer mother obtained any high school education. Therefore, mothers with less schooling will have more crop cultivation time.

The time budgets of fathers and mothers in the three education levels differ across seasons. One general observation though is that fathers and mothers with higher schooling have greater non-farm market time than others. During the wet season, the average father with the least education devotes more time working for an income (about 7 hours a day) than any of the other fathers. Meanwhile, fathers with the highest education contribute more time for house work than less educated fathers. During the cooler months, the reverse of this pattern is noted. More educated fathers notably increase their market activity and also somewhat increase home time, thus further raising their total production time. Their market work further rises during the warmer period, though their home time declines. On the other hand, the time that fathers with the lowest years of schooling spend on market work drops continually over the three seasons, This is accompanied by a rise in their share of household work.

No significant change is observed in the market time of mothers from the wet season to the cool season. During the warmer months, however, mothers with the least and the most education withdraw hours from market production and increase work time at home. On the other hand, mothers with 5-6 years of schooling expand their market participation and reduce home time. Mothers with the highest education also enjoy less leisure time than other mothers. The same can be said about fathers' leisure time but only for the second and third seasons.

(vi) One factor which greatly affects the time allocation of parents is the presence and number of children, or size of their family. In the Phase 2 sample, the average number of children who stayed with the family is 4. Table 4 shows that half of the total number of households were middle-sized households, with five to seven household members, or with three to five children present in the home, and that there are slightly more big families than small families.

In big households the father's time allocation (those with 6 or more children) is generally characterized by less work at home and more recreation time than in other households during the first season; by greater market production time and less work at home during the second season; and by less home time and more recreation during the third period. The time budget of mothers in big households shows greater market production time, less work at home and more recreation time than in other households during the first season; less market time, less home time, and more recreation time during the second season; and less market activity and more recreation time during the third season. It seems clear then that parents in big households generally have either

less work at home or less market work, and definitely enjoy more leisure. The more remarkable difference among time budgets of fathers and mothers with small, medium and large families is found in the decreasing child care time of both mothers and fathers who have more children. This is not surprising though because households with more children are also families with older chidlren who often take the place of parents in caring for the very young children.

Hence, one can conclude that the size of the family is not the only factor affecting the allocation of time of parents. The age, and perhaps even the sex, composition of the children are also important considerations. More than three-fourths of the households in the sample have an infant less than a year old, and about the same number have young children or pre-schoolers between one and six years old. Clearly, these households require more child care time than the rest of the households. Though the mother's time for pre-schoolers can be somewhat replaced by that of older children, her time for infants find poor substitutes in another individual's time. The shadow price of time at home of these new mothers is very high such that they increase time for child care even at the expense of withdrawing from or reducing market production.

About half of the households have children between the ages of seven and twelve and fewer have children in their teens. As children enter school, part of the home time spent watching over them is taken over by the teacher in school, Parents may now devote less time for child care. In fact, older children eventually learn to take care of themselves and then begin to contribute to the family's household production time by helping with the home and farm chores, by caring for younger children, and finally by earning income for the family.

(vii) To obtain total production time of the individual, one sums up market time and home time. Additivity of market time and home time, however, assumes the same quality of time inputs. Though the nature of market time differs for different occupations, it has been argued that, in general, market work is harder work than work at home. Market work is done under the more restrictive conditions of an office or a factory, or under the more oppressive conditions of an open rice field exposed to the sun and the elements. Work at home, on the other hand, is thought to be easier because it is performed within one's own home. The higher calorie intake requirement for working individuals (though again in varying amounts according to the type of work) is perhaps sufficient proof that market work is more strenuous. The data tell us that mothers, in general, work longer hours than fathers. The productivity of home time inputs is still to be analyzed in later studies of the new home economics as the nature of the home production function itself is yet unclear.

(viii) A comparison of the two sets of data generated by the Laguna survey at this point is not totally a digression from the discussion since the choice of the data collection method bears upon the quality and reliability of the analysis of time allocation here. Comparing the two data is, however, made difficult by the fact that Phase I data are originally recorded in hours per week while Phase 2 data in hours per day. Dividing or multiplying the "recall" data by seven days would seem to be arbitrary. Total home time may be multiplied or divided by seven days without losing too much accuracy but a similar treatment of market production time may lead to gross errors in time budget analysis since work days per week vary for different occupations. The transformation of the weekly data of Phase I into daily time data

by dividing all time components by 7, however, did not seem to understate the market production of father or mother. In fact, total market time of father according to the "recall" data is more than eight hours a day as compared with the recorded seven hours in the "intensive" data.

Besides using time in absolute hours, comparison of the two data sets can be made using the percentage shares of total time spent for individual activities. Table 4 shows several differences in the estimates using "recall" data. The market time of father accounts for one-third of his day instead of less than 30 per cent. Presumably, such may be due to the fact that Phase I data were collected during the dry and wet months from May to September which cover harvesting and planting seasons. The time reported for crop farming, however, was much smaller than that recorded during the second phase. On the other hand, the hours for livestock raising, non-farming activities and for income-earning home production are about twice those observed when using the "intensive" method. The mother's total economic time using Phase 1 data is not very much less although her crop-farming time is surprisingly low, whereas the contrary is expected because of seasonal considerations. On the other hand, time spent on income-earning home production is reported to be much more than what was observed for the other time budgets. The father's total work time at home using the "recall" data is also notably much less when compared with the Phase 2 tabulations.

Does the direct observation method of data collection used during the second phase of the Laguna survey provide significantly more accurate time budgets than the record-recall method? Though a general pattern of time allocation in the family seems evident from both sets of data, differences

appear when finer activity divisions are considered and the sample stratified according to household types. The present study, however, will not attempt to make any definite conclusions about this.

The above discussion has described and explored the time budgets of selected rural households. Since of particular interest to our study is the time allocation function of individual household members, specifically, of the father and the mother, and its determinants, the last section of this paper presents some preliminary regression estimates of this function for mothers and fathers.

The Empirical Model and Preliminary Findings

For the purpose of the study, the possible determinants of time allocation of father and mother are classified into four sets of variables: namely, father's attributes, mother's attributes, children, and wealth or household capital. Table 10 gives the list of all variables used and their definitions. The father's attributes and the mother's attributes consist of the father's and mother's wages, their years of formal schooling, their age, working status, and occupations. The variables on children provide a breakdown of total number of children according to age groups. Thus, one's time allocation function depends on one's own attributes, the other's attributes, children and wealth. The dependent time variables in the regressions are market production time (-ECONT), home production time (-HOMET) and leisure time (-LEIST). Labor market participation functions are also estimated.

Certain a priori relationships between these variables and time inputs can be inferred from the model of time allocation discussed above and from the findings of earlier empirical studies. These expected relationships are presented below:

	Market Production Time (a)	Home Production Time (b)	Consumption or leisure time (c)
Own attributes			
Wage	-	-,+	+
Education	+	-(m), +(f)	+
Age	-,+	+	+
Other's Attributes			
Wage	-,+	-	+,-
Education	-	+	-
Age			
Children			
Young Children	-(m), +(f)	+	-
Older Children	-	-	-,+

Notes:

[a] Mangahas and Ho (1976) also estimated equations for the number of hours worked by married women. The threshold variables for education used for the labor force participation equation were replaced by a single education variable; the sign of which is positive. The presence of children below 4 years old showed a negative sign.

Gronau (1976) likewise found a positive correlation between the women's education and her hours of work in the market and a negative correlation between her age and market time. Looking into the effects of husband's attributes on the wife's time, he found a negative correlation between wife's market work and husband's age, and husband's education. The number of young children was found to have a negative effect on hours in the market while the number of children in school increased hours of employment. Missing from Gronau's regressions is own wage of mother.

Boulier (1976), using the phase 1 data of the Laguna survey added more variables to explain mother's time in the market-mother's own wage, the type of the household (farm or non-farm), and more variables on children's sex and age composition-though did not include father's education. His results are basically similar to those of the studies earlier cited. Boulier likewise estimated regressions on father's work time in the market and again found essentially the same relationships, except for the children variables. There was a positive correlation between the number of young children and father's hours of work in the market, and some negative relationships (though not significant) between the number of male older children and market time.

b/ These expected relationships except for own wage are from Gronau's estimate of the function for work time at home of married women. Boulier's regression for mothers has a positive regression coefficient for own wage; for fathers, a negative coefficient is obtained. The education of the father was also found to have a positive correlation with his home time; the opposite relationship was found for mothers with regard to her own education.

c/ The relationships discovered by Gronau and Boulier for mother's leisure time are again essentially the same. However, the sign of the coefficient of the older children's variable differ for both studies.

(i) Boulier (1976), using Phase 1 data, found that a peso increase in hourly wage would decrease the weekly market production time of mothers by an hour and a half. The present study, however, finds two different behaviors for fathers and mothers with regard to a change in their respective wages. The father increases his daily market time by an hour given a peso increase in his wage. The mother, on the other hand, decreases her work time in the market by more than one hour given a similar wage increase. Because the market production time response to wage increases depends on the strength of the income and substitution effects, our findings imply that the income effect is probably stronger for mothers whereas the substitution effect is more dominant for fathers. Considering the social roles ascribed to men and women--of men as the primary bread-winners and of women as supplementary earners--this response to a shift in the value of time seems to have some ground.

However, the observed wage effects, particularly the wage coefficient of the mother's market time function, may be influenced by certain measurement problems. The wages used in the regression are averages of wages for different market work weighted by percentages of total time spent for the corresponding activities. It may be said then that the wage variables are themselves a function of time. Another source of difficulty is that the time spent by an individual on a particular activity may be as little as fifteen minutes a day, whereas the reported wage may, in fact, be expressed in terms of half a day or a full day, which is perhaps the more typical arrangement for hired laborers. As a result, therefore, the average wage per day can be overstated. Still another difficulty is that wage is thought to be a function also of education and experience of an

individual, but that these variables are also included in the regression estimates. Though the multicollinearity problem here is not serious, own wage may be dropped from the time allocation function if only to avoid the difficulties involved in the calculation of wages. This, however, is not done for this paper.

No significant relationship is found between home time and leisure time of father and his own wage, though the negative signs of the coefficients obtained are consistent with theory. Likewise, the positive coefficients of own wage of mother in the home time and leisure time estimates are consistent with the negative coefficient in the market time function. A peso increase in the average wage of mother, increases both her home and leisure time by more than an hour.

The influence of father's wage on mother's time allocation is found not to be significant. Similarly, the coefficient of mother's wage is statistically significantly only in the father's leisure time function. A peso increase in the mother's wage is associated with a decrease of three hours in the father's total leisure time. The expected negative correlation between one's market time and the other's wage is not obtained. A negative sign would have implied substitutability of roles between father and mother. These findings thus suggest that perhaps the other's wage is not the key factor in the division of labor within the household.

(ii) Education shows up to be a most important factor influencing decisions of father and mother with regard to hours spent in the market and time for leisure. Fathers with more education work less and enjoy more leisure than fathers with less education whereas mothers with more years

of schooling work more and enjoy less leisure than mothers with less formal schooling. An additional year of schooling decreases father's market participation by less than an hour and increases his leisure by an hour and a half. A similar increase for mother increases her market activity by half an hour and decreases her leisure by as much. More education for the father probably lessens his preference and his need for more market work. On the other hand, higher schooling improves the employability of women and increases their taste for "careers" outside the home.

Another interesting observation on the education variable is the impact of the wife's education on the husband's market time and leisure time, and the absence of any significant influence of father's education on mother's time allocation. A man married to a more educated woman participates more actively in the market than other men and also enjoys less leisure. Three-fourths of women in the highest education bracket have more educated husbands, though there are many highly educated men who are not married to women with the highest schooling. Thus, although more educated men tend to work less in the market, those who are married to more educated women spend more time in income-earning activities than those who have less educated wives.

(iii) The age of the father appears to be a more important determinant of the time budget functions of father and mother than mother's age. However, it must be noted that the ages of father and mother are positively correlated so that the age of the father probably serves as an omnibus for these two variables. Older fathers work less in the market and also enjoy less leisure. The coefficient of father's age in the home production function has a positive

but insignificant sign. As the father grows older, the mother's work time outside the home rises somewhat and her work time inside the home declines. This observation hints at a decreasing degree of specialization of roles between father and mother. As both parents grow older and as their children also become older, the shadow price of mother's home time falls and she either enters the market force or simply increases her market participation if she is already employed. Future regression estimates should probably include only own age.

(iv) Two dummy variables are used in the regression estimates to stand for the other's working status and own occupation. The former should highlight the importance of intra-family allocation of time or how the decisions of other family members affect one's own time budget. A negative coefficient is expected for market time and a positive coefficient for home time. However, the work status variable is significant only in the home time function of father and mother, and in the leisure time function of mothers. Furthermore, instead of the expected positive coefficient for home time, slightly significant negative coefficients are obtained for father and mother which means that if one of the couple is working in the market, the other works even less at home. This is probably because being employed also means greater ability to purchase market goods which are, in turn, subsituted for time as inputs in home production.

(v) The regression coefficients of the variable "farmer" give observations similar to those noted in the discussion above of time budgets. Farmer fathers spend less time in market and home production though the coefficients of this occupation variable is not significant. However,

there is a significant increase in the leisure time of farmer fathers. For mothers, a very significant positive coefficient is noted for market work, and less significant negative coefficients for home time and leisure time. Again, this is consistent with the previous discussion of the time budgets of farmer mothers.

(vi) Two studies by Boulier 91976) and Popkin (1976), using the Phase 1 data of the Laguna survey, have already shown how children influence the allocation of time of fathers and mothers. The major effects they found are that young children reduce mother's time in income-earning activities and their leisure, that older children substantially increase mothers' leisure, that older female children substitute for mother's home production time, particularly child care time, and that children of all ages stimulate faters to work longer hours at the expense of leisure.

The total number of children has been decomposed according to age groups because this would provide more insight into the effect of children on parents' time budgets. The presence of an infant decreases very significantly mother's recreation time by more than two hours and increases her work time at home, particularly child care time, by nearly three hours. It may be expected then that market time decreases. The effect on this is not clear, however, because the coefficients are not significant. Children between one year old and six years old affect the mother's time budget similarly, but at a lower degree. The negative coefficient in the market time function is still not significant. Infants also exert a positive influence on father's home time.

Older children increase mother's supply of labor to the market and increase father's leisure time. Their impact on other time components, however, is not significant. These findings support further the hypothesis that children of varying ages play important and varied roles in the allocation of time of parents.

Conclusion

The study of time allocation behavior of household members reveals the response of individuals to market forces like wage and to demographic factors such as education and family size via their decisions on how much time to devote for particular activities. The Laguna data have shown how market work and work at home are divided among household members. In particular, the data support the fact that to fathers is ascribed the role of primary wage earner and to mothers that of primary home managers. This division of labor is rather sharp while children are still young. However, as children grow older and they become no longer just recipients of welfare but also important contributors to family production, taking over some of mother's work at home and some of father's market work, this specialization of roles become less distinct, less important. The analysis of time budgets above show how the presence and age composition of children affect the use of time of parents.

By stratifying the total sample into different types of households, the paper characterized the time budgets of fathers and mothers in rich and poor households, in big and small households, etc. In general, fathers who are more educated/farmers/poor have less market time than fathers who

are less educated/non-farmers/rich. In general too, mothers who are less educated/non-farmers/rich have less market time than mothers who are more educated/farmers/poor. The discussion above further described the pattern for finer activity groups.

The use of the phase 2 time data of the Laguna survey has made possible comparisons of time budgets across three seasons of the year. Seasonal variations were found in market production as well as home production time. For instance, it was noted that market time of farmer fathers and mothers and of non-farmer fathers exhibited seasonal fluctuations. Perhaps to accomodate such changes, home time as well as leisure time also rose and fell from season to season. This paper, however, provides no test of significance of these differences over the three seasons.

A brief discussion comparing the two sets of data generated by the Laguna household survey was made above in order to evaluate the two data collection methods. A quick glance at the comparative tables seem to show that the data of the second phase are not inconsistent with those from the first survey. Yet, an overstatement of father's total market time, and an understatement of children's total market activity, and of the family's crop time can be noted. The home time of two data sets, however, are more similar. Finally, some of the regression results using the "intensive" data are different from those found by Boulier (1976) using the Phase 1 data. For example, the wage coefficient of the father's market time and the coefficient of the own education variables have different signs in the two regressions. The importance of these deviations suggest that the choice of the method of data collection could make a difference in time budget analysis.

The regression estimates presented above, though preliminary, provide some interesting features of time allocation in rural households. The expected sign of the own-wage coefficient in the market time function is positive, meaning that hours of employment should vary directly with own wage. A positive coefficient was obtained for fathers but a negative coefficient was found for mothers. Some measurement problems in the calculation of wage may be a probable explanation for this negative coefficient. Nevertheless, such deviation from the expected correlation may be attributed to the role ascribed to women as secondary wage earners. Mothers are said to offer more hours for market production only to supplement the fathers' incomes. While their wage increases, they need to work less to obtain the income objective of the family; hence, their market activity slackens. Is it valid to accept the implication of a negative wage coefficient--that is, that rural mothers are "target income" workers? This behavior is said to be a market phenomenon characteristic of very poor countries. In such cases, small increases in wages fail to induce greater market participation. To draw women into the labor force or to make them more responsive to wage increases, it is argued that they must learn to want a higher standard of living.

Education was also found to be a very significant determinant of the time allocation functions of both father and mother. An additional year of schooling decreases father's market time and increases mother's market activity. An interesting observation relates to the positive correlation between the wife's education and her husband's market time. Hence, husbands who are married to more educated women work harder than other husbands. The analysis above showed that this is not entirely unexpected because more educated women also marry more educated husbands (though the reverse is not equally true).

Labor force participation functions using household data will be estimated in a future paper. Further regression estimates will also be made for employed and non-employed fathers and mothers. These may also include seasonality as an explanatory variable. Likewise, since household total wealth did not figure as an important variable in the regressions here, other variables representing household capital may be tried too.

Time budget studies for Philippine households appear to have several practical applications. An understanding of the time allocation behavior among household members provides insights into how certain government policies such as those inducing greater female labor participation or those decreasing fertility affect the "production" of welfare in the household. It has been shown that a trade-off between market production time and home productin time, as well as between these and leisure time, exists. Future household studies which look into the nature of the home production function and consumption technology will further reveal the response of Filipino families to changes in market forces and demographic variables.

FOOTNOTES

1/ The author wishes to thank Dr. Robert Evenson and Dr. Barry M. Popkin for their substantive comments and moral support during the inception and preparation of this study. This study utilizes data from the Laguna rural households survey. Funding for the Laguna project has come from the Agricultural Development Council, Inc., the Population Center Foundation, the Interdisciplinary Communications Program of the Smithsonian Institute, and the Rockefeller Foundation. The author also thanks the staff members of the Laguna project especially the research, programming and administrative groups for their help during the preparation of this paper -- Celia Capule, Cora Guzman, Sari Valenzuela, Felice Llamas; Maribel Vinluan, and Lito Bernardo; Manolo Bayquen; Mrs. dela Cruz, Anicia Sayos; Mrs. Letty Dizon and Brando.

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2/ The budget constraint is:

$$\sum_j P_j Z_j = \sum_i w^i T_M{}^i + V, \quad j = 1, \ldots, n; i = 1, \ldots, k \qquad (2)$$

where j refers to the number of Z goods, i refers to the household members, w^i is the wage of the ith household member, $T_M i$ is the amount of time spent in market production of the ith household member, and V is the non-labor income. The household time constraint can be written as

$$T_0 = T_M + T_H + T_C \qquad (3)$$

where T_0 is total time resources of the household (i.e., 24 hours a day times the number of household members);

T_H ($= \sum_i T_M i$) is total market production time of the household;

T_H ($= \sum_i T_H i$) is total home production time of the household;

and T_C ($= \Sigma T_C i$) is total consumption time of the household.

Combining these two constraints into one expression obtains a full income constraint. Since each Z goods is produced using goods and time as inputs, its price consists of money price and a price of time. The full income constraint is

$$\sum_j \hat{P}_j Z_j = \sum_i w^i T_o^i + V \qquad (4)$$

where $\hat{P}_j = \sum_n P_x X_h + \sum_i w^i (T_C + T_H)^i$, $\hat{P}_j$ being shadow price of Z_j, X_h is the h^{th} good input into Z_j, and P_x is its price. On the right hand of the expression is the household's full income; that is, the labor income, that the household could earn if all its members were to offer their labor in the market, plus non-labor income.

3/ Three-fourths of the total number of households in the sample are "nuclear" families, that is, composed only of both parents and children. One relative is reported to be staying in each of 15 households; two in 8 other households; and four in 2 other households. Only one household hired a"house help" or servant.

4/ Boulier (1976) using the "recall" or phase 1 data of the Laguna survey, noted that non-farmers spend about seven hours fewer per week in income-earning activities than farmers. Mothers in non-farm families are also reported to spend about an hour and one-half more hours per week than mothers in farm families.

The difference in pattern observed, however, may be partly due to the different method of stratification used in both papers. Our stratification is by occupation of father and mother while Dr. Boulier's is by income source. He defined a farm household as that which received any income from farming.

TABLE 1

DISTRIBUTION OF HOUSEHOLDS BY TYPE OF BARRIO

Type of Barrio	In Percent
Rice[1]	27.3
Other Crops[2]	43.4
Fishing[3]	6.1
Industrial[4]	23.2
	100.0

[1]Refers to Calabuso, Langkiwa, Loma, Timbao in Biñan; Mabacan, Balayhangin in Calauan; San Felix, San Benito, San Roque in Victoria; Sto. Angel, San Antonio II in San Pablo; Cabanbanan, Sabang in Pagsanjan.

[2]Refers to Dayap in Calauan; San Ignacio and San Antonio I in San Pablo; San Diego, San Rafael, San Domingo in Luisiana; Bulajo and Anglos in Cavinti; Bangbang in Nagcarlan; Bangkol in Liliw; Sambat and Cagaras in Magdalena.

[3]Refers to San Dionisio and Pangalangan in Victoria; Balran and Isla in Pangil; Bagongpook in Pila.

[4]Refers to San Isidro in Biñan; Sta. Isabel in San Pablo; Sto. Niño and San Roque in San Pedro; Dita in Sta. Rosa, Niugan and Banay-banay in Cabuyao.

TABLE 2

DISTRIBUTION OF HOUSEHOLDS BY EDUCATION OF FATHER AND MOTHER

Education Level	Father (In percent)		Mother (In percent)	
No schooling	8.1		2.0	
Primary undergraduate (1-3 years of schooling)	20.2	53.5	15.2	35.4
Primary graduate (1-4 years of schooling)	25.2		18.2	
Intermediate undergraduate (1-5 years of schooling)	7.1		14.1	
Intermediate graduate (1-6 years or 1-7 years of schooling)	20.2	27.3	30.3	44.4
Secondary undergraduate (1-9 or 1-10 years of schooling	8.1		7.1	
Secondary graduate (11-10 or 1-11 years of schooling	6.1	22.2	7.1	20.2
College undergraduate (1-13 or 1-14 years of schooling	5.0		3.0	
College graduate	3.0		3.0	
Post graduate	0.0		0.0	
	100.0		100.0	

TABLE 3

DISTRIBUTION OF HOUSEHOLDS
BY NUMBER OF CHILDREN a/

Number of Children	Cycle I (in percent)		Cycle II (in percent)	
1	8.2	24.5	7.1	22.5
2	16.3		15.3	
3	23.5	49.0	21.4	54.1
4	16.3		19.4	
5	9.2		13.3	
6	15.3	26.5	11.2	23.4
7	6.1		7.1	
8	3.1		2.0	
9	2.0		3.1	
	100.0		99.9	

TABLE 4a : COMPARISONS OF HOUSEHOLD TIME BUDGETS (In Hours Per Day)

ACTIVITY	PHASE I				PHASE II Mid-September to November				PHASE II December to Mid-February				PHASE II Mid-February to March			
	Father	Mother	Children	TOTAL	Father	Mother	Children	TOTAL	Father	Mother	Children	TOTAL	Father	Mother	Children	TOTAL
Market Production time	8.2	2.8	1.8	12.8	6.6	2.6	5.3	14.5	6.8	2.7	5.2	14.8	6.1	2.3	6.0	15.1
Non-farming	4.4	1.4	1.4	7.2	2.2	1.0	1.9	5.1	2.7	1.3	1.5	5.5	3.2	1.1	1.8	6.1
Crop-farming	1.3	0.1	0.1	2.0	2.8	0.6	2.3	5.8	3.2	0.8	2.7	6.7	2.2	0.8	2.6	5.6
Livestock raising	1.1	0.6	0.3	2.2	0.6	0.4	0.4	1.4	0.8	0.2	0.5	1.5	0.7	0.2	0.8	1.7
Fishing	0.2	0.0	0.0	0.2	0.2	0.0	0.2	0.4	0.3	0.0	0.3	0.6	0.2	0.0	0.2	0.4
Income-earning home production	0.4	0.4	0.2	1.0	0.1	0.3	0.1	0.5	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.3
Home Production Time	0.6	6.3	4.6	11.5	1.9	7.4	3.3	11.7	1.7	7.4	3.4	11.5	1.2	7.4	3.5	12.5
Child care	0.2	1.7	0.6	2.5	0.3	1.9	0.6	2.8	0.5	1.6	0.3	2.4	0.3	2.1	0.8	3.0
Food preparation	0.2	3.6	0.7	4.5	0.4	2.1	0.7	3.2	0.5	1.9	0.9	3.3	0.4	2.1	0.9	3.
Leisure time	15.2	12.9	91.2	119.7	13.5	13.7	62.9	90.1	13.7	11.1	65.6	93.4	13.3	14.3	63.3	91.1
Personal care	—	—	—	—	8.3	9.2	36.8	54.3	8.2	9.5	37.8	56.5	8.4	9.2	36.9	54.5
Recreation	—	—	—	—	4.4	3.9	13.3	21.6	4.1	3.6	14.4	22.1	4.2	3.9	15.7	23.8
Total Activity Time[a/]	24.0	24.0	96.0	144.0	21.1	23.8	71.5	116.4	22.2	24.2	74.3	120.7	21.5	24.0	73.2	118.9

a/ The total activity time of the time budgets using Phase 1 data add up to 24 hours for every individual because leisure time is simply computed as a residual time component. On the other hand, Phase 2 data sum up all the activity time observed by the interviewer. Thus, even leisure time is carefully noted and recorded in the second survey. The total activity time of individuals, however, do not exactly add up to 24 hours because of some observation errors, especially when an activity is performed outdoors. Some totals exceed 24 hours because of joint activities. On the average, however, total activity time closely approximates 24 hours. The total activity time for children is 96 hours because the average family has four children.

TABLE 4b : COMPARISONS OF HOUSEHOLD TIME BUDGETS (In Percent)

ACTIVITY	Phase I			Phase II								
				Mid-Sept to Nov.			Dec to Mid-Feb.			Mid-Feb to March		
	Father	Mother	Children	Father	Mother	Children	Father	Mother	Children	Father	Mother	Children
Market production time	34.2	11.7	1.9	31.3	10.9	7.4	31.1	11.2	7.0	31.6	9.9	6.36
Non-farming	18.3	5.8	1.5	10.4	4.2	2.7	12.2	5.4	2.0	14.9	4.9	1.9
Crop farming	7.5	0.4	0.1	13.3	3.4	3.2	14.4	3.3	3.0	10.2	3.3	2.8
Livestock raising	5.0	2.5	0.2	2.8	1.7	0.6	3.6	0.8	1.7	3.3	0.8	0.8
Fishing	0.3	0.0	0.0	0.5	0.6	0.3	1.4	0.4	0.4	0.9	0.9	0.2
Income-earning home production	1.7	1.7	0.2	0.5	1.3	0.1	0.4	0.1	0.1	0.5	0.4	0.1
Home production time	2.5	34.6	7.7	4.7	31.1	4.6	7.2	30.6	4.7	31.6	30.9	4.1
Child care	0.8	7.1	0.6	1.1	3.0	0.8	2.2	6.6	0.4	1.4	6.6	0.6
Food preparation	0.8	15.0	0.7	1.9	8.8	1.0	3.9	7.8	1.2	1.9	8.8	10.0
Leisure time	63.3	53.8	85.4	64.0	57.8	88.0	61.7	58.3	88.3	62.8	59.6	67.1
Personal care	--	--	--	39.3	38.7	51.5	41.4	38.3	50.9	38.1	38.3	39.1
Recreation	--	--	--	20.8	16.4	18.6	18.5	14.9	19.4	15.5	16.2	16.6
Total Activity Time	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.	100.

TABLE 5

INTRA-FAMILY ALLOCATION OF TIME

(In Per Cent)

	Mid-September to November				December to Mid-February				Mid-February to March			
	Father	Mother	Children	Total	Father	Mother	Children	Total	Father	Mother	Children	Total
Market Production Time	45.5	17.9	36.6	100.0	45.6	19.3	35.1	100.0	43.1	17.2	39.7	100.0
Non farming	43.1	19.6	37.2	100.0	49.1	23.6	27.3	100.0	52.4	18.1	29.5	100.0
Crop farming	47.1	13.6	39.9	100.0	47.8	11.9	40.3	100.0	39.3	14.3	46.4	100.0
Livestock raising	42.9	28.6	28.6	100.0	53.4	13.3	33.3	100.0	61.9	11.1	27.0	100.0
Fishing	50.0	0.0	50.0	100.0	50.0	0.0	50.0	100.0	50.0	0.0	50.0	100.0
Income-earning home production	20.0	60.0	20.0	100.0	33.3	33.3	33.4	100.0	33.3	33.3	33.4	100.0
Home Production Time	8.6	63.2	28.2	100.0	13.9	56.3	30.4	100.0	37.6	40.9	21.5	100.0
Child Care	10.7	67.9	21.4	100.0	20.0	66.7	12.5	100.0	10.0	70.0	20.0	100.0
Food preparation	12.5	65.6	21.9	100.0	15.1	57.6	27.3	100.0	11.8	61.8	26.4	100.0
Leisure Time	15.0	15.2	69.8	100.0	14.7	15.1	70.2	100.0	14.8	15.7	69.5	100.0
Personal Care	15.3	16.9	67.8	100.0	16.3	16.8	66.9	100.0	15.4	16.9	67.7	100.0
Recreation	20.4	18.0	61.6	100.0	18.6	16.3	65.1	100.0	17.6	16.4	66.0	100.0
Total Activity Time	18.1	20.5	61.4	100.0	18.4	20.0	61.6	100.0	15.4	17.1	67.5	100.0

TABLE 6

TIME ALLOCATION OF FATHER AND MOTHER, BY OCCUPATION

(In Hours Per Day)

ACTIVITY	Mid-September to November				December to Mid-February				Mid-February to March			
	Father		Mother		Father		Mother		Father		Mother	
	Non-farmer	Farmer	Non-farmer	Farmer	Non-farmer	Farmer	Non-farmer	Farmer	Non-farmer	Farmer	Non-farmer	Farmer
Market Production Time	7.1	6.5	2.3	4.9	7.2	6.8	2.4	5.2	8.2	6.2	2.2	3.4
Non-farming	4.9	1.1	0.9	1.4	5.4	1.5	1.1	3.0	6.2	1.8	1.1	0.9
Crop farming	0.7	3.8	0.6	2.4	0.6	3.6	0.7	1.9	1.4	2.6	0.7	2.0
Livestock raising	0.2	0.8	0.4	0.2	0.3	1.1	0.2	0.2	0.1	0.9	0.3	0.2
Fishing	0.1	0.3	0.0	0.0	0.3	0.3	0.0	0.0	0.2	0.2	0.0	0.0
Income-earning home Production	0.1	0.1	0.3	0.6	0.3	0.1	0.1	0.0	0.0	0.1	0.1	0.2
Home Production Time	1.3	0.9	7.6	6.1	1.3	1.7	7.6	5.5	0.6	1.4	7.7	4.8
Child Care	0.5	0.2	1.8	2.6	0.5	0.6	1.6	1.3	0.1	0.4	2.2	1.3
Food preparation	0.3	0.4	2.2	1.5	0.4	0.5	2.0	1.6	0.2	0.4	2.1	2.1
Leisure Time	11.7	14.31	13.9	12.4	12.3	14.4	14.2	13.3	10.3	15.0	14.1	15.9
Personal Care	8.0	8.5	9.4	8.2	7.8	9.0	9.5	9.3	6.7	9.1	9.1	10.6
Recreation	3.4	4.9	4.0	2.8	3.5	4.4	3.6	3.7	2.3	5.0	4.0	3.4
Total Activity Time	20.1	21.7	23.8	23.4	20.8	22.9	24.2	24.1	19.1	22.6	24.0	24.1

TABLE 7

TIME ALLOCATION IN RICH AND POOR HOUSEHOLDS

(In Hours Per Day)

ACTIVITY	Mid September to November				December to Mid-February				Mid-February to March			
	Father		Mother		Father		Mother		Father		Mothe	
	Rich	Poor	Rich	Poor	Rich	Poor	Rich	Poor	Rich	Poor	Rich	P
Market Production Time	6.9	6.6	3.9	2.1	7.4	6.8	2.8	2.7	7.2	6.7	3.0	2
Non-farming	1.4	2.6	2.0	0.6	2.6	2.7	1.8	1.2	2.6	3.4	1.6	0
Crop farming	3.5	2.6	0.6	0.8	3.0	2.6	0.8	0.8	3.4	1.8	0.8	0
Livestock raising	0.6	0.6	0.5	0.3	1.1	0.7	0.2	0.2	0.4	0.7	0.3	0
Fishing	0.5	0.2	0.0	0.0	0.0	0.4	0.0	0.0	0.2	0.2	0.0	0
Income-earning home Production	0.1	0.0	0.5	0.2	0.1	0.1	0.0	0.2	0.2	0.1	0.1	0
Home Production Time	0.8	1.1	5.9	8.0	1.4	1.6	7.1	7.4	0.6	1.4	6.7	7
Child Care	0.2	0.4	1.0	2.2	0.6	0.5	1.3	1.6	0.1	0.4	1.4	2
Food preparation	0.4	0.4	1.6	2.3	0.5	0.5	2.0	1.8	0.2	0.4	1.9	2
Leisure Time	12.9	13.7	13.8	13.7	12.5	14.2	14.4	14.0	12.2	14.0	14.5	14
Personal Care	8.1	8.5	8.7	9.4	8.0	8.9	9.3	9.5	8.1	8.4	9.9	7
Recreation	4.4	4.4	4.4	3.7	4.0	4.2	4.4	3.3	3.7	4.3	3.6	4
Total Activity Time	20.6	21.4	23.6	23.8	21.3	22.6	24.3	24.1	20.0	22.1	24.1	24

TABLE 8 : Time Allocation of Father and Mother, by Years of Schooling

(In Hours Per Day)

ACTIVITY	Mid-September to November						December to Mid-February						Mid-February to March					
	Father			Mother			Father			Mother			Father			Mother		
	0-4	5-6	7+	0-4	5-6	7+	0-4	5-6	7+	0-4	5-6	7+	0-4	5-6	7+	0-4	5-6	7+
Market Production Time	7.2	6.3	5.7	3.1	2.0	3.2	6.4	7.5	7.8	3.2	2.2	3.2	5.6	7.4	9.0	1.7	2.7	2.5
Non-farming	2.0	1.6	3.6	1.0	0.3	2.3	2.1	2.0	4.9	1.2	1.1	2.2	1.5	3.5	6.8	0.7	1.0	2.0
Crop-farming	3.1	3.3	1.8	1.2	0.7	0.3	2.8	3.5	1.4	1.2	0.7	0.5	2.5	2.0	1.7	0.7	1.2	0.2
Livestock raising	0.6	0.8	0.3	0.4	0.4	0.2	0.7	1.2	0.7	0.2	0.2	0.2	0.7	0.8	0.3	0.3	0.2	0.4
Fishing	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.2	0.3	0.0	0.0	0.0	0.0
Income-Farming																		
Home Prod.	0.1	0.1	0.0	0.2	0.5	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.0	0.0	0.0	0.1	0.1
Home Prod. Time	0.6	1.4	1.5	7.0	7.7	7.7	1.6	1.5	1.6	6.8	8.1	7.0	1.1	1.4	1.0	7.3	7.3	7.3
Child-Care	0.1	0.7	0.5	1.3	2.3	2.1	0.5	0.6	0.6	1.2	1.9	1.5	0.3	0.5	0.2	1.6	2.4	2.3
Food Preparation	0.3	0.5	0.4	2.3	2.9	2.2	0.5	0.5	0.5	2.2	1.8	1.8	0.5	0.3	0.2	2.5	1.8	2.0
Leisure Time	13.2	13.5	14.4	13.8	13.8	13.1	13.7	14.8	12.6	14.1	14.2	13.7	14.1	13.9	11.7	14.3	14.4	14.1
Personal Care	7.7	8.8	9.4	8.8	9.6	9.2	8.4	9.8	8.0	9.5	9.7	9.0	8.3	9.8	7.8	8.7	9.8	8.9
Recreation	4.7	4.2	3.7	4.1	3.7	3.9	4.4	4.0	3.4	3.8	3.7	2.9	4.7	4.0	3.2	4.0	3.9	4.0
Total Activity Time	21.0	21.2	21.6	23.9	23.5	24.1	21.7	23.8	22.0	24.0	24.4	23.9	20.8	22.7	21.8	23.4	24.4	24.5

TABLE 9 : Time Allocation of Father and Mother, by Number of Children
(In Hours Per Day)

ACTIVITY	Mid-September to November						DECEMBER TO MID-FEBRUARY						MID-FEBRUARY TO MARCH					
	Father			Mother			Father			Mother			Father			Mother		
	0-2	3-5	6+	0-2	3-5	6+	0-2	3-5	6+	0-2	3-5	6+	0-2	3-5	6+	0-2	3-5	6+
Market Production Time	6.6	6.6	6.5	1.9	2.3	3.5	6.1	6.7	8.4	2.4	3.1	2.0	6.6	7.0	6.8	2.9	2.2	3.6
Non-farming	2,1	1.8	3.0	0.8	0.5	1.9	1.7	2.9	3.3	1.7	1,2	1.2	4.2	3.1	2.2	1.8	0.8	1.7
Crop-farming	3.0	2.8	2.7	0.1	0.8	1.0	2.5	3.7	2.3	1.0	0.9	0.7	0.9	2.2	3.6	1.0	0.9	0.5
Livestock raising	0.3	0.8	0.3	0.0	0.0	0.0	1.1	0.8	0.7	0.1	0.3	0.1	0.6	0.7	0.5	0.1	0.1	0.0
Fishing	0.1	0.2	0.3	0.1	0.5	0.6	0.0	0.4	0.8	0.0	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.
Income earning home production	0.0	0.1	0.1	0.4	0.4	0.1	0.3	0.1	0.2	0.0	0.2	0.0	0.0	0.1	0.2	0.0	0.0	0.0
Home Prod. Time	1.2	1.2	0.5	8.2	7.4	7.4	2.1	4.4	1.3	7.8	7.5	6.9	1.4	1.2	0.8	6.5	7.8	7.4
Child-care	0.6	0.4	0.0	3.0	1.6	1.3	1.0	0.5	0.1	1.8	1.5	1.1	0.6	0.3	0.0	2.1	2.2	1.5
Food Preparation	0.3	0.5	0.2	2.3	2.2	1.9	0.3	0.4	0.5	2.0	2.0	1.8	0.3	0.4	0.5	1.7	2.1	2.3
Leisure Time	11.6	13.6	15.9	13.7	14.0	12.9	14.1	10.5	13.9	14.1	13.6	14.9	12.5	12.8	16.0	14.2	15.9	11.6
Personal Care	7.4	8.8	8.3	9.0	9.1	9.0	9.6	8.7	8.6	9.6	9.5	9.4	8.4	8.3	9.0	9.2	9.3	8.2
Recreation	3.9	4.6	7.1	4.0	3.9	4.1	4.9	3.6	4.4	3.4	3.2	5.2	3.0	4.1	5.5	3.5	4.0	1.4
Total Activity Time	19.4	20.8	22.9	23.8	23.7	23.8	22.3	21.6	23.6	24.3	24.2	23.8	20.5	21.0	23.6	23.6	24.2	21.0

TABLE 10 : LIST OF VARIABLES USED IN REGRESSIONS

CODE	DESCRIPTION
	Time Variables - Dependent Variables
FECONT	Father's total time in market or economic production (minutes/day)
FHOMET	Father's total time in home production (minutes/day)
FLEIST	Father's total leisure time; includes time for personal care and hygiene and recreation time (minutes/day)
MECONT	Mother's total time in market or economic production (minutes/day)
MHOMET	Mother's total time in home production (minutes/day)
MLEIST	Mothers Total leisure time (minutes/day)
	Father's Attributes - Independent Variables
WAGEF	Father's wage: predicted wage based on barrio/education grouping for non-working fathers, actual wage for working fathers (₱ per hour)
EDUCF	Father's education in years of schooling
AGEF	Father's age in months
FARMERF	Father's occupation: = 1 if father is a farmer, ', fisherman, hunter, etc; = 0 if he is not.
FWORKST	Father's work status; FWORKST = 1 if father works in the market; = 0 if he does not.
	Mother's Attributes - Independent Variables
WAGEM[a]	Mother's wage = predicted wage of mother based on regression average wage of working mothers (₱ per hour)
EDUCM	Mother's education in years of schooling
MAGEM	Mother's age in months
FARMERM	Mother's occupation = 1 if mother is a farmer, fisherman, hunter, etc.; = 0 if she is not.
MWORKST	Mother's work status; MWORKST = 1 if mother works in the market; = 0 if she does not.

[a] See Barry M. Popkin, "The Production of Child Welfare in Rural Filipino Households: The Impact of Changes in the Role of the Mother," Paper presented at the seminar on labor supply, CPMS-CDA, June 21-25, 1976.

TABLE 10 : (Page Two) List of Variables Used in Regressions

CODE	DESCRIPTION
	Children's Attributes - Independent Variables
C0-1	Number of children, 0-1 years of age who stayed in the home
C1-6	Number of children, 1-6 years of age who stayed in the home
C7-9	Number of children, 7-9 years of age who stayed in the home
C10-12	Number of children, 10-12 years of age who stayed in the home
C13-15	Number of children, 13-15 years of age who stayed in the home
C15-UP	Number of children, 15 or more years of age who stayed in the home
	Other Independent Variables
WEALTH	Total household wealth (₱1000 units)

TABLE 11 : Regression - Determinants of Time Allocation of Fathers

INDEPENDENT VARIABLES	DEPENDENT VARIABLES			
	FWORKST	FHCOUT	FHCHT	FLEIST
Constant	1.382	644.871	114.922	954.132
Father's Attributes				
WAGEF	0.047	68.424	- 2.383	-37.499
	(1.44)*	(2.54)***	(0.27)	(1.22)
EDUCF	0.004	-53.264	8.390	77.255
	(0.16)	(2.48)***	(1.24)	(2.49)***
AGEF	-0.001	- 0.520	0.035	- 0.689
	(2.47)***	(2.14)**	(0.45)	(3.16)***
FARMERF	--	-56.778	-10.636	237.368
		(0.76)	(0.45)	(2.78)***
WAGEM	0.087	22.918	-19.682	-185.384
	(0.78)	(0.23)	(0.58)	(1.60)*
EDUCM	-0.030	-33.874	- 3.103	-53.481
	(1.04)	(1.40)*	(0.41)	(1.95)**
AGEM	-0.001	-0 .078	- 0.100	0.093
	(0.91)	(0.16)	(0.64)	(0.17)
MWORKST	-0.017	-11.289	-30.558	-82.849
	(0.19)	(0.15)	(1.29)*	(0.97)
Children C0-1	-0.181	-55.284	49.904	-42.707
	(1.94)**	(0.72)	(2.06)**	(0.49)
C1-6	0.024	- 1.402	- 2.313	44.200
	(0.56)	(0.04)	(0.22)	(1.11)
C7-9	0.001	49.606	- 3.674	-25.859
	(0.0)	(1.16)	(0.27)	(0.53)
C10-12	-0.056	-57.330	- 9.273	141.168
	(0.92)	(1.14)	(0.59)	(2.47)***
C13-15	0.001	32.445	- 0.274	-29.084
	(0.0)	(0.69)	(0.0)	(0.51)
C15-UP	0.028	- 6.083	4.875	78.090
	(0.63)	(0.16)	(0.42)	(1.86)**
Other Variables				
WEALTH	0.004	1.577	0.397	5.138
	(1.06)	(0.45)	(0.36)	(1.29)*
R^2	0.222	0.208	0.198	0.324
No. of Cases	98	98	98	98

Note: Numbers in parentheses are t-values of regression coefficients.
Levels of significance: *** = 1% ; ** = 5% ; * = 10%

:mdb

TABLE 12 : REGRESSION: DETERMINANTS OF TIME ALLOCATION OF MOTHERS

INDEPENDENT VARIABLES	DEPENDENT VARIABLES			
	MWORKST	MECONT	MHOMST	MLEIST
Constant	0.652	-212.454	709.427	870.030
Father's attributes				
FAGEF	0.015	2.426	8.774	- 5.505
	(0.39)	(0.13)	(0.52)	(0.37)
EDUCF	- 0.021	3.021	-7.201	5.324
	(0.69)	(0.22)	(0.57)	(0.47)
AGEF	-0.0001	0.283	-0.312	0.019
	(0.20)	(1.71)**	(2.02)**	(0.14)
FWORKST	-0.025	12.598	-30.529	33.463
	(0.19)	(0.21)	(1.45)*	(1.68)**
Mother's attributes				
FAGEM	0.062	-130.775	62.480	88.445
	(0.462)	(2.16)**	(1.1)	(1.74)**
EDUCM	0.013	28.885	- 2.133	-28.428
	(0.38)	(1.82)**	(0.1)	(2.14)**
AGEM	0.001	0.295	- 0.270	- 0.006
	(0.62)	(0.90)	(0.89)	(0.03)
FARMER	---	207.713	-117.732	-114.793
		(3.42)***	(2.07)**	(2.26)**
Children				
C0-1	0.081	-20.250	178.274	-138.455
	(0.71)	(0.40)	(3.73)***	(3.23)***
C1-6	-0.064	-6.772	40.50	-26.224
	(1.26)	(0.29)	(1.89)**	(1.37)*
C7-9	-0.022	38.721	-12.923	-18.007
	(0.35)	(1.37)*	(0.49)	(0.76)
C10-12	-0.081	42.607	- 45.174	- 7.256
	(1.11)	(1.31)*	(1.48)*	(0.26)
C13-15	0.071	39.921	- 6.030	-29.466
	(1.0)	(1.30)*	(0.21)	(1.14)
C15-UP	0.01	-15.157	28.532	-20.238
	(0.270)	(0.62)	(1.24)	(0.99)
Other variables				
WEALTH	0.005	2.430	- 4.031	1.800
	(1.02)	(1.06)	(1.87)**	(0.98)
R^2	0.158	0.336	0.508	.277
No. of Cases	98	98	98	98

Note: Number in parentheses are t-values of regression coefficients.
Levels of Significance: *** = 1%; ** 5% ; * = 10%

APPENDIX I

ACTIVITY GROUPS USED IN THE LAGUNA SURVEY (1975-76)

Activity Code	Description of Activity
Group I Activities: Market production	
ECO Ø 1	Wage and other related activities This refers to activities for which members receive regular income either in the form of salary or wages. All activities pertaining to this source of income must be classified here although the time spend in the performance of such activity is beyond the respondnt's prescribed working hours. Say, the time a respondent spends attending a labor union meeting is entered in this category. Example of wage or salary earners; farm laborer, seamstress, yardboy, water tender, caretaker, etc.
ECO Ø 2	Profession and other related activities This refers to activities using specialized skill that enables one to be self-employed. Such skill may or may not require a college degree. Say, the time spent by a manicurist who goes to town to have her nippers sharpened is entered under this category. All activities undertaken to enhance one's profession are also included here.
ECO Ø 3	Business and other related activities This includes all business-related activities. For example, when a buy-and-sell respondent goes to his compadre to learn from him the latest saleable items in the city, the time spent is recorded under activity code 3. Example: sari-sari stores, equipments manufacturer, selling newspaper, etc.
ECO Ø 4	Rice-farming: Pre-harvest work This refers to all activities prior to harvesting like land preparation, seedling production, planting, transplanting, weeding, fertilizing, chemical application, purchase of inputs, arranging credit, and the supervisory and managerial tasks associated with

Activity Code	Description of Activity
	rice farming. Hence, anything and everything that is directly associated with rice farming prior to harvesting should be included here. These activities may be performed by a landlord, tenant or any farm worker.
ECO Ø 5	Rice farming: Harvesting and Post-Harvest Work Harvesting and post-harvest activities such as harvesting, hauling, drying, milling, and the like are considered here. Credit which is arranged during this period for purposes of processing or marketing the palay is also included here, but marketing is considered under code 12.
ECO Ø 6	Coconut Production and other related activities This refers to time used in coconut production and processing of such as a source of income. Any related activity undertaken so long as it is not for household consumption nor for business, is included here. If the respondent shelled the coconut prior to marketing, then this activity is recorded here.
ECO Ø 7	Sugar Cane Production and other related activities This refers to time for sugar cane production and/or processing of such as a source of income. However, the time of hired sugar planters is considered under code #1.
ECO Ø 8	Vegetable Production and other related activities This does not include backyard gardening except in cases where the backyard garden is greater than 200 square meters. Any activity pertaining to vegetable production must be included here such as weeding, chemical application purchase of inputs, and other farming activities already mentioned in code 4.

Activity Code	Description of Activity
ECO Ø 9	Home Gardening and other related activities This refers to gardening a backyard of less than 200 square meters. This may include cultivating fruits, vegetables, and flowers, part of which may be sold. Any activity done in relation to this undertaking is considered here such as smoking the mango tree, weeding the tomatoes, watering the plants, etc.
ECO Ø 10	Livestock-poultry work and other related activity Any activity pertaining to this work must be considered here such as collecting grass for the carabao's feed, i.e., if the carabao is not used for rice farming. If it is used for rice farming, this activity is recorded under activity code 4. Feeding chickens, pigs, goats are included here.
ECON Ø 11	Home-Production of Goods and Services: Handicrafts, etc. This refers to activities that are done at home but part or all of the produce is sold either for cash or kind or profit. This includes activities like washing, weaving, sewing, food preservation, embroidery, ironing, making or repairing tools and farm implements, building a fence, and others. If the mother sews or does any other activity, part of her output may be consumed by family members. Goods strictly produced for home consumption are not included here but in code 30.
ECO Ø 12	Marketing farm produce and home-produced goods and services Any activity undertaken in relation with selling of one's produce either from the farm or the home is included here, with the exception of fish catch. Efforts like canvassing market outlet, delivery of washed or ironed clothes, delivery of orders and the like are included here.

Activity Code	Description of Activity
ECO Ø 13	Fishing and other related activities This refers to fishing or fish farming activities. All activities that pertains to this undertaking must be considered here, such as the mending of fishing nets, placing of fingerlings in a fish pond, marketing of catch, etc.
ECO Ø 14	Repairs, construction and other related activities This refers to repairs and construction outside of the work requirements with activity code #1 to 13 above. Repairing the house is included here.
ECO Ø 15	Travel to and from work Departure for and arrival from work, or any other activity related to work must be recorded under this activity. This includes walking to the fields for farming.
ECO Ø 16	Hunting, gathering wild plants and other related activities This refers shooting animals like birds, wild pigs and the like, and gathering wild plants like mushrooms as a source of income. Any activity pertaining to these like greasing a gun, cleaning a tin can to collect mushroom, and the like are included here.
ECO Ø 17	Others Any economic activity which cannot be entered in activity codes 1 to 16 must be coded in 17 to 20. Other activities should be brought to the attention of the field supervisor.

Activity Code	Description of Activity
Group II Activities: Home Production	
HOM 21	Sleeping, washing, bathing, resting and other personal activities This refers to strictly personal activities like dressing, combing, gro ming nails, sexual relationships, waking up, etc.
HOM 22	Cooking and preparing food for the HH This includes the preparation of the ingredients, other than buying, like cutting and washing of food prior to cooking.
HOM 23	Eating This includes the all time persons spend when eating including snacks. If members spend an extra hour socializing after dinner, this is recorded as code 31. Drinking beer at a bar is considered gossiping.
HOM 24	Breastfeeding This applies strictly to breastfeeding women only.
HOM 255	Bottlefeeding This includes all aspects of bottle feeding like cleaning bottles, heating milk (if done), and the actual feeding.
HOM 26	Caring and other related activities pertaining to children This refers to the time devoted to caring for children like feeding, washing, cleaning, dressing, putting the child to sleep and the like. This does not include playing with the children which is coded as 27 below.

Activity Code	Description of Activity
HOM 27	Playing with children This refers to the playful side of caring for the children like cooing, teasing, talking to the baby, playing games. Reading and telling stories and other related learning situations are included in code 35.
HOM 28	Marketing/shopping plus travel time This refers to time used for buying items (food and/or non-food) which will be used strictly for the home. This includes borrowing food items from a neighbor as well as purchasing them in the market. Travel time is also included here although the source of a commodity may be just the nearby sari-sari store.
HOM 29	Fetching or shopping wood, fetching water This refers to time used for chopping wood, carrying them to the house, fetching water, and all time related to such work.
HOM 30	Household chores like washing, etc. This household chores like washing, ironing, cleaning house/yard/dishes, arranging/decorating the house and the like.
Group III Activities: Other Home Time	
OTH 31	Passive recreation This refers to activities that do not require much physical effort. Playing with children is not included here. Activities which may be considered here are watching sports/movies/TV, gambling, reading, gossiping, listening to the radio, entertaining visitors at home, discussions, and talking with friends. The idea is that minimal energy is expended in the activity.

Activity Code	Description of Activity
OTH 32	Attending school, lectures, adult education class This refers to activities related to the pursuit of academic and/or non-academic (specialization or vocational) knowledge. These include doing homework or assignments except class projects like flower making which should be recorded under activity code 31. Example: Adult Education Class, Home Management Courses, Rural Improvement Club Meetings, Agricultural Extension Class, Samahang Nayon Seminars, Mothercraft, educational trips, etc.
OTH 33	Active recreation This refers to recreational activities that require physical effort like bowling, basketball, volleyball, hide and seek and the like. Playing with children to pass the time of caring is not included here but in activity code 27.
OTH 34	Being sick This includes non-mobility of persons due to illness, frail or fragility, such as convalescing time.
OTH 35	Reading to or telling stories to children The listeners or recipients of the stories should be strictly children. If they are adult, the time used is recorded as activity 31.
OTH 36	Church activities Any church related activities like going to mass, attending church club meetings, joining processions, visiting the priest and the like are included here.

Activity Code	Description of Activity
OTH 37	Festivals and visitations elsewhere including travel time Any social activity undertaken outside of the home or barrio including travel time must be considered here. Example: attending weddings, fiestas, vigils for the dead and the like.
OTH 38	SSU activities Any use of social services including travel time must be included here. Examples of social units: hospitals, RHU's, hilots, nutritionists, social workers, etc.
OTH 39	Caring for the aged and the sick This refers to the time spent by household members caring for the aged and the sick like bathing them, feeding, cleaning, and the like.
OTH 40	Others Any social activity which cannot be entered under activity code 21 to 38 above must be coded starting under 40 up to 50 only.

Members of the Laguna Project contributed to compiling this activity list and the description of each activity. Special mention goes to Dr. Barry M. Popkin.

Activity No.	Activity Description	FATHER (a)	FATHER (b)	FATHER (c)	Mother (a)	Mother (b)	Mother (c)	Children (a)	Children (b)	Children (c)
ECC01	Wage time	1.34	1.96	2.38	0.50	0.79	0.36	1.22	0.96	1.28
ECC02	Profession time	0.41	0.16	0.47	0.05	0.01	0.36	0.09	0.10	0.14
ECC03	Business time	0.46	0.56	0.31	0.40	0.55	0.36	0.61	0.48	0.39
ECC04	Pre-harvest time	1.24	1.51	1.17	0.24	0.31	0.28	0.83	1.14	1.30
ECC05	Post-harvest time	0.75	0.45	0.54	0.24	0.25	0.32	0.82	0.46	0.33
ECC06	Coconut production time	0.72	0.58	0.29	0.20	0.20	0.06	0.57	0.79	0.49
ECC07	Sugar cane production time	0.0	0.05	0.0	0.0	0.0	o.o	0.0	0.06	0.01
ECC08	Vegetable production time	0.13	0.09	0.21	0.10	0.09	0.14	0.03	0.23	0.47
ECC09	Home gardening	0.05	0.08	0.08	0.01	0.04	0.05	0.04	0.01	0.10
ECC10	Livestock time	0.61	0.82	0.66	0.36	0.21	0.25	0.36	0.51	0.83
ECC11	Handicraft time	0.00	0.05	0.00	0.38	0.08	0.02	0.10	0.04	0.00
ECC12	Marketing time	0.23	0.01	0.00	0.06	0.07	0.00	0.14	0.01	0.01
ECC13	Fishing time	0.24	0.31	0.19	0.01	0.01	0.00	0.18	0.29	0.17
ECC14	Repair time	0.08	0.05	0.34	0.05	0.00	0.02	0.01	0.00	0.04
ECC15	Travel time	0.32	0.25	0.18	0.05	0.11	0.07	0.26	0.14	0.12
ECC16	Hunting time	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.35
ECC17	Children other time	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ECONT	Total economic time	6.60	6.94	6.85	2.65	2.72	2.31	5.27	5.23	6.02
HOM22	Cooking time	0.37	0.48	0.37	2.16	1.93	2.08	0.70	0.94	0.87
HOM24	Breast-feeding time	n.a.	n.a.	n.a.	0.43	0.30	0.35	n.a.	n.a.	n.a.
HOM25	Bottle-feeding time	0.01	0.01	0.01	0.02	0.02	0.01	0.07	0.00	0.01
HOM26	Children caring time	0.28	0.52	0.32	1.87	1.56	1.71	0.37	0.34	0.58
HOM28	Marketing & travel time	0.07	0.15	0.08	0.37	0.42	0.38	0.23	0.37	0.32

(a) = Mid-September to November ; (b) = December to Mid-February; (c) = Mid-February to March

APPENDIX II (Page Two) : Time Budgets of Father, Mother and Children in Selected Laguna Households

Activity No.	Activity Description	FATHER (a)	(b)	(c)	MOTHER (a)	(b)	(c)	CHILDREN (a)	(b)	(c)
HCH29	Fetching or chopping time	0.06	0.13	0.18	0.07	0.06	0.09	0.13	0.15	0.32
HCH30	Household chore time	0.18	0.29	0.18	2.52	3.07	2.70	1.69	1.69	1.83
HCH35	Tell stories to children time	0.02	0.0	0.00	0.01	0.00	0.00	0.21	0.00	0.00
HCH39	Care of aged and sick time	0.00	0.00	0.01	0.00	0.02	0.09	0.00	0.01	0.00
HCHET	Total home time	1.00	1.58	1.15	7.44	7.37	7.62	3.25	3.49	3.93
OTH21	Sleeping time	7.65	8.08	7.81	8.51	8.79	8.61	34.10	34.87	34.07
OTH23	Eating time	0.65	0.58	0.53	0.70	0.70	0.63	2.71	2.93	2.85
OTH27	Playing with children time	0.01	.02	0.03	0.08	0.03	0.01	0.69	0.33	0.31
OTH31	Passive Recreation time	4.[illegible]	4.10	4.14	3.81	3.55	3.93	1.68	12.70	13.57
OTH32	School or class time	0.03	0.05	0.04	0.10	0.03	0.0	11.12	10.73	7.13
OTH33	Active Recreation time	0.02	0.00	0.00	0.00	0.00	0.00	0.05	1.38	0.23
OTH34	Being sick or immobile time	0.24	0.00	0.00	0.09	0.22	0.00	0.35	0.42	0.23
OTH35	Church time	0.01	0.02	0.04	0.06	0.06	0.15	0.07	0.07	0.13
OTH37	Festival time	0.74	0.73	0.82	0.32	0.52	0.95	1.11	1.99	2.82
OTH38	SSU time	0.06	0.14	0.01	0.00	0.10	0.05	0.09	0.20	0.42
OTH40	Other time	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OTHET	Total other home time	13.38	13.72	13.51	13.67	14.08	14.32	62.89	65.62	63.33

(a) = Mid-September to November; (b) = December to Mid-February ; (c) Mid-February to March

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