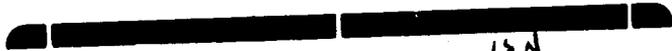
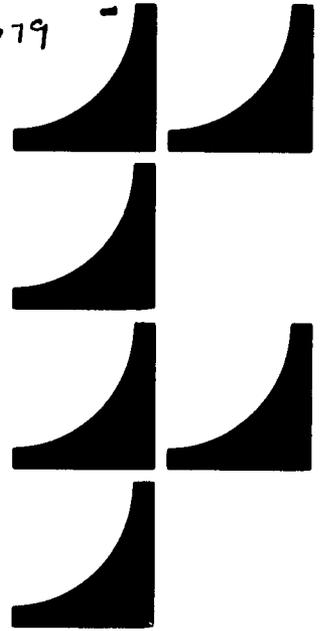


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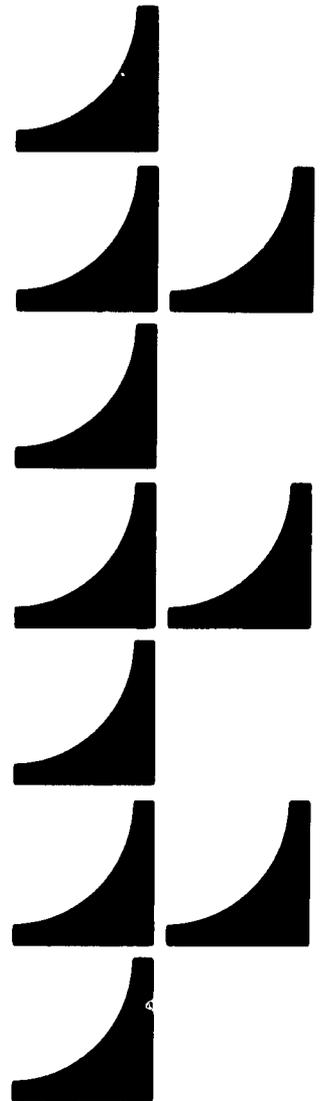
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A PRELIMINARY EVALUATION OF THE PANAMA
WOMEN'S SELF-HELP CONSTRUCTION PROJECT

by

Robert Henriques Girling,
Margaret Lycette, and Nadia H. Youssef



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**International Center for Research on Women
under
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- * The following ICRW staff also contributed to the design of the survey instrument and analysis of the data used in this study: Isabel Nieves, Mayra Buvinić, and Amy Mellencamp.

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Executive Summary

The Women's Self-Help Construction Project (WSHCP) of Panama was launched in October 1981 with the goal of building 100 houses in the municipality of San Miguelito which is adjacent to Panama City. The unique feature of the project was that the houses were to be built entirely by urban slum women who had no prior experience in construction.

The first phase of the project (construction of 50 houses) reached completion in the fall of 1982. In mid-November an ICRW research team visited Panama City to evaluate the project through a survey of project participants and interviews with representatives of the institutions that supported the project--Servicio Nacional de Formacion Profesional (SENAFORP), Ministry of Housing (MIVI), and Instituto para la Formacion y el Aprovechamiento de Recursos Humanos (IFARHU).

Institutional support to the project consisted of training in construction skills, materials, tools, heavy equipment, and supervision. This support was forthcoming mainly due to political pressure brought to bear by Romelia Pardo, an influential community organizer.

The actual construction phase of the project began in December 1981. The women participants were to construct 50 houses and install all plumbing and electrical connections, as well as work site facilities including tool storage huts, changing rooms, showers, and a lunchroom.

Initially the women were stunned by the amount of work ahead of them. In the end, however, they talked very positively of their experience and the construction supervisors rated the quality of their work as equivalent or superior to that of a professional construction crew.

ICRW survey data indicates that the women of the WSHCP were indeed low-income women, for the most part, with low levels of education and high unemployment rates. Forty-five percent of the women were heads of their households with no spouse or common-law partner living with them. The project participants, therefore, were not atypical of poor women in Panama.

yet these women managed to construct their own houses and seem to have developed as a result, a sense of power greater self-reliance, and pride.

When the costs of the project--training, materials, land, labor, supervision, and interim financing--are compared to the benefits--housing, effect of training on potential earnings, the positive impact of the participatory experience, and other indirect benefits--the WSHCP certainly appears to be a worthwhile investment. The project's benefit-cost ratio is 1.28 with an internal rate of return of 16%. This compares to a benefit-cost ratio of .99 for Ministry of Housing projects, with an internal rate of return of 11.8%. For the purpose of evaluation, the effect of the training that participants received was assumed to be equal to a 10% increase in average participant earnings. An actual study of the training effect should be undertaken, however, upon completion of the project when the participants again take up income-earning activities.

Perhaps one of the most important concerns of this study has been the replicability of the WSHCP. Given the nature of the WSHCP--its development, at least initially, through political influence--it would appear that replicability will depend to some extent on continued political support for self-help housing. In addition, continued availability of low-cost land and materials will be important, as will be the continued viability of such projects when undertaken on a larger scale, given Panama's large housing deficit. Finally, with limited development funds, cost recovery is a necessary, though not sufficient, condition for WSHCP replicability.

Cost recovery cannot be achieved, however, through the use of a standard mortgage repayment scheme over 25 years at 12%. In fact, under such a financing arrangement, only 36 % of WSHCP participants could pay for their houses. More "creative" financing options will undoubtedly have to be employed to recover the costs of the WSHCP. Unfortunately, due to the low-income levels of the project's participants, several of the innovative financing options discussed in this report must involve a grant element in order to reach the majority of WSHCP participants, thus limiting large-

scale replicability.

Overall, the WSHCP appears to hold promise as an approach to low-income housing solutions. Based on our preliminary findings, we suggest that USAID continue to monitor the progress of the project; assist with the development of community-based enterprises to allow the productive orientation developed in the project to flourish; explore mechanisms for supporting self-help housing projects similar to the WSHCP; and consider the use of "creative financing" options for cost recovery in such projects.

I. Background

Housing is a fundamental human need. Nevertheless, throughout the world, and particularly in the Third World, decent low-cost housing is systematically denied to the lower income strata. In Panama the urban poor have been relegated to marginal housing, much of it barracks which remain from the era of canal construction at the turn of the century. A large number of these tenement houses have been condemned. One such area of inferior housing, much of it without electricity or water, is located in Curundu, a virtual swamp¹land on the banks of the Curundu River. Here stagnant canals carry wastewater and sewage. Unemployment reaches well above the average 19% mark cited by the World Bank for all of Panama.¹ It is an area of illegal activity, i.e., prostitution, numbers games, illegal lottery sales, theft. This is the environment and the playground of the children of the poor. Yet Curundu is a vital community which has been in existence for over 30 years. Its women and men have formed friendships and ties over the years; they meet and talk together, buy and sell, their children play together.

Periodically this slum area of Panama City suffers catastrophe. When the rains come the dirt streets are awash with sewage water, houses are flooded, and children perish in the inundated canals. Fires are frequent in the wooden tenements, started by faulty electrical wiring or cooking fires in uninsulated kitchen areas. One such fire occurred in September 1981 destroying the residences of more than 300 families in Curundu, and providing a timely catalyst for the development of the Women's Self-Help Construction Project (WSHCP).

The WSHCP was launched in October 1981 with 80 women who had participated, during the summer of 1981, in short-term training courses for masonry, plumbing, and carpentry organized by the Servicio Nacional de

¹ "Panama Special Economic Report, Metropolitan Unemployment", June 7, 1982
LAC Regional Office, World Bank.

Formacion Profesional (SENAFORP); three untrained women later joined the project. The goal of the WSHCP was to build some 100 houses in the municipality of San Miguelito, a suburb located approximately 12 kilometers from the center of Panama City. The unique feature of the project was that the houses were to be built entirely by urban slum women, all of whom had no prior experience in construction and most of whom had no formal labor market experience. The women were to be provided with land, on-site supervision, and materials for construction of their own homes. In addition, they would receive a monthly stipend to assist with the support of their families during the period of construction. They would be expected to pay for materials and repay the stipends after completion of the project. It was the beginning of a bold experiment.

ICRW's Assignment

Construction of 50 houses, the first phase of the project, reached completion in the Fall of 1982. At that time ICRW was asked, by USAID/Panama, to evaluate the project under the centrally-funded "Women's Socio-economic Participation Project". ICRW would explore questions of whether self-help housing construction could be organized on a cost-recoverable basis, what effects the training in construction skills might have had on the income-generation capability of WSHCP participants, and how such effects could be enhanced in future projects.

From ICRW's perspective, additional questions of interest related to the socioeconomic characteristics of the project participants, how they managed their household responsibilities during the construction period, the quality of the housing built and, most importantly, whether the benefits of the project outweighed the costs when the women's labor in the project was appropriately valued. ICRW was particularly concerned with the opportunity cost of the participants' labor, given past experience with development projects that assume no cost of women's time and work.

Preparatory work for the assignment, including the development of a questionnaire to be administered to the WSHCP participants, began in Washington, D.C. in mid-October, 1982. Fieldwork was carried out in Panama

City during the period November 14-26, 1982.

Methodology

In order to carry out the WSHCP study a two-part methodology was employed to gain information both from the project participants and from the institutions that provided support to the project.

Participant Information. For the purpose of interviewing the project participants, a survey instrument was designed by ICRW, and refined to fit the Panamanian context with the assistance of Julie Otterbein (USAID) and SENAFORP staff. The questionnaire was to elicit information regarding: the socioeconomic characteristics of the project participants; any change in their income that may have occurred during and after the construction project; any changes in the participants' allocation of time to household tasks, leisure, child care, etc.; changes in household size/structure that may have helped the participants cope with household and income-earning responsibilities during the construction period; and the participants' perceptions of the costs and benefits of the project, including the training in construction skills (see Appendix for a copy of the questionnaire).

The subjects of the questionnaire consisted of 54 project participants who attended an interview session, on the WSHCP site, in response to a request by Sra. Romelia Pardo. Pardo is a community leader and one of the people largely responsible for developing the WSHCP. The ICRW research team was told that women who did not attend the session were absent because of work responsibilities.

Three SENAFORP interviewers assisted the ICRW team in conducting the survey of the 54 participants; 12 participants were selected at random for more intensive interviews. Following ICRW's field work in Panama, additional project participants were interviewed, using the questionnaire, by SENAFORP staff; the completed questionnaires were then sent to ICRW to be included in the project study.

Institutional Information. Pertinent staff of the institutions that provided support to the WSHCP were interviewed regarding their institution's

role in the development of the project, the institution's specific contribution to the project, the effectiveness of the training participants received, the quality of the construction, and the construction process overall. Information on land, labor, and material costs of housing was obtained from the Ministry of Housing (MIVI) either through interviews or from MIVI publications. All interviews were open-ended, but were conducted with reference to guidelines developed for the study.

The institutions visited are: SENAFORP; MIVI; and Instituto para la Formacion Aprovechamiento de los Recursos Humanos (IFARHU).

II. The Project

History

Reconstruction of the history of the WSHCP has been somewhat difficult due to the limited amount of time the ICRW research team was able to spend with project participants and an overall vagueness among participants regarding the timing of events. Nonetheless, through interviews with WSHCP participants, staff of the Servicio Nacional de Formacion Profesional (SENAFORP), and AID staff we learned that the organizational base of the WSHCP stems from a larger community-based political organization--Las Mujeres Torrijistas. Members of the organization provide grassroots support to the Partido Revolucionario Democratico, the political party currently in power. In addition, many members are "trabajadoras comunitarias" who are paid by the government to perform civic functions and work in community development. Romelia Pardo--a strong community leader in Curundu--heads the Mujeres Torrijistas Association in the district. She has been an activist for women for many years, and was at one point elected as Curundu's deputy to the National Assembly. Since the late 1960s she has been campaigning for self-help construction programs both to help solve the urban housing problem and to improve the lives of poor urban women.

In the spring of 1981, Pardo organized a group of 105 women to form the first Organization of Women Constructors (OWC). We could not determine precisely how these women were chosen--whether at a community meeting or at a meeting of Las Mujeres Torrijistas. However, they were often referred to as "volunteers". In theory, the OWC is an autonomous group, with a president elected from among the 105 founding members. In reality, however, it appears that the organization is tightly bound to Romelia Pardo--though she is not officially a member--and that Pardo may actually have appointed the President of OWC.

Following the formation of OWC, Pardo mobilized the political support of Berta Torrijos, then director of the Instituto para la Formacion Aprovechamiento de los Recursos Humanos (IFARHU); Pardo and Torrijos then pressured SENAFORP to organize a special training course in basic con-

struction skills for the women of OWC. SENAFORP agreed to offer training in masonry, plumbing, and carpentry. Of the 105 founding members of OWC, 91 enrolled in basic training. Fourteen members did not undertake the training due to health problems and inability to forego income-earning activities during the training period.

Training

Training courses began in July 1981 and were offered at the SENAFORP Center with free transportation provided. Regular teaching staff in SENAFORP were assigned to give two-month basic courses in masonry and plumbing. Because of an instructor's illness, however, the plumbing course lasted for only one month. Two instructors from IFARHU taught the carpentry course.

Most of the women were trained in one area of specialization; only two or three were exposed to two areas. Each participant attended a 7-hour session three times weekly; class sizes ranged from twelve to twenty women. The training in plumbing lasted one month and the training in construction and masonry lasted two months as opposed to SENAFORP's standard of six months of training, five days a week.

Of the 91 women who enrolled in the training courses, 86 completed the full program; five women apparently could not afford to spend the required time in training because of their income-earning responsibilities.

The following chart indicates the number of women trained in each specialty and the period of time during which they received training.

	Number Receiving Training	Length of Training (Months)	Standard Course (Months)
Plumbing	10	4	6
Construction	51	2	6
Masonry	25	2	6

Overall, the women appear to have enjoyed the training program. They spoke appreciatively of the patience of their instructors and felt that participation in the program had been worthwhile. SENAFORP, on the other hand, while supportive of the intent of the training, had strong reservations about the program for two reasons:

- 1) SENAFORP prides itself in promoting employment development through its training programs; yet the goal of the short-term training of OWC members was to enable them to build their own houses, rather than participate in the construction labor market.
- 2) Staff of SENAFORP felt that because of political pressure and the immediacy of the request to organize the training program for the women, they fell short in the training standards provided. Program staff are apprehensive that, if called upon in the future, they will again be given insufficient time and resources to set up an appropriate training program for women.

Institutional Support to the WSHCP

The completion of the SENAFORP training courses roughly coincided with the September 1981 fire in Curundu which destroyed 300 homes. This event provided an opportunity for Pardo, her supporters, and the women constructors to pressure the government to grant land, construction material and other support services to an already trained labor force to construct their homes. In October 1981, the first Women's Self-Help Construction Project in Panama was launched with support from three government institutions: the Ministry of Housing (MIVI); SENAFORP; and IFARHU.

Ministry of Housing (MIVI). MIVI is the government's public housing construction arm. The agency provided a field engineer, construction materials, tools and heavy equipment with the understanding that the cost of this support would be recovered upon completion of the project.

SENAFORP. Part of the Ministry of Labor, SENAFORP is responsible for technical and professional training in Panama and provides courses in a variety of subjects including automotive repair, furniture building

and carpentry, masonry, sewing, and plumbing. In addition to the training offered to the Organization of Women Constructors described in the previous section, SENAFORP provided on-site training/supervision throughout the ten-month construction period of the WSHCP.

IFARHU. IFARHU played an organizing and facilitating role in the WSHCP. For seven months during the construction period the Institute provided the services of a full-time social worker, and monthly stipends of \$80² to each project participant. In addition, daily transportation to and from the construction site was provided to the women for a nominal fee throughout the entire construction period; food for lunches was provided for the first three months of construction.

As noted in the previous section, IFARHU also contributed two instructors in carpentry during the training of the Organization of Women Constructors at SENAFORP.

The Construction Period

In December 1981 the WSHCP moved into the actual construction phase. Eighty-three women, of whom 80 had received SENAFORP training, arrived on the construction site--a hill at the northwest edge of the Torrijos-Carter Housing Project in San Miguelito. The site had been cleared and terraced by the Ministry of Housing (MIVI). In this first phase of the project, 50 houses were to be built on three different levels. They would consist of 23 duplexes, one triplex, and one single unit. No other site preparation had been undertaken. The women were to construct the houses and install all plumbing and electrical connections.

The women reported that they were stunned by the empty site, the hot sun and the realization of the work ahead. Their SENAFORP on-site instructor was initially disappointed by the attitude of his newly-trained workers,

² Note: Because the U.S. dollar and the Panamanian Balboa are on a par, the \$ symbol refers to both currencies throughout this report.

and the MIVI engineer reported that, at the beginning, he and others at the Ministry expected the project would be "un fracaso" (a disaster).

The women's construction work involved building not only the actual houses, but also wooden huts for storage of tools, changing rooms, showers and the lunchroom. Initially, the women divided themselves into work groups of eight to ten according to their specialization. As the construction progressed, however, work could not always be done on the basis of specialization; for example, carpenters and plumbers often had to help in masonry. According to one woman, "no one was allowed to stand idle," although not every woman was required on the site at all times.

Supervision was primarily the task of the SENAFORP on-site instructor, but he was assisted by the MIVI field engineer, a full-time site supervisor from MIVI, and a plumbing supervisor. Other engineers paid visits on an irregular basis to inspect plumbing and electrical work.

Construction was completed in 10 months, three months more than anticipated. The MIVI field engineer expects that the fifty houses to be built in the next phase of construction will, in fact, be completed in 7 months because of the experience the women have gained from the first phase of construction.

The Quality of the Construction. How does WSHCP construction compare with the work of the MIVI-trained crews? MIVI reported that they normally employ 80 workers to build 50 houses in about three months. The ratio of supervisors to workers in MIVI projects is the same as in the WSHCP (although it is important to realize that the WSHCP had the benefit of a supervisor who was an instructor as well). The quality of WSHCP construction was equivalent or superior (the finishing was better) to other MIVI projects, though the time spent was about three times as long as that required by a trained construction crew. It is expected that this multiple will fall to two during the second construction phase. The women were able to undertake all tasks and reported no difficulty attributable to the arduousness of the labor. For example, if a 100 lb. cement sack had to be lifted, two women would simply work together. There were few injuries

and all were minor cuts and bruises, with the exception of a fractured ankle which resulted from a fall from a roof.

The construction supervisors rated the women as equivalent to professional male construction workers in tardiness and absence despite the irregularity of the bus service to the construction site, child illness, and home duties. There was mention of disciplinary problems, however, and the sometimes difficult nature of the women's relationships with supervisors and each other. In the end, all supervisors agreed that the project had gone well. The field engineer reported that the work was "slow but well done," which he considered surprising given his view that "some participants arrived knowing absolutely nothing about the work."

Completion of the First Phase. In October 1982 the first 50 homes were nearly completed, and the organization of women constructors met to decide who among the group should be assigned the first 50 homes. Consensus was reached that priority should be given to women who had worked the hardest and who faced the greatest family difficulties. Women who are waiting for second-phase housing showed no signs of resentment about the housing assignments; two of the women who had already been assigned a house were "giving it up" for other women in greater need.

According to the project participants and Romelia Pardo, the second phase of the project was to begin in January 1983 and be completed by June 1983. Fifteen women would be added to the project group, and would be trained on the job by other participants.

The Women of the WSHCP

Who were the women who participated in the WSHCP? Demographic and socioeconomic characteristics of the surveyed participants are discussed below. Attempts to locate women who dropped out of the project after its initiation were unsuccessful so that characteristics of the participants cannot be compared with those of the dropouts.

Heads of Households. As can be seen from Table 1, of the sixty participants interviewed, 45 percent were heads of household; that is, women who had no spouse or common-law partner residing in the household and, in one case, a woman whose resident husband did not contribute to household income. Half of these women had a non-resident husband or common-law partner, however, and in some cases he contributed to household income. Another 20 percent of participants headed their households jointly with their spouses; both household heads contributed a similar share to household income. ³

Employment. The women of the WSHCP and members of their household were no exception to the pattern of high unemployment that is characteristic of low-income populations in Third World urban areas. One-third of the women reported that they had at least one unemployed adult living in their household. Eighteen percent reported having two or more unemployed adults residing with them. One-third of the women also reported that they themselves were not working at other jobs during the WSHCP construction period. Table 2 shows the reported work activities, during the project, of women heads of households and of women living in male- and jointly-headed households. Forty percent of women heads of households were not working during the project, but a full 47 percent were working for pay. Thirty percent of the other women were not working and only 36 percent were working for pay. Fewer women who were heads of households reported being housewives than did other women and the difference approached statistical significance. ($\chi^2 = 12.17$ df = 6; .10 > p > .05).

Income. Table 3 shows the distribution of household income during WSHCP construction for women heads and for other women in male and jointly-headed households.⁴ The majority of the participants had incomes of less than \$255 monthly and thus fall into the two lowest deciles of the Panama income distribution. Women heads were somewhat poorer than other women:

³ Although yet undocumented, joint headship is probably quite prevalent in low-income urban areas of Latin America.

⁴ This figure includes the \$80 monthly stipend.

TABLE 1

PARTICIPANTS' HOUSEHOLDS BY TYPE

TYPE ^{1/}	No.	%
Woman-Headed	27	45
Male-Headed	21	35
Jointly-Headed	12	20
TOTAL	60	100

^{1/} Head(s) of Household is (are) the resident(s) reported as contributing the largest share to household income.

TABLE 2

PARTICIPANTS' REPORTED WORK ACTIVITIES
BY TYPE OF HOUSEHOLD

WORK ACTIVITIES	TYPE OF HOUSEHOLD			
	MALE-AND JOINT HEADED		WOMAN-HEADED	
	No.	%	No.	
Not working	10	30	11	41
Community Workers	9	27	9	33
Housewives	7	21	3	12
Domestics	-	-	2	7
Laundresses	-	-	2	7
Construction workers	3	9	-	-
No response	4	12	-	-
TOTAL	33	100	27	100

the majority of women heads (63 percent) had incomes below \$134 per month while only 15 percent of other women reported such incomes (the difference is marginally significant; $\chi^2 = 6.2$, $df = 4$; $10 \geq p \geq 05$; one tailed test)

Education. All but three women interviewed reported having some primary schooling. In fact, 27 percent of the women had completed some primary education; 33 percent had completed primary school; and another 33 percent had some secondary schooling. (See Table 4). Only seven women heads of households had some secondary schooling and, overall, women heads had slightly lower levels of educational attainment than women in male-headed households or in jointly-headed households; this difference was not, however significant. ($\chi^2 = .78$ $df = 1$).

Age. The ages of the women participants ranged from 19 to 62 years old. Over 65 percent of the women, however, were less than 40 years old and over 88 percent were less than 50 years old. (See Table 5) The median age for the participants was 34 years. There was no significant difference in the age distribution of participants in jointly- or male-headed households, versus those in woman-headed households. ($\chi^2 = 1.45$ $df = 3$). Most women in the project, therefore, were in their prime childbearing years. Initially we had hoped to explore whether women with young children had found it difficult to participate in the project due to child care responsibilities. While it was not possible to interview those women who dropped out of the project, in order to see if child care problems were a major factor in their attrition, it was possible to check on the number of women with young children who remained in the project.

Children. As Table 6 indicates, slightly more than half of the women interviewed indicated that they had children under six years of age living with them. There were no significant differences in the numbers of children under six years old in woman-headed households versus male- or jointly-headed households ($\chi^2 = .50$ $df = 1$).

Coping with Household Responsibilities. How did the WSHCP women cope with eight or so hours of construction daily, other income-earning work,

TABLE 3

REPORTED HOUSEHOLD INCOME BY TYPE OF HOUSEHOLD

INCOME (\$)	ALL HOUSEHOLDS		MALE-AND JOINT-HEADED		WOMAN-HEADED	
	No.	%	No.	%	No.	%
0 - 134	22	31	5	15	17	63
135 - 255	28	42	19	57	9	33
256 - 365	7	14	6	19	1	4
366 - 475	2	5	2	6	0	0
476 - 600	1	4	1	3	0	0
601 +	1	4	1	4	0	0
TOTAL	60	100	33	100	27	100

TABLE 4

EDUCATION OF PARTICIPANTS

EDUCATION ATTAINED	ALL PARTICIPANTS		WOMEN-HEADS OF HOUSEHOLDS(WHH)	
	No.	%	No.	%
None	3	5	1	4
Some Primary	16	27	9	33
Completed Primary	20	33	9	33
Some Secondary	20	33	7	26
Completed Secondary	1	2	1	4
TOTAL	60	100	27	100

TABLE 5

AGE DISTRIBUTION OF PARTICIPANTS

AGE GROUP (YEARS)	ALL PARTICIPANTS		WOMEN-HEADS OF HOUSEHOLDS(WHH)	
	No.	Cum.%	No.	Cum. %
15-19	3	5.0	1	3.7
20-24	8	18.3	4	18.5
25-29	11	36.7	4	33.3
30-34	10	53.3	3	44.4
35-39	7	65.0	4	59.2
40-44	6	75.0	3	70.3
45-49	8	88.3	4	85.1
50-54	2	91.7	1	88.8
55-59	3	96.7	2	96.2
60-64	2	100.0	1	100.0
TOTAL	60		27	

TABLE 6

PRESENCE OF CHILDREN UNDER SIX YEARS OLD
IN ALL HOUSEHOLDS AND THOSE HEADED BY WOMEN

CHILDREN \leq 5 YEARS	ALL PARTICIPANTS		WOMEN-HEADS OF HOUSEHOLDS(WHH)	
	No.	%	No.	%
No Children	28	47	14	52
Children	32	53	13	48
	60	100	27	100

household chores, and child care responsibilities? Participants seem to have relied somewhat on other people to help them with household tasks during construction. Two-thirds of the participants reported having the help of another household member (see Table 7), while few participants reported having the help of non-resident relatives, friends, or other persons.

For most women, however, help was not very frequent, and seems to have been specific to certain household tasks. High proportions of the women never received help, from either children or spouse, with some household tasks. For example, no women reported having help with shopping. Only in child care, carrying water, and washing clothes did a substantial proportion of the women--18 to 33 percent--receive daily help, and this help was from children rather than spouses. (See Table 8).

If these responses are valid, most women must have had to sacrifice leisure time in order to work on the housing project. This may have been the case even for those who had their children's daily help if such help is usual and chores did not increase substantially during construction. Unfortunately, our survey yielded no information with which to test this assertion.

The Women's Experience. The women talked very positively of the training and the construction phase, and did not indicate any problems in working together. They felt that the training sessions and construction work fit into the normal routine of their day. They continued to rise at 4:30 a.m. to prepare food for the day; they left home at 6:00 a.m. and returned after 3:30 p.m., some to take up a job for a few hours, others to engage in informal trade. Saturdays were reserved for washing clothes, cleaning house and other household tasks.

The women claimed they lost no hours from entertainment because they had seldom experienced such activities. In fact, some said that the first time they enjoyed "entertainment" was during the construction job.

Child care was not considered problematic. It is, apparently, common practice for them to leave children over age 5 at home alone. The women

TABLE 7

HELP DURING CONSTRUCTION AS REPORTED BY PARTICIPANTS
(PERCENTAGES)

PERSONS WHO HELPED	%
Household Members	67
Relatives	18
Friends	3
Others	5

TABLE 8

**HELP IN HOUSEHOLD TASKS BY SOURCE OF HELP
CHILDREN (CH) AND SPOUSE (S)**

	CHILD CARE				COOKING				SHOPPING				CARRYING WATER				WASHING CLOTHES			
	CH		S		CH		S		CH		S		CH		S		CH		S	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Never	28	47	39	65	55	92	36	60	60	100	60	100	29	48	60	100	29	48	51	85
Sometimes	6	10	11	18	5	8	13	22	-	-	-	-	4	7	-	-	4	7	2	3
Regularly	1	2	2	3	-	-	6	5	-	-	-	-	-	-	-	-	5	8	-	-
Daily	20	33	3	5	-	-	3	3	-	-	-	-	11	18	-	-	14	24	-	-
No Answer	5	8	5	9	-	-	6	10	-	-	-	-	16	27	-	-	8	13	7	12
TOTAL	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100	60	100

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assured us that neighbors "look in" on their children at different times during the day. Girls are taught to cook at age 6 and heat prepared food for themselves and younger siblings in their mother's absence. In three cases a relative came to stay with the children during the construction period and one woman hired child care help at a cost of \$30 per month. A community child care center was available but not used.

A relatively high number of the women interviewed were "trabajadoras comunitarias" who continued to receive their regular salary (\$125) throughout the construction period since government employees can be reassigned to other projects, continue to receive their salaries, and preserve their positions. Through Romelia Pardo and Berta Torrijos, almost all the trabajadoras comunitarias in the project were able to secure this reassignment. The other women derived income from informal sources and it is inconceivable that their activities were not affected by the time spent on the project. However, they made no reference to any economic losses incurred. Some women, including trabajadoras comunitarias, engaged in "trade" when at home--an activity which apparently was not affected by the work schedule of the construction project. Two women continued to work full-time jobs in the evenings after returning from the construction site.

Of the women who began work on construction, only three dropped out during the course of the ten-month period--reportedly due to medical and financial problems, and, in one case, death of the participant.

Two women from outside Curundu were brought in as replacements. Both women were voted in by the group because of their participation in relief work in Curundu during a flood. The project participants did not appear to mind the inclusion of "outsiders."

Issues

At this point it may be worthwhile to specify some of the issues that have been raised by the WSHCP. First is the issue of whether or not the project has been worthwhile and, therefore, should be replicated. Section III of this report addresses this issue, discussing the costs and benefits

of the project. The effectiveness of the training provided through the project enters the benefit calculation in terms of its contribution to improving the income-generation potential of the participants.

Next, we must ask whether the project can be replicated. Section IV discusses this issue in terms of whether the leadership and sense of commitment among project participants exhibited in the project can be duplicated; whether there are viable cost recovery options for projects of this sort; and whether such projects can be replicated on a larger scale.

It is not, however, within the scope of this report to assess the likelihood of continued support for self-help housing projects in Panama. Rather USAID will have to further explore this question when, and if, support for self-help housing is considered.

III. Costs and Benefits of the Project

Has it made sense for the women of the WSHCP to construct their own houses, or would they have been better off purchasing already built low-income housing? This section of the report examines the costs and the benefits of the WSHCP both in absolute terms and relative to the low-income projects undertaken by the Ministry of Housing.

Project Costs

The total costs of the Women's Self-Help Construction Project consist of indirect costs--training--and direct costs--materials, land and infrastructure, labor and supervision, and interim financing. All costs have been estimated using, whenever possible, several sources or methods of estimation in order to improve reliability. In Table 9, three estimates are presented for each cost category--a high estimate, a low estimate, and a "most likely" estimate. The "most likely" estimates are used in calculations of the project's benefit-cost ratio. However, since the amount of stipends paid to the WSHCP participants is below the most likely opportunity cost of their labor, and the participants cannot be expected to repay more than they actually received for their labor, the recoverable cost of the WSHCP is assumed to be equal to the "most likely" estimate of total cost per unit, less supervision and the difference between actual stipends paid and the most likely imputed value of labor on the project. Supervision costs are not considered recoverable since they are borne through the taxes used to pay SENAFORP and MIVI staff salaries.

Costs of the WSHCP units may be compared to the actual costs of MIVI core unit projects and to the estimated costs of MIVI projects if built on the type of land and lot sizes similar to those used in the WSHCP.

Training Costs. Training costs were estimated from SENAFORP data on materials cost per participant and instructor salary information. The cost estimates range from \$100 to \$160 per unit. It is important to note, however, that these costs are borne to some extent by the salaried partici-

TABLE 9

COSTS PER UNIT (\$)

	WSHCP			MIVI (ACTUAL)	MIVI (ESTIMATE, REDUCED LOTS)
	LOW	HIGH	MOST LIKELY		
Surveying and Foundation	205	346	346	190	190
Floor	126	177	177	177	177
Walls	365	409	409	409	409
Roof	602	609	609	609	609
Doors	139	140	140	140	140
Plumbing & Fixtures	380	400	380	380	380
Wiring	110	120	110	110	110
Paint	25	70	25	25	25
<u>Total Materials</u>	1952	2271	2196	2040	2040
<u>Land and Infrastructure</u>	1560 ^a	2470 ^b	1950 ^c	3040 ^d	1950 ^c
<u>Supervision</u>	80	165	140 ^e	142	142 ^e
<u>Labor</u>	914	1197	1137.5	732	732
<u>Interim Financing</u>	350	500	420	290	290
<u>Total Cost</u>	4856	6603	5843.5	6244	5154
<u>Memorandum Item: Training</u>	100	160	120	N.A.	N.A.
<u>Recoverable Cost</u>	4776	6155	5480	6244	5154

a 130 m² serviced lot, \$ 12/m²

b 130 m² serviced lot, \$ 19/m²

c 130 m² serviced lot, \$ 15/m²

d 160 m² serviced lot, \$ 19/m²

e MIVI reports no supervision costs. This figure reflects profits per unit.

N.A. Not applicable

pants. Training costs in Panama are financed from a tax on salaries and profits of 1.5% and training is available as a government service. The training cost estimates, therefore, are noted as a memorandum item and are not included in the calculation of the total cost per unit.

Material Costs. The estimated costs of material, including foundation, ranges from \$1,952 to \$2,271 with a most likely estimate of \$2,196. These figures are 8% higher than the costs of equivalent MIVI units, even though the materials for the WSHCP were supplied by MIVI at cost. The higher cost of WSHCP materials seems to be attributable to a higher cost of foundation work in the project. Foundation work was the first construction task undertaken in the project and because the participants were inexperienced they took longer to complete the task than MIVI crews require. Thus, the heavy equipment used in foundation work was on the site, i.e., being rented, for longer than is usual in MIVI projects, boosting the materials cost to the WSHCP.

Land and Infrastructure Costs. Land and infrastructure costs have been estimated based on MIVI costs and adjusted for the smaller lots and quality of land used in the WSHCP.

Labor and Supervision Costs. Perhaps the estimate most difficult to make, from a methodological point of view, is that of labor costs. It was initially intended to value the labor of the participants in terms of the opportunity cost of their time, i.e., the amount of money that the women would have earned had they been engaged in their normal income-earning activities. This amount was to be measured by estimating the actual deviation in family income during construction from normal family income. Additionally, costs incurred as a result of a woman's work on the project rather than in household tasks--such as increased food costs because the household had to buy more already prepared foods--were to be factored into the estimates.

As it turns out, family incomes actually increased overall during the construction period because, as mentioned previously, a high proportion of project participants were "trabajadoras comunitarias" who retained their

\$125 monthly salaries throughout the project period. In addition, project participants received an \$80 monthly stipend from IFARHU. Finally, many women continued to carry out their normal work after the construction day, on weekends, or occasionally by doing their normal work in lieu of going to the construction site. Obviously, these women must have reduced the time they devoted to household tasks or leisure and the costs of this foregone time should be considered. Unfortunately, the responses to the survey questions dealing with such costs are few and appear to be somewhat unreliable. Labor costs, therefore, have been estimated as follows:

- low estimate: total amount of stipends that will have been paid by IFARHU upon completion of the entire 100-unit project, \$91,400 for a per unit cost of \$914.⁵
- high estimate: the total amount of IFARHU stipends plus 75% of the total salaries paid to the "trabajadoras comunitarias" which we regard as the upper limit of the value of their time allotted to construction work. This results in an average unit cost of \$1197 for both phases of the project.
- most likely: an estimate assuming a \$3.50 daily shadow price of unskilled labor calculated by MIVI,⁶ resulting in a unit cost of \$1137.50 (average for both phases of the project).

The best estimate of supervision costs, based upon the salaries of the supervision personnel provided by SENAFORP and MIVI is \$140 per unit. It is important to note that part of the supervisory task was training. In view of the abbreviated training given to the participants a portion of this could equally well have been included in training costs. In any event our

⁵ Since 80 of 83 participants accepted stipends to build only 50 units, and in the next phase of the project 17 new women will join and receive stipends, accuracy required that an average per unit cost of labor be calculated as follows: total stipends paid by IFARHU in the first phase of the project, plus stipends to be paid in the second phase (assuming only 6 months of support to the project since construction time is expected to be reduced in the second phase), divided by 100 units.

⁶ MIVI, "Seguimiento a los Proyectos Roberto Duran y Torrijos Carter". March, 1981.

view is that this cost should not be regarded as recoverable because, as with training costs, SENAFORP and MIVI salaries are financed through taxes which are already borne by the salaried project participants.

Interim Financing Costs. Interim financing is the cost of the use of capital during the construction period. Our estimates of this cost are calculated assuming a 12% interest rate for a full year on the total value of project land and infrastructure and on the average monthly amount of other costs.

Total Costs. The range of total costs of the WSHCP is from \$4856 to \$6603. The most likely estimate is \$5844, \$400 below the MIVI cost of \$6244 for its typical unit. Despite the fact that WSHCP material costs, labor, and interim financing expenses were higher than MIVI's, the total cost is lower, since the costs of land and infrastructure at the WSHCP site were substantially less due to the small area of the site and marginal quality of the land. The most reliable estimate of recoverable cost is \$5480. This is derived by reducing the total cost (which does not include training) by supervision costs as well as the difference between the imputed labor costs and the amount loaned to the participants by SENAFORP. (Note: It is expected that in phase two of the project costs will decline by about \$300 per unit due to a shortened construction period.)

Project Benefits

The benefits of the Women's Self-Help Construction Project may be seen from a variety of perspectives and points of view. Some are clearly economic, while others are more broadly socioeconomic. In this section the main benefits of the WSHCP are described and, whenever possible, estimates made of their economic value. We have analyzed the benefits both on the basis of what the participants told us were the main benefits as well as what micro- and macro-economic theory would suggest.

Direct benefits of the project include the housing built in the project; the value of the improved environment and services such as water, drainage, electricity; the training that project participants received; and

the benefits of the participatory experience itself, such as improved self-esteem, greater sense of community, etc.

Indirect benefits of the project include the potential contribution of the participants' construction skills to the repair and expansion of the houses of friends and to community building projects; transmission of skills to future project participants--the incoming group of 17 new participants for the second phase of the WSHCP will be trained by the first phase participants; and intergenerational effects--the skills transmission and environmental improvement will have a positive effect on succeeding generations.

Housing and Environment. The annual benefit (E) of WSHCP housing, along with improved environment and water, electricity, and other services is estimated as the annual payment required to amortize the estimated cost of 50 comparable MIVI units with reduced lot size (\$5154/unit) at a 12% rate of interest over 25 years--\$32,470.

Almost all project participants felt that housing and improved environment were the main benefits of the project. The WSHCP site, bordering the Torrijos-Carter project area, was thought to provide a healthier, safer and, in general, far better environment for children than Curundu where children would be exposed to criminal activities and would be encouraged or pressured to participate in such activities.

Training and Potential Effects on Income Generation. The SENAFORP training that the WSHCP participants received was not intended to result in construction sector employment and did not prepare women to be construction workers. It did, however, prepare the women to expand houses and core units; organize a construction cooperative; and/or work as independent contractors on small construction jobs.

The alleged agreement between construction unions and the government of Panama to exclude women from the construction industry does not, apparently, apply to small contractors or women in cooperatives.

The women of the WSHCP perceived the benefit of training principally in terms of the personal value of learning a skill. Because only the first phase of the project has been completed, the participants do not yet seem psychologically geared toward using their skills for employment other than to finish the second phase of the WSHCP.

When the women did think about income-generation activities and work opportunities many were interested in community-based enterprises and cooperative forms of production managed by and for the community. Those who specialized in plumbing and in carpentry showed the most interest in applying their skills to generate income in cooperatives or as independent contractors; women trained in masonry were less interested and found construction work tiring.

At the time of our interviews, none of the women had attempted to earn income with their construction skills. It is impossible, therefore, to value the training benefit with a high degree of reliability; ICRW hopes to return to Panama following completion of the project's second phase in order to better assess the impact of the construction training. In the meantime, given both the training of the participants and their current and expected on-site experience it seems reasonable, if not conservative, to assume a 10% increase in participants' average earnings as a training effect (T) equal to \$9000 per annum.

The Participatory Experience. A review of participant and institutional interviews indicates that significant processes that are unquantifiable have taken place amongst the participants in the WSHCP. We believe that these are "benefits" that have been generated and strengthened in large part by the participatory experience itself and which are of significance beyond the immediate construction effort.

Improved Self-Perception: The experience in mobilization and group action in demanding and obtaining the right and capability to actually build their own homes, has developed in the participants a sense of power, greater self-reliance, pride in themselves, and dignity. Once people

acquire these qualities they can more readily seek out opportunities for improved personal and economic welfare. The WSHCP experience may have generated a sense of control that will unleash the participants' ability and desire to direct their lives in new and meaningful directions. Certainly some evidence of this was given during in-depth interviews. Women repeatedly said that 'nobody believed we could build our homes and we showed them that we did...'; 'now that we have built our own house, there is so much else that we are going to be able to do'. Not one woman complained of the time spent and the energy expended in either the training or construction stage of the project; and several women reported a perceived improvement in health as a result of the project.

The IFARHU social worker shared these perceptions; in her words the project experience had "transformed" the women and succeeded in bringing out in them a sense of consciousness, social responsibility, self-reliance, and pride. Her characterization of the women's experience was shared by the SENAFORP on-site instructor who was most closely involved with the women during the construction phase.

Sense of Community/Solidarity: Additionally, the WSHCP may have fostered a sense of group solidarity. There are indications that the project participants have developed a consciousness of a larger whole whose welfare is every individual's concern. The women faced common problems as a group and found solutions collectively, leading to greater self-assurance and pride in the group. The strength of group feeling has been most tangibly demonstrated through:

- the participation of all the women in the building effort for the community, without knowing to whom the first houses would be assigned;
- the collective agreement, at the end of the first phase of the construction project, to assign the first 50 houses to those women who had worked the hardest and had serious family problems;

- the strong commitment expressed by some women, including those who had already been assigned housing, to complete the second phase of the project; and
- the expressed interest of the WSHCP participants in cooperatives and community-based enterprises.

How much of this consciousness can be attributed to the participatory aspect of the project and how much to the experience of the participants prior to the construction project is unknown. Most participants knew at least one other participant before the project, although only a few women identified themselves as having been members of a social/community organization before participating in the housing project. It may be that a "group feeling" was actually fostered in the Curundu district, prior to the project. In any event, the effects of the participatory experience cannot be quantified and should merely be kept in mind as a positive aspect of the WSHCP.

Indirect Benefits. The indirect benefits of the project have been estimated as follows:

- The potential contribution of construction skills in the community (C) is equal to \$6000 per year, based upon estimates developed in two 1981 studies of self-help housing.⁸ This benefit refers to the additional housing value that would result from future building and expansion of the housing units following the completion of the project and using the skills acquired during the project.
- The transmission of skills to future project participants (S) is equal to \$3000, the estimated cost saving due to the training of the new participants in the second phase of the project by the first phase participants. This is a first year benefit only.
- Intergenerational effects could not be quantified.

⁸ MIVI "Seguimiento a los Proyectos Roberto Duran y Torrijos-Carter", March 1981, pp. 47-49; "A Study of the Progressive Development of Three Low-Cost Housing Projects in Panama," AID, Office of Housing, Occasional Paper Series, Spring 1981, pp. 50-51.

TABLE 10

	WSHCP (50 Units)	MIVI (50 Units)	MIVI, Reduced lot size (50 units)
<u>Total Project Costs (\$)</u>			
Materials	109,800	102,000	102,000
Land & Infrastructure	97,500	152,000	97,500
Labor	56,875	36,600	36,600
Supervision	7,000	7,100	7,100
Financing	21,000	14,500	14,500
Total	292,175	312,200	257,700
<u>Total Annual Benefits (\$)</u>			
(E) Housing & Environment	32,470	39,243	32,470
(T) Training ^{a/}	9,000	-	-
Participatory Experience ^{b/}	+	-	-
(C) Contribution to Community Construction ^{c/}	6,000	-	-
(S) Transmission of Skills ^{d/}	3,000	-	-
Intergenerational Effects ^{b/}	+	-	-
(PV) Present Discounted Value of Benefits ^{d/}	374,990	307,787	254,566
Benefit/Cost Ratio ^{f/}	1.28	.99	.99
Internal Rate of Return	16%	11.75%	11.82%

^{a/} Based upon 10% increase in average participant annual earning.

^{b/} While it is likely that the value is positive, there is no basis for making quantitative evaluation of these items.

^{c/} Based upon survey of self-help activities in Torrijos-Carter.

^{d/} First year benefit only.

$$e/ \quad PV = \sum_{t=1}^{25} \frac{B_t}{(1+i)^t}$$

$$B = \text{Benefits} = \sum_{t=1}^{25} E_t + T_t + C_t + S_t$$

$i = 12\%$ per annum

$t =$ period in which benefit is received

^{f/} Benefit/Cost Ratio = $PV \div$ Total Project Costs.

Total Benefits. We calculate the present value of the WSHCP's benefit stream, PV, as follows:

$$PV = \sum_{t=1}^n \frac{B_t}{(1+i)^t}$$

where $B_t = \sum_{t=1}^n E_t + T_t + C_t + S_t$

$i = 12\%$

E = annual benefit of housing and environment

T = training effect

C = contribution of construction skills in the community

S = value of skills transmission to new participants

Benefit-Cost Ratio. According to our analysis, the total present value of benefits is \$374,990. This compares with project costs of \$292,175 yielding a ratio of benefits to costs of 1.28. (See Table 10). The internal rate of return which equalizes the cost and benefit streams is 16%.

How do these figures compare to the alternative of construction by MIVI with the women simply purchasing their houses? Total project costs would be \$312,200; annual benefits would be reduced to \$39,243, the value of the units amortized at 12% over 25 years, for a present value of \$307,787. The benefit-cost ratio would be .99 with an internal rate of return of 11.75%. Of course, MIVI units are more costly than WSHCP units because they are built on larger lots and higher quality of land. If we assume that MIVI would be willing to reduce lot size and quality, the costs of MIVI units could be reduced to \$5154 per unit.⁹ Total MIVI project costs would be \$257,700; total present value of benefits would be \$254,566. In this case the benefit-cost ratio is again .99 due to the reduced value of land and lot size. The internal rate of return is 11.82%, and WSHCP units again compare favorably.

⁹ Some recently built MIVI units have reduced lot sizes.

IV. Replicability

We come now to perhaps the most important concern of our study: the replicability of the WSHCP. It has been shown that the benefits of the first phase of the project outweigh the costs and that the internal rate of return for the WSHCP is higher than that of comparable MIVI housing developments. Clearly, then, the WSHCP is a "successful" project, not only from the point of view of its participants but also in terms of the economies of the project and, therefore, should be replicated. Given that the project should be replicated, we must ask if the project can be replicated. There would seem to be at least four requirements for replicability: political support and leadership; availability of land and resources such as construction materials, heavy equipment, credit, etc.; large-scale production while maintaining (or improving) the internal rate of return; and cost recovery.

Political Support and Leadership

Given the nature of the WSHCP, its development--at least initially--through the use of political influence, its roots in the "Mujeres Torrijistas" and the strong leadership of Romelia Pardo, we must conclude that the project was to a major degree motivated by the fortuitous intersection of a unique set of social conditions with a political movement. Replication of the project, then, may require duplication of the leadership and political/public sponsorship given the WSHCP. As mentioned earlier, there are indications that political support for the WSHCP may be on the wane. It remains to be seen whether this diminished sponsorship will apply to the WSHCP only, because of its association with Berta Torrijos, or to self-help housing projects in general. In the latter instance, replication of the WSHCP will be difficult if not impossible.

Availability of Land and other Resources

The availability of low-cost land, financial support in the form of stipends, transportation services, and materials supplied on credit and at cost to the WSHCP certainly was crucial to the success of the project. With

the rising costs not only of urban land, but also of suburban land, and competing, urgent demands on government and financial resources in Panama and in most Third World countries, it will be increasingly difficult to maintain the availability of these critical resources in order to replicate the WSHCP. This constraint to replicability is not unique, of course, to the WSHCP or indeed to any one project. Allocation of resources to any project or sector implies a denial of resources elsewhere. Our study indicates that self-help housing in Panama compares favorably to government low-cost housing schemes, with a given amount of resources devoted to the housing sector. Whether self-help housing projects, however, should take precedence, in the competition for resources, over industrial development projects, education projects, nutrition programs, etc., will depend on the importance attached by society to the various sectors. In the final analysis, therefore, replicability of self-help projects will require a good deal of political will.

Large-Scale Production

Panama's housing deficit is large; recent data prepared by the Ministry of Housing shows a deficit of 185,000 units for the entire country including 80,000 in the urban areas. To what extent could self-help housing projects such as the WSHCP be replicated on the large scale required to reduce, even partially, that deficit? Unfortunately we cannot answer this question based on the study of one not-yet-complete project. On the other hand, we can suggest that one major requirement for replicating the WSHCP on a larger scale, while maintaining a benefit/cost ratio and internal rate of return higher than those of MIVI, would be the duplication of the group feeling and community bonds evident during WSHCP participants. It is our impression that these feelings of solidarity and commitment were beneficial to the project in that they inspired the participants to work hard and consistently on the construction.

It appears that the participants' group feeling began to develop at the time that they attended the SENAFORP training program and was solidified during the ten-month housing construction period. The participants' feeling

that they were building houses for their community and not just for themselves seems to have been a significant factor in the strengthening of bonds within the group. In-depth interviews revealed that most participants had known another member of the group before the initiation of the project. However, very few identified themselves as belonging to a social or community organization prior to the housing project.

Interestingly, group activities seem to have been restricted to the training and construction sites. Women shared transportation to the construction site, and engaged in communal cooking there. However, in none of our talks with the women were there any indications that there existed arrangements for mutual help in other spheres of the women's lives, such as child care or income-earning activities. This may bode well for replicability insofar as it indicates group bonds may be developed fairly easily on a project site; project developers need not worry that non-project group activities must take place in order to ensure a sense of group responsibility for project activities.

Cost Recovery

The concept of cost recovery is based on the principle that funds expended by agencies in undertaking a project should be repaid or recovered so that these funds can then be recycled to other, similar projects or used to expand an entire development program. That is, given limited development funds, cost recovery is a necessary, though not sufficient, condition for project replicability on a meaningful scale.

In typical housing projects, houses are built and then sold to those who can afford them. Affordability is sometimes enhanced through the use of "cross-subsidy" schemes whereby 'profits' derived from the sale of higher-cost housing are used to reduce the price of the basic housing units intended for low-income families. Mortgages are used to recover direct project costs; taxes recover many indirect project costs.

In the case of the WSHCP, the circumstances are atypical. No consideration, prior to the project, was given to the income levels of the women who participated in building their houses. Now we must ask whether these

women can afford to pay for their houses: can cost recovery be accomplished in the WSHCP?

The indirect costs of the WSHCP--training and supervision by SENAFORP-- will be recovered through the Panamanian tax on profits and earnings. While there are several different methods of recovering direct costs of the project, all are variants of the mortgage mechanism. The ideal method will be one that does not impose high administrative burdens or risks while maximizing the number of project participants who can afford to buy their houses. Maximum affordability is, of course, key to the success of cost recovery.

Table 11 shows the monthly income range and the range of affordable monthly housing payments for the first six deciles of the income distribution in Panama. We calculate affordability on the assumption that families can devote 25% of income to housing, except for the poorest decile who can afford no more than 10% of their income. The figures in Table 11 reflect that assumption.

Table 12 shows the percentage of WSHCP participants in each income decile along with, again, the average affordable monthly housing payment for the decile. It is immediately apparent from the table that nearly one-third of WSHCP participants are quite deprived, falling into the lowest income decile; another 42% of participants are in the second income decile; and a full 96% of project participants have incomes lower than those of 50% of the population of Panama. If the WSHCP participants are to afford their housing, some of the more "creative" cost recovery options discussed below will have to be employed.¹⁰

Standard Payment Option. The standard mortgage currently used by MIVI involves a 12% interest rate and 25-year term mortgage. Given these terms, the required monthly payment for amortizing a loan of \$5480, the "most likely" recoverable cost of WSHCP units, is \$57.54 (excluding insurance.) (See Table 13.) Under the traditional payment structure, therefore, only about 36% of the WSHCP participants would have the minimum monthly income required--\$230--to meet the monthly payment; only women from households with incomes in approximately the 19th percentile and above could

¹⁰ A study by MIVI in 1981 calculated that a payment of \$50 a month or more would be beyond the capacity of 70% of Panama's population (Nuevo Tivoli, "Análisis Socio-Económico Proyectoado al Programa de Renovación Urbana." MIVI. October 1981, p. 33.)

TABLE 11

PANAMA INCOME DISTRIBUTION AND
AFFORDABLE HOUSING PAYMENTS

<u>% OF POPULATION</u>	<u>INCOME RANGE (\$)</u>	<u>AFFORDABLE MONTHLY HOUSING PAYMENTS(\$)</u>
0 - 10	10 - 134	2 - 13
11 - 20	135 - 255	34 - 63
21 - 30	256 - 365	64 - 91
31 - 40	366 - 475	92 - 118
41 - 50	476 - 600	119 - 150
51 +	601 +	150 +

TABLE 12

WSHCP PARTICIPANTS' INCOME DISTRIBUTION AND AFFORDABLE HOUSING PAYMENTS

MONTHLY INCOME (\$)	% OF WSHCP PARTICIPANTS	PERCENTILE OF PANAMA INCOME DISTRIBUTION	MINIMUM AFFORDABLE HOUSING PAYMENT (\$)	
10 - 87	21.5	0 - 7	3	
88 - 121	6.25	8 - 9	22	average income
122 - 127	1.07 }	10	31	= \$ 72, housing
128 - 134	2.18 }		32	payment = \$18
135 - 183	17.2	11 - 14	34	
184 - 194	4.6	15	46	average income
195 - 224	11.45	16 - 18	49	= \$195, housing
225 - 255	8.75	19 - 20	56	payment = \$42
256 - 365	14	21 - 30	64	
366 - 475	5	31 - 40	92	
476 - 600	4	41 - 50	119	
601 +	4	51 +	150 +	
	<hr/> 100			

TABLE 13

STRATEGIES FOR COST RECOVERY IN THE WSHCP

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COST RECOVERY OPTIONS:	STANDARD REPAYMENT	REDUCED INTEREST RATE	REVOLVING FUND/ DEFERRED REPAYMENT	SERVICED LOT	COMMUNITY PAYMENT	NEGATIVE AMORTIZATION
Amount to be Amortized (\$)	5480/unit	5480/unit	(a) 914/unit (b) 4566/unit	2050/unit	548,000/100 units	5480/unit
Interest Rate	12%	9%	12%	12%	12%	actual: 12% base of payments variable, begins a
Term (Years)	25	25	(a) years 1-3 (b) years 4-22	25	25	Variable
Monthly Payment	\$57.54	\$45.48	(a) \$30.34 (b) \$48.85	\$ 21.52	\$4361 individual \$1393 community \$5754 total	\$ 31.78 initially
Percent of WSHCP participants included ^{2/}	36	52	72	79	100	71
Grant element	None	\$1145/unit	(a) support of revolving fund for 3 years ^{1/} (b) grace period years 1-3	None	technical assistance with community enterprises	None

^{1/} Present value of grant = \$ 186,092. Note however that 100 units per year may be financed by the fund indefinitely. (See Table 14).

^{2/} Normal incomes of participants, i.e., excluding \$80 monthly IFARHU subsidy.

afford ownership.

Reduced Interest Rate Option. If the interest rate charges were to be reduced to 9% the situation would improve appreciably. In this case the monthly payment required would fall to \$45.48, allowing 52% of the participants (those in the 15th percentile and above) to own their homes. Nevertheless, 48% of the sample of project participants who need and want housing, and were willing to work to obtain it, would still be excluded.

Of course, a 9% interest rate would be well below the market interest rate; the present value of the subsidy required to reduce the rate to such a low level would be \$1145 per unit and thus would impair the wide-scale replicability of the project.

Revolving Loan Fund/Deferred Repayment Option. Another option for cost recovery would involve dividing the unit cost of WSHCP housing into two portions: \$914 in direct labor costs (stipends) and \$4566 in materials, land and capital costs. The \$914 would be handled as a revolving loan to be repaid at 12% over the first three years of a 25 year term; a three-year grace period would apply to the remainder of the total principal which would be repaid at 12% in years 4 through 25. This means that \$914 must be amortized over 3 years and \$4566 must be amortized over 22 years. The resulting required monthly payments at a 12% rate of interest are \$30.34 per month during years 1 to 3, rising to \$48.85 per month during years 4 to 25.

What are the advantages of this approach? First, the revolving loan concept may help provide continuity in the self-help construction process. As one group of participants complete their homes their repayments will begin to be available to fund a subsequent group of constructors. The details of the capitalization required for such a revolving loan fund, assuming fixed costs of bad debt and operation, are noted in Table 14. The fund would be self-supporting after three years.

Second, the deferred repayment aspect permits a wider range of participants to pay their housing costs during the first three years of the mortgage term. During this period, methods of raising household income

TABLE 14

REVOLVING LOAN FUND FOR LABOR (STIPEND) COSTS
OF 100 HOUSING UNITS PER YEAR (IN 1982 DOLLARS)

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Funds loaned for stipends (100 units/year)	\$ 91,400	\$ 91,400	\$ 91,400	\$ 91,400	\$ 91,400
Bad debt and Operating Costs <u>a/</u>	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000
Stipend repayments this period	-	\$ 36,408	\$ 72,816	\$109,224	\$109,224
Stipend repayments Net of funds loaned, bad debt, and operating costs	- \$106,400	- \$ 69,992	- \$ 33,584	+ \$2824	
Capital required this period <u>b/</u>	\$106,400	\$ 69,992	\$ 33,584	0	0
Fund Balance	0	0	0	\$2824	\$5648 <u>c/</u>

a/ These costs are here assumed to be fixed. The funds' cash flow will of course change if that assumption does not hold.

b/ Present value of capital required for the fund in years 1 through 3 = \$ 186,092. (Discount rate= 12% p.a.)

c/ Fund balance continues to increase by \$ 2834 per annum.

can be developed; for example, a number of the WSHCP participants mentioned that they would like to form construction and repair cooperatives while a few hoped to open "bodegas" and bakeries to earn income. A three year period of low monthly payments would provide a watershed period during which the participants might build their incomes to the point where they could afford the higher payments required in later years of the repayment schedule. Under this method of cost recovery 72% of our WSHCP sample could afford housing, compared to 36% under the standard repayment option.

Nevertheless, there is a risk associated with this approach: the incomes of some participants may not grow sufficiently to enable them to afford the 60% increase in the required monthly payments after the third year of the repayment term. These participants may then have to default on their mortgages.

Serviced Lot Option. Permitting low-income participants to build not a house but a serviced lot could reduce the cost of housing from \$5480 to \$2050. Low-income participants, however, would be given possession of a serviced foundation in lieu of a 25.2 m² core unit. Under this option approximately 79% of the WSHCP participants could afford "housing" at a minimum monthly cost of \$21.52. This option would reach those in the 8th percentile of the income distribution and above. However it is not clear whether low-income women would readily participate in building the higher cost units for others when they themselves will receive only serviced lots. That is an empirical question requiring further exploration.

Community Payment Option. A cost recovery option that would include all project participants, inspired in part by our observations of the spirit of sharing and communal responsibility shown by the participants of the WSHCP, involves an income-pooling arrangement. If we aggregate the cost of the project units--100 units upon completion--the monthly payment for the entire project, amortized over 25 years at a 12% interest rate, is \$5754. This amount could be paid through both individual payments and a group payment. Individual payments would be made out of each participant's household income according to an affordability criterion, e.g., 25% of

household income up to a \$65 maximum. Individual affordable payments would generate approximately \$4361 leaving \$1393 to be earned each month by community-owned enterprises, or \$16,716 annually.

The drawback to this option is the large amount of money that would have to be generated each year through community enterprises. This raises an interesting possibility for involving AID's IIPUP Program to assist WSHCP participants in developing community enterprises that could generate the annual payment required.

Negative Amortization Option. Under the negative amortization option a 12% market rate of interest would be applied to loan balances. Payments, however, would initially be calculated on the basis of 5% interest rate, allowing the inclusion in the project of low-income households. Monthly payments would initially be \$31.78. The rate of interest used to calculate payments would be adjusted upward each year (increasing by perhaps 1% annually) until reaching the 12% market rate.

Meanwhile, the difference between actual payments and money owed on the basis of a 12% interest rate would be added to the outstanding loan balance. The term of the loan extends until repayment is achieved. This method is designed to work best for those who can expect their incomes to grow over time, allowing them either to make larger than required monthly payments and thus more rapidly reduce the outstanding loan balance, or to refinance their houses once they can afford a more standard mortgage repayment schedule.

With this method 71% of WSHCP participants could afford their houses. A cautionary note: this option should be used only by those whose incomes will rise high enough to enable them to make the annually increasing required payments. Moreover, it must be recognized that if the borrower does not sell, refinance or, at some point, begin making larger than required payments, the term of the loan could extend over very long periods of time.

V. Conclusions and Recommendations

The Women's Self-Help Construction Project is an ambitious undertaking and one which covers difficult terrain. Not only does the project introduce women into construction activities--an area of work until now the virtual preserve of men--it also involves them in the controversial area of the self-help approach to housing solutions. The project raises questions about the potential impact of skills training on future income generation, the potentially positive effect of the entire experience on women's lives, and the chances for project replicability including the issue of cost recovery for the most impoverished segment of the Panamanian population. Indeed the project highlights some of the more difficult issues, in both theory and practice, regarding women's economic roles and the entire concept of self-help housing.

What can we conclude from our study of the project? First, and foremost, the WSHCP has demonstrated that such projects are worthwhile investments. The project has produced a stream of tangible and intangible benefits, providing, in its first phase, 50 families with homes, upgrading their environment, providing participants with new skills, and generating self-esteem and community bonds. It is also likely to impact the development of succeeding generations. The project's costs, on the other hand, were not significantly greater than those of similar projects carried out by the Ministry of Housing (MIVI).

The training provided through the project proved useful on the construction site and enabled the women of the project to build and finish their houses under the excellent supervision which they received from SENAFORP. While estimates of the future economic value of training in construction skills cannot be made until the project is completed and the participants resume or augment their income-earning activities, it appears that training for women in non-traditional skills is warranted in terms of improved community initiative and political returns.¹¹

¹¹ Nevertheless, it would be worth inquiring in a follow-up study whether the provision of training in construction is indeed the best use of SENAFORP's resources to achieve the goal of providing housing for low-income women.

There are indications that replicability of the project may hinge on the ability to duplicate the extraordinary leadership characteristics of Romelia Pardo, and the staff of SENAFORP. Yet it is also true, as our data shows, that the women who participated in the project were typical in many respects; their backgrounds and experiences were not extraordinary.

Another factor in replicability will be the availability of land for such projects, and government/social services such as child care and transportation. The provision of transportation to the work site seems to have been an important factor in the low rates of absenteeism in the WSHCP, and while women of the project did not use the child care facility provided this may have been due to their unfamiliarity with the facility, and its location which was not on-site. Aside from such services, replicability will of course require the political will of the government.

As for the difficult issue of cost recovery, our analysis shows that if conventional pay-back systems are employed on this project and other similar projects, families with incomes below the 19th percentile or those with a monthly family income below \$230 in 1982 prices would be excluded. That would imply that fully 64% of the WSHCP participants and women like them, whose families desperately need housing, would be excluded. The alternative of providing these low-income families with a serviced lot would provide a partial solution, but one that is not entirely satisfactory because some women would have to work to build superior housing for their neighbors while receiving only a foundation for their own families. This might undermine the community spirit which appears to have sustained the commitment of the women and ensured the success of the project. In a choice between serviced lots for the lowest decile or no housing at all, serviced lots would of course be the preferred solution. Alternatively, however, more "creative" methods of low-cost housing finance could be considered. Some of these strategies and options have been outlined in our section on cost recovery. Several of the more promising cost-recovery options discussed rely for their success on improvements in individual and community incomes. Focussing on these options, by developing income-earning

projects within the community, could build upon the community bonds and development potential which were an integral part of the WSHCP. Unfortunately, given a market interest rate of 12 , no option other than community payment can provide full cost recovery from households in the lowest income decile, assuming that households can pay only 25% of monthly incomes toward housing. Several options require grant elements even to reach above the lowest decile. On the other hand, it is likely that low-income participants are accustomed to paying more than one quarter of their income for rental housing, and would be willing to pay at least as much to own housing, thus increasing the affordability of the project.

Based on our preliminary findings, which indicate the promising nature of the WSHCP, it would seem advisable for AID to explore mechanisms for supporting self-help housing projects similar to the WSHCP. Certainly an effective first step in such an effort would be to continue to monitor the progress of the project as it moves into its second phase and reaches completion. Further, AID could consider the use of "creative financing" options for cost recovery in such projects, and work on a pilot basis with self-help housing participants (particularly the women of the WSHCP) to develop financially viable community-based enterprises--not only to improve incomes and therefore affordability, but also to enable the skills, discipline, and productive orientation developed in the project to be directed and to flourish in the future.

APPENDIX

Numero de Encuesta _____

Nombre del encuestador: _____

Nombre de la encuestada: _____

Dirección de la encuestada: _____

Fecha de la encuesta: _____

Comentarios: _____

Para Uso De La Oficina:

Nombre del revisor: RG/NY

Nombre de la encuestada _____

PREGUNTAS QUE SE REFIEREN A LA COMPOSICION DEL GRUPO DOMESTICO

1. ¿Cuántas personas estaban viviendo en su casa durante su participación en el proyecto de construcción? 4

2. (ENCUESTADOR: LLENE EL SIGUIENTE CUADRO CON LA INFORMACION PARA CADA UNO DE LOS INDIVIDUOS QUE FORMABAN PARTE DEL GRUPO DOMESTICO DE LA ENCUESTADA DURANTE LA MAYOR PARTE DEL PERIODO DE CONSTRUCCION. SI LA ENCUESTADA NO SABE LA EDAD EXACTA O CUANTO EDUCACION CADA PERSONA TIENE, PIDALE QUE LE DE UNA APROXIMACION. SI LA ENCUESTADA NO PUEDE DAR UNA RESPUESTA, ESCRIBA NS (NO SABE) EN EL ESPACIO CORRESPONDIENTE.)

CUADRO DE COMPOSICION DEL GRUPO DOMESTICO

<u>NOMBRE</u>	<u>RELACION CON ENCUESTADA</u> (hijo, hija, conyuge, primo, etc.)	<u>SEXO</u> (Indique con M o F)	<u>EDAD</u> (años cumplidos)	<u>¿CONTRIBUYE AL INGRESO FAMILIAR?</u> (Marque S o N)	<u>EDUCACION</u> (Indique letra correspondiente) a=alguna primaria b=primaria completa c=alguna secundaria d=secundaria completa e=más de secundaria f=ninguna	<u>¿Se mudó Ud. a la Ciudad de Panamá en los últimos 5 años?</u> (Solamente para la encuestada) (Marque S o N)
ENCUESTADA		F	24	S	b	N
	hija	F	9	N	a	[REDACTED]
	hija	F	7	N	a	
	hija	F	4	N	f	

25

(ENCUESTADOR: MARQUE ESPACIO APROPIADO)

3. ¿Tiene Ud. un companero (esposo o marido) que vive en otro lado?

Si No

4. ¿El contribuye dinero en efectivo al ingreso familiar?

Si No

5. ¿ Cual es la ocupacion de su marido?

6. ¿ Cual es su ocupación? Tipo de Actividad?

Trabajo manual (financiero)

7. ¿ Actualmente, de que trabaja su marido?

8. Y Ud. ¿ de que trabaja actualmente?

9. ¿ Cual fué el trabajo anterior de su marido?

10. ¿ Cual fué su trabajo anterior?

Plataforma de cemento

PREGUNTAS QUE SE REFIEREN AL PERIODO ANTES DEL INCENDIO

11. ¿ Cuantas personas vivian en su casa antes de que ocurriera el incendio en Curundú? 4

12. ¿ Tenia Ud. trabajo cuando ocurrio el incendio?

Si No

13. Si la respuesta es afirmativa, ¿de que estaba trabajando?

Plan de Emergencia

(ENCUESTADOR: ESCRIBA LAS CANTIDADES APROXIMADAS EN LOS ESPACIOS CORRESPONDIENTES. MARQUE CLARAMENTE PARA CADA OPCION SI MENSUAL O SEMANAL. SI LA ENCUESTADA NO RESPONDE O NO SABE, ESCRIBA NS (NO SABE) EN EL ESPACIO CORRESPONDIENTE.)

14. Antes del incendio, ¿cuanto era el ingreso mensual o semanal de su familia?

B/. 15 de su propio trabajo (mensual o semanal);

B/. - del trabajo de su esposo e hijos (mensual o semanal);

B/. de su negocio (mensual o semanal);

B/. de otras fuentes (mensual o semanal).

15. Durante el año anterior al incendio, ¿cuánto fue el ingreso familiar más alto que obtuvieron, ya sea mensual o semanal?

B/. 100 - (mensual o semanal).

16. ¿Cuanto fue el ingreso familiar mas bajo B/ (mensual o semanal).

(ENCUESTADOR: EL VALOR DEL NEGOCIO DEBE SER EL VALOR ACTUAL, NO EL COSTO PAGADO POR EL NEGOCIO NI LA CANTIDAD INVERTIDA EN EL NEGOCIO ORIGINALMENTE.)

17. Antes del incendio, ¿era Ud. o su familia propietaria de:

Terreno No Si Cuántos Metros?

Carro No Si

Negocio No Si Valor

18. ¿Tenía Ud. algún ahorro antes del incendio?

No Si Cuánto B/. _____

(ENCUESTADOR: INDIQUE TODAS LAS RESPUESTAS QUE SE APLIQUEN EN LAS SIGUIENTES PREGUNTAS.)

19. Antes del incendio, ¿Ud. era miembro de cualquiera de las siguientes organizaciones:

organizacion comunitaria

No Si

organizacion de mujeres

No Si

cooperativa

No Si

grupo religioso

No Si

otro tipo de organizacion
de auto ayuda

No Si

20. Antes del incendio, ¿Ud. había colaborado con otras participantes en cualquiera de los siguientes

algun negocio

No Si

en prestamos de viveres,
servicios o dinero

No Si

en una organizacion femenina

No Si

en otros proyectos

No Si

21. ¿ Como arreglo su horario diario para poder dedicarle tiempo al proyecto de construccion?

- horas menos de sueño por dia
- horas menos dedicadas a descansar y divertirse
- horas menos en cuidado de ninos
- horas menos en preparacion de comidas
- horas menos en trabajo pagado
- horas menos en otras actividades, como actividades religiosas o de la comunidad, visitas a familiares y amigos, etc.
- horas menos en acarrear agua, comprar viveres, lavar, etc.

Total 6 hrs

(ENCUESTADOR: MARQUE UNA OPCION PARA CADA CATEGORIA.)

22. ¿ Recibio Ud. ayuda de algun miembro de su casa en la construccion en si?

0 = nunca; 1 = a veces; 2 = regularmente; 3 = diariamente

- su marido (0) (1) ___ (2) ___ (3) ___
- sus hijos (0) (1) ___ (2) ___ (3) ___
- otros niños (0) (1) ___ (2) ___ (3) ___
- otros adultos (0) (1) ___ (2) ___ (3) ___

23. Cuando Ud. estaba ocupada con el trabajo de la construccion, ¿recibio alguna ayuda de otras personas para

0 = nunca; 1 = a veces; 2 = regularmente; 3 = diariamente.

- el cuidado de sus ninos (0) ___ (1) (2) ___ (3) ___
- cocinar y preparar comidas (0) (1) ___ (2) ___ (3) ___
- hacer las compras diarias (0) (1) ___ (2) ___ (3) ___
- acarrear agua (0) (1) ___ (2) ___ (3) ___
- lavar la ropa (0) (1) ___ (2) ___ (3) ___
- en forma de dinero (0) (1) ___ (2) ___ (3) ___

(ENCUESTADOR: MARQUE SOLO UNA RESPUESTA.)

24. ¿ Quiénes fueron los que le ayudaron más a Ud.?

- miembros de su propia casa _____
- parientes _____
- amistades _____
- otro _____ (indique quién)

(ENCUESTADOR: MARQUE UNA OPCION PARA CADA CATEGORIA.)

25. ¿ Su esposo le ayudó con cualquiera de las siguientes tareas?

0=nunca; 1=a veces; 2=regularmente; 3=diariamente.

- | | |
|----------------------------|---|
| construcción | (0) <input checked="" type="checkbox"/> (1) _____ (2) _____ (3) _____ |
| cuidado de niños | (0) <input checked="" type="checkbox"/> (1) _____ (2) _____ (3) _____ |
| cocinar y preparar comidas | (0) <input checked="" type="checkbox"/> (1) _____ (2) _____ (3) _____ |
| hacer las compras | (0) <input checked="" type="checkbox"/> (1) _____ (2) _____ (3) _____ |
| acarrear agua | (0) <input checked="" type="checkbox"/> (1) _____ (2) _____ (3) _____ |
| lavar la ropa | (0) <input checked="" type="checkbox"/> (1) _____ (2) _____ (3) _____ |

26. ¿ Sus hijos le ayudaron con cualquiera de las siguientes tareas?

0 = nunca; 1 = a veces; 2 = regularmente; 3 = diariamente.

- | | |
|----------------------------|---|
| construccion | (0) <input checked="" type="checkbox"/> (1) _____ (2) _____ (3) _____ |
| cuidado de los otros niños | (0) _____ (1) <input checked="" type="checkbox"/> (2) _____ (3) _____ |
| cocinar y preparar comidas | (0) <input checked="" type="checkbox"/> (1) _____ (2) _____ (3) _____ |
| hacer las compras | (0) _____ (1) <input checked="" type="checkbox"/> (2) _____ (3) _____ |
| acarrear agua | (0) <input checked="" type="checkbox"/> (1) _____ (2) _____ (3) _____ |
| lavar la ropa | (0) <input checked="" type="checkbox"/> (1) _____ (2) _____ (3) _____ |

27. Si sus hijos le ayudaron, ¿tuvieron que dejar de ir a la escuela para

(ENCUESTADOR: ESCRIBA LAS CANTIDADES APROXIMADAS EN LOS ESPACIOS CORRESPONDIENTES. MARQUE CLARAMENTE PARA CADA OPCION SI MENSUAL O SEMANAL. SI LA ENCUESTADA NO RESPONDE O NO SABE, ESCRIBA NS EN ESPACIO CORRESPONDIENTE.)

28. Durante la construcción en sí, como cuánto ingreso recibió su familia de las siguientes fuentes:

B/. 15 de su propio trabajo (mensual o semanal) *Quince*

B/. _____ del trabajo de su marido e hijos (mensual o semanal)

B/. _____ de su negocio (mensual o semanal)

B/. _____ de otras fuentes (mensual o semanal)

29. ¿Pidió dinero prestado durante el período de construcción?

No

Si _____

(ENCUESTADOR: SI RESPONDIÓ QUE SÍ, PIDALE QUE INDIQUE DE DONDE RECIBIO DINERO Y CUANTO; SI PRESTO DE MAS DE UNA FUENTE, LLENE TODOS LOS ESPACIOS CORRESPONDIENTES. ASEGURESE DE INDICAR LA UNIDAD DE TIEMPO: DIA, SEMANA O MES.)

30. Si respondió que sí,
de familiares o amigos: B/. _____ prestadas

de prestamistas, bancos, casas de préstamos, etc.:

B/. _____ prestadas; B/. _____ a ser pagadas _____ (días, semanas, meses) después.

B/. _____ prestadas; B/. _____ a ser pagadas _____ (días, semanas, meses) después.



31. ¿ Participó Ud. en un _____ (grupo de ahorro y préstamo)?
Si _ No

(ENCUESTADOR: INDIQUE GASTOS SEMANALES.)

32. Durante su participación en el proyecto, tuvo Ud. gastos relacionados al trabajo de construcción que normalmente Ud. no tiene que hacer?

B/ _____ para el cuidado de sus niños (semanal)

B/ _____ para lavandería (semanal)

B/ 5.00 para comprar comidas ya preparadas, incluyendo comidas en restaurantes (semanal)

B/ 1.20 para transporte (semanal)

B/ _____ para otros gastos como agua potable, ropa especial o uniformes para el trabajo (semanal)

(ENCUESTADOR: MARQUE ESPACIO APROPIADO)

33. Usted era:

pariente _____

amiga _____

conocida

de sus compañeras de trabajo antes del principio del proyecto.

34. Para poder participar en el proyecto, tuvo Ud. que

- mandar a sus hijos a vivir en casas de otras personas Si No _____

- traer a otra persona que regularmente no vive con Ud. a su casa que le ayudara con las tareas domésticas Si _____ No

PREGUNTAS QUE SE REFIEREN A LA CAPACITACION

(ENCUESTADOR: MARQUE SOLO UNA RESPUESTA)

35. ¿ La capacitación que Ud. recibió fue útil en la construcción de las casas del proyecto? Escoja uno:

no podría haber construido casas sin la capacitación

la capacitación fue muy útil

la capacitación fue mediamente útil

la capacitación no fue útil

36. Desde que recibí el adiestramiento, he buscado un trabajo en construcción?

Si

No

Por qué no?

tienen que tener el proyecto

(ENCUESTADOR: MARQUE SOLO UNA RESPUESTA)

37. Si respondió que sí ha buscado trabajo, que tipo de trabajo?

escoja uno:

empezó su propio negocio de contratista

sub-contratos con empresas de construcción

otro tipo; especifique el tipo _____

38. ¿ Ha logrado obtener trabajo en construcción desde que recibió el adiestramiento?

No

Si

39. ¿ La capacitación que usted recibió le fue útil para obtener trabajo?

No

Si

40. ¿Qué problemas mayores tuvo Ud. durante su participación en el proyecto?

- de dinero No Si
- de transporte (gastos y/o tiempo necesario) No Si
- con el cuidado de niños No Si
- actitudes negativas o falta de apoyo:
 - de su marido No Si
 - de su familia No Si
 - de amistades No Si
- de salud (especifique) No Si
- otros problemas, especifique _____

41. ¿Qué beneficios le trajo el proyecto a Ud. ?

su casa

el adiestramiento

42. ¿Fue alguno de los siguientes de beneficio a Ud.?

- mejores perspectivas de trabajo Si No
- nuevas actividades o servicios comunales Si No
- dominio de técnicas de albañilería o construcción Si No
- más cooperación en su hogar Si No
- cambios en actitudes en su hogar Si No

43. Ahora que se mude a esta nueva comunidad piensa usted que tendrá más gastos que antes?

No

Sí

Por qué?

transporte casa
agua

44. Ha pensado Ud. en obtener un ingreso adicional de alguna otra manera?

trabajando

45. Qué clase de trabajo le gustaría a Ud. hacer?

trabaja en un negocio
mensajero

46. Ha pensado en trabajar junto con otros participantes en este programa?

Sí (especifique)

No

47. Tiene Ud. el adiestramiento necesario para este tipo de trabajo?

Sí

No

48. Que tipo de adiestramiento necesitará Ud. para poder trabajar en este tipo de actividad?

Adiestramiento en el uso de herramientas

49. Qué otros recursos o habilidades necesitará Ud. para poder lograr este tipo de trabajo?

tiempo
