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December 21, 1978

Ms. Margery Sorock
Office of Housing
Agency for International Development
Department of State
Washington, D.C. 20523

Dear Ms. Sorock:

We are pleased to submit herewith three copies of our evaluation of the Nuevo Chorrillo Cooperative in English and three copies in Spanish.

In the most general of terms, it is the opinion of the Evaluation Team that this project represents one of the most exciting and productive housing cooperatives the team has come across in more than thirty collective years of cooperative housing experience.

This is among the reasons we went to such great lengths to identify and document some of its more relevant and outstanding characteristics.

We have attached a number of items which we felt would be of interest to you and the Office of Housing.

Let me take this opportunity to wish you and the Office of Housing staff a happy holiday season and to express our interest in collaborating with you in future international assignments.

Very truly yours,

Kenneth S. Odenheim
Vice President

KSO:cvc

ATTACHMENTS

Nuevo Chorrillo

PIO/T PANAMA
EVALUATION OF THE NUEVO CHORRILLO
COOPERATIVE

BACKGROUND

For Fiscal Year 1979 a \$25 million Housing Investment Guaranty is contemplated for Panama. Of that total, \$4 million is designated for the Nuevo Chorrillo Cooperative. The monies will be used to increase the number of housing units and to construct a multi-purpose community center. In addition, the Foundation for Cooperative Housing, through an operational program grant, will be working with the Ministry of Housing, the Banco Hipotecario Nacional and the Panamanian Foundation for Cooperative Housing (FUNDAVICO) to create a financing and technical assistance capability for housing cooperatives in Panama.

RATIONALE

In light of the above background, it is particularly important that the Nuevo Chorrillo Cooperative be evaluated at this time. Not only is ATD's Office of Housing contemplating an increase of funds to the project but also will use the project as a model in assisting the Government of Panama to develop a cooperative housing program.

An inter-disciplinary approach to the evaluation effort is absolutely essential since the Office of Housing's proposed strategy for funding projects in Panama contemplates an integrated approach to the shelter problem. It is essential to examine the project from the viewpoint of site planning, land use, infrastructure, and construction as well as its impact on the life styles and budgets of the people living in the cooperative housing project. Here it is particularly important that for an analysis of the institutional framework to be undertaken.

ANTICIPATED RESULTS

Since the Nuevo Chorrillo Cooperative figures prominently in the future housing investment guaranty program for Panama, the Office of Housing expects a detailed analysis and assessment of the project's structure and operations, construction efforts, financial management and social impact. The strengths and weaknesses in each area should be identified, together with a discussion of alternative solutions to problems identified. The evaluators should also be prepared to state specifically what they recommend as the best solution to each problem.

These objectives, which form part of the scope of work for this evaluation, can be best realized through the use of an inter-disciplinary team comprised of an architect/planner, sociologist and economist.

BEST COPY AVAILABLE

SCOPE OF WORK

I. Objectives of this evaluation

A. To measure the effectiveness of this project and to specifically determine whether:

- 1. The cooperative housing project will generate domestic funding for second and third stage construction.
- 2. The Banco Hipotecario Nacional (BHN) has developed or is developing a cooperative housing program so as to be able to finance additional low-income housing cooperatives (institutionalization of cooperatives).
- 3. FUNDAVICO is providing technical assistance to the Nuevo Chorrillo Cooperative and the nature and quality of that technical assistance.
- 4. The cooperative is experiencing collection problems and what steps, if any, are being taken to tackle the collection problems.
- 5. The living conditions and life styles of the cooperative members have improved as a result of the project (in considering this point, access to community facilities, employment, transportation, etc. should be taken into account).
- 6. Those buying the housing units are within the target group.

→ * B. To provide feedback for the Nuevo Chorrillo Cooperative so as to improve project implementation where indicated.

? → C. To help the Nuevo Chorrillo Cooperative formulate an internal audit monitoring and self-evaluation system.

II. Tools Needed for the Assignment

- A. Project Paper
- B. Implementation Agreement
- C. BHN's Monthly Progress reports on construction, cooperative membership, home completion and collections (these are assumed to be available in Panama).

III. Tasks

- A. Analysis and assessment of the Nuevo Chorrillo Cooperative as to:
 - 1. Institutional structure and operations
 - 2. Construction
 - 3. Financial management
 - 4. Social impact
- B. Analysis and assessment of the cooperative as an appropriate vehicle for the solution of the housing needs of low-income people in urban Panama.

IV. Reports

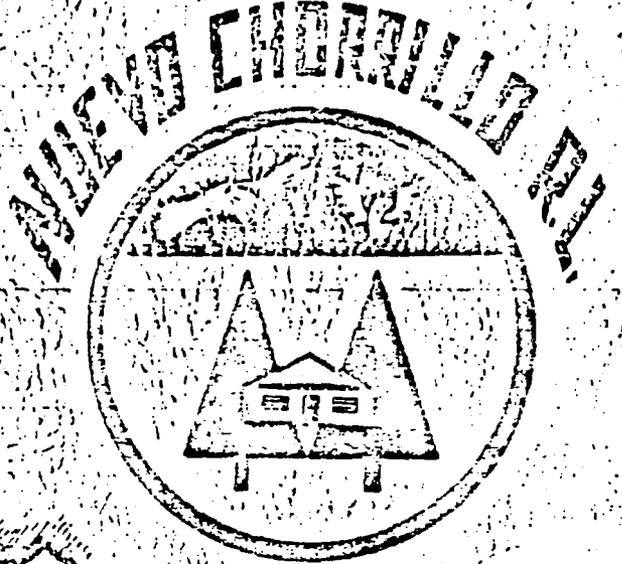
The consultant team is to produce a report in both English and Spanish. Its preface should contain a general project description and it should conclude with findings and recommendations. A draft report should be discussed and left with the BHNBO office prior to leaving Panama.

* The team will give a verbal de-briefing to the Nuevo Chorrillo Cooperative prior to leaving Panama. The final written report will be submitted in English and Spanish.

LA HISTORIA DE NUEVO

COOPERATIVA DE VIVIENDA

CHORRILCO



1973

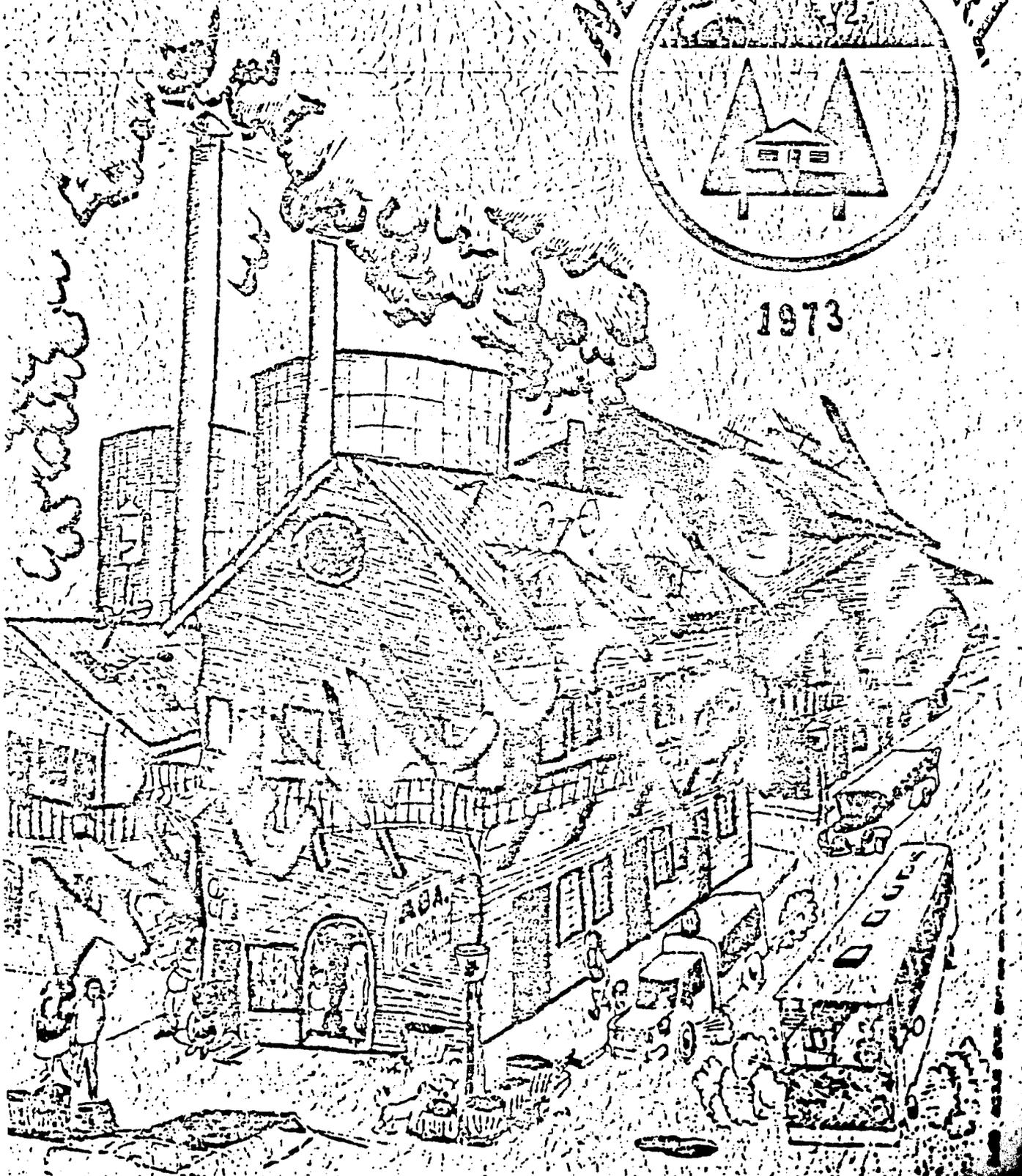


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INTRODUCTION

The Nuevo Chorrillo Cooperative is a dynamic institution. In many respects it serves as a graphic example of not only how needs are met through collective action, but furthermore, of how community organization occurs. Of particular note in this community is the tenacity it manifested year after year, obstacle after obstacle in pursuing its goals. Also noteworthy is the level of accomplishment of this cooperative in delivering the "goods," within its time, budget, and client target constraints, and without much outside technical, financial, or cooperative assistance.

This evaluation is the first real, comprehensive evaluation which has been undertaken of the Nuevo Chorrillo Cooperative since it initiated its construction efforts. Criticisms of the cooperative and its housing abound. These observations are largely petty when contrasted against the enormous achievements of the co-op, however; and, the fact is not even the Ministry of Housing appears able to produce a comparable unit at comparable cost. It becomes obvious then, that there is a great deal to be learned from the Nuevo Chorrillo Cooperative. In this report and evaluation, we have attempted to identify these characteristics. Yet, the evaluation itself has far greater objectives, and far broader applicability. The cooperative itself is intended as one of the direct beneficiaries of this effort, and we have as a consequence noted and reported to it the shortcomings, current needs, pitfalls, and threats we believe it faces. At the same time, we examined and identified the institutional and community strengths it possessed so that these could be reinforced and built upon. In doing so, we were able to tell the cooperative some things about itself which it did not know such as the genus of its constituency, their socio-economic characteristics, and their areas of preference and disenchantment with Nuevo Chorrillo.

A second focus of this evaluation was the institutional reality of cooperative housing in Panama, at this time, and our estimates and projections of what it could or would become in the future, if the proper buttons were pressed. In these regards, the institutionalization of cooperative housing had to be examined and appraised both from the standpoints of function in meeting the housing needs of low-income Panamanians as well as from that of collaboration in fostering a cooperative alliance between the public sector, technical assistance organizations, and contributing organizations such as the Nuevo Chorrillo Cooperative.

The evaluation of the Nuevo Chorrillo Cooperative which follows is a blend of analyses from three perspectives: the physical, the financial, and the social/organizational. It was undertaken by an architect/planner, a financial analyst, and a social planner. As a final product, we believe the evaluation isolates the positive and negative factors which helped and hindered this cooperative in its development, pinpoints replicable attributes of this dynamic community organization, reexamines the value of self-help efforts in housing low-income families, and identifies the role cooperative housing can play in providing affordable shelter to low income Panamanians.

Our satisfaction in preparing the evaluation will be guaranteed if the Nuevo Chorrillo Cooperative is able to make use of it in better serving its constituency and in preparing Nuevo Chorrilleros to anticipate and best the difficulties they will face in the future.

Ken Odenheim
Chuck Billand
Dan Coleman

Panama, Panama
December 1978

PREFACE

The Nuevo Chorrillo Cooperative as a community organization dates back to 1966. In the years that have passed since its informal beginnings it has waged a trying and frustrating guerrilla war against poor health, housing, education, and environmental conditions. The cooperative lost many battles-- but it won the war.

Nuevo Chorrilleros live some 14 kilometers to the West Southwest of Panama City, across the Panama Canal and the bridge which traverses it, over a winding two-lane portion of the Pan American Highway which skirts the boundaries of the Canal Zone, and the military installations of the United States and past the town of Arraijan, the closest town. There, on a 32 hectare site (approximately 74 acres), stand 700 units of a total of 2,100 which are planned together with an elementary school, baseball and soccer fields, a concrete block plant, a door and window production plant, a materials and tool distribution center, a cooperative food store, an office, community water wells and co-op busses as a rebuttal to the many well-meaning and not-so-well meaning individuals and institutions with which the cooperative dealt, who prophesized its failure.

Handwritten notes:
210
a
700 units
32
hectares

A critical observation will reveal many imperfections in the physical, social, and financial aspects of Nuevo Chorrillo. The 540 families who currently live in Nuevo Chorrillo are not without their inconveniences and irritations. For them, and for those who follow them, transition to residency in Nuevo Chorrillo calls for a number of changes; from urban to suburban, from high density to low density, from hustle and bustle to relative quiet, from a few minutes walk to work to a 45-minute ride to work, and from a long established community to a new born one, struggling for identity and reeling from the complexities of community development.

As an Evaluation Team, we designed an original survey in order to bring the most current, relevant, and factual data back to Nuevo Chorrillo for their consumption and subsequent action and back to AID to answer to its concerns and to portions of our scope of work.

In an effort to capture a visual image of the cooperative, its facilities, community and human resources, we video-taped more than three hours of interviews, training, meeting, survey interviewing, self-help labor, and the community itself as well as pieces of its past in order to provide a more complete understanding for the "before and after."

Interviews with an extensive cast of characters were employed as another means of gathering both data and perspective about the Nuevo Chorrillo Cooperative and its underpinnings. Held with both early supporters as well as early adversaries of the cooperative, these probings produced considerable penetration into the topics of where the co-op was born, and why, and how, and with whose assistance.

Finally, observation was used to explore first-hand, the many aspects of the Nuevo Chorrillo which must be experienced to fully comprehend. A bee hive of activity, the co-op as a producer, employer, spokesman, storekeeper, warehouser, transporter, coordinator, educator, and developer is visible at a given moment. The site visits we made enabled us to see and participate in the wave of energy which sustains such activity. In the following pages, our analyses of the co-op and our recommendations for it will be presented together with conclusions about this cooperative and cooperatives in general. We hope to see a case established for the replication of such projects as consistent with and exemplary for U.S. assisted housing and community development.

**SUMMARY OF CONCLUSIONS
AND RECOMMENDATIONS**

The Evaluation Team has arrived at a number of conclusions and recommendations which are presented in the Social/Organizational, Physical and Financial sections of this report. In providing a summary, the Team wishes to emphasize those recommendations which follow as the most important of the Evaluation.

Recommendation 1

The apparent failure of the public and the private sectors to collaborate has had a negative impact on the promotion and development of cooperative housing. Therefore, collaboration between the institutions concerned with the development of cooperatives must be improved and facilitated. Both the operationalization of MIVI's Department of Cooperatives as well as the creation of a federation of housing cooperatives will promote and further these objectives.

Recommendation 2

Both the Nuevo Chorrillo and indigenous cooperatives in general can be replicated. Additional indigenous cooperatives should be encouraged by both AID and the GOP in the future. Set asides in permanent financing at specific levels of cooperative production should be made a consideration in future HG loans, and disbursements should be tied to the accomplishment of predetermined development objectives within specifically targeted cooperative communities and identified through a performance evaluation monitoring system.

Recommendation 3

The quality of life of the cooperative residents of Nuévo Chorrillo has improved considerably as a result of the move from generally sub-standard living conditions. In view of this conclusion, which was derived in part from the sample survey, the Team recommends that the remainder of Nuevo Chorrillo be developed to the same general standards as the first phase. The Team believes that any reduction in lot and house sizes would not result in a proportionate reduction in house costs, would lower the quality of life and increase the possibility of conflict in the cooperative. However, the Team believes that ways should be investigated to reduce lot and house sizes in future cooperative housing developments as one way to reduce costs and thereby provide for housing solutions to the lowest income groups.

Recommendation 4

Self-help efforts at Nuevo Chorrillo were successful in reducing the cost of the units produced. This is true for both the mutual self-help efforts organized by the cooperative to assist in the basic construction of the unit and the individual self-help efforts to complete the finishing work. Both AID and the GOP should require the inclusion of self-help activities in future AID financed programs so as to produce housing at lower costs as well as to increase the number of solutions built for a given amount of financing.

Recommendation 5

The financial management of Nuevo Chorrillo should be improved to meet the increased level of financial operations due to growth and expansion of the housing project and related cooperative services. The cooperative should expand its use of outside technical assistance, including FUNDAVICO, which would provide management assistance, ⁽²⁾ beef up its Supervisory Committee to provide for greater internal control, and ⁽²⁾ improve internal reporting procedures.

particularly as regards its recently initiated efforts to reduce the number of loan payments in arrears.

such collection report

Recommendation 6

foundd like here

The bus transport system owned and operated by the Cooperative has been operating at a deficit and has become a drain on the other, more profitable cooperative activities. The Cooperative should therefore undertake a study of alternative ways to resolve the financial problems of the transportation system. This study could be undertaken in association with the University of Panama in the same manner that the site design was selected, but by all means should be completed in time for discussion and resolution by the General Assembly at its meeting in February 1979.

Byo good from the Univ. of Panama

Training should go further into structure & functioning - eg. how does the board function. Mgmt. of human, business resources, economic resources - Coop. is a business and must be seen as such. IAF money is a cushion - could be used as a revolving fund. Tightening of business practices - collections, evictions - acctg, business practices, etc. personnel mgmt. organizational development framework -

SOCIAL AND ORGANIZATIONAL ASPECTS

Background

The Nuevo Chorrillo Cooperative is a housing cooperative evolved from a community organization established initially to deal with tenement upgrading then health care issues of the residents of the Chorrillo neighborhood in Panama City. Specific events, later identified, precipitated cohesion within the Chorrillo community and facilitated the unification of many of its residents. Always concerned with the inadequacy of Chorrillo housing, the community organization was unable to develop a common housing objective until a fire, on Christmas eve of 1972, destroyed 18 of the old Panama Canal houses, leaving more than 300 families homeless. The fire proved destructive not only to the houses but to the community organization as well, dividing it as many sought immediate shelter solutions however shortsighted, and others pushed for longer-term solutions, more consistent with the objectives, plans, and aspirations of the community group. What remained of the group, some thirty hard-core loyalists, became the nucleus and driving force of the Nuevo Chorrillo Cooperative. Granted legal personality in August of 1973, the Co-op had yet to acquire the land it so desperately needed to keep its membership together and the law required its incorporation as a prerequisite to land ownership. Now it could proceed and begin to seek the financing, having a mortgageable asset in its 32 hectares of land purchased from former IVU Director, Architect Jorge Riba and acting as a legal person. Loaned \$250,000 by the Banco Hipotecario Nacional (BHN), the Co-op quickly put the money into urbanization, continuing to spend it even after the loan was shortly recalled by BHN, after its Executive Committee disapproved the loan authorized by the General Manager. Urbanization work continued until the money

ran out and the contractor, who believed the entire urbanization had been financed, pulled off his men and equipment.

An Inte. american Development Foundation grant of slightly more than \$734,000 was obtained by the Co-op which provided additional funds for infrastructure and for partial construction financing and the production and transportation facilities to boot. The funds raised to acquire the site were donated to the Co-op by the landowner for construction of an elementary school which is now operating in dual sessions for children of the Co-op and the surrounding communit, as well.

A. Cooperative Functioning

In general terms, the Nuevo Chorrillo Cooperative is a functional community organization. In specific terms, some parts of it work better, are more widely exploited, and enjoy more community involvement than others.

The survey demonstrated that almost 99 percent of the respondents felt that the cooperative was doing a good job in maintaining the buildings and grounds. The self-help construction is certainly working well as are the block production and door and window plants. The distribution service is adequate, and the consumer co-op is thriving. The elementary school is running with dual sessions. As an employer, the Cooperative has a full-time staff of 63 and generates an additional 60 full-time jobs in the construction contracting area.

The transport service is operating at a loss, although used by 98 percent of mobile residents who pay fares identical to those charged by the commercial bus company which operates along the Interamerican Highway. It is also identified by almost 22 percent of respondents as the characteristic they least like about Nuevo Chorrillo.

Of greater concern, however, is the first appearance of apathy among cooperative directors, committee people, and members who, not struggling for their institutional survival for perhaps the first time, are beginning to lose some of the zeal, commitment, and willingness to participate which have brought them such success.

A credit union, which would have such a natural and captive membership, is certainly noticeable by its absence. The Cooperative has not fostered its foundation yet because it requires separate legal personality, unlike the other services which are all organized as operating divisions of the Housing Cooperative.

Cooperative administration and management is quick to recognize many of its shortcomings. In all fairness, the General Manager, who was the co-op's President for so many years, is caught up in the development process--both in terms of units currently in construction as well as the 1,400 units which remain to be built and the community services, production, distribution, inspection, planning, and infrastructure they require. The complexities of development are shielding equally requisite cooperative needs--such as budget preparation and management, collections, and financial analysis from becoming apparent. The financial cushion remaining from the IDF grant appears to provide the wherewithall for the cooperative to pay its bills and may compound the receivables and payables problem. An examination of the collections problem and steps being initiated to resolve it can be found in the chapter on Financial Aspects.

The dictates of community development have prevented the co-op and its management from addressing any program of internal self-evaluation. While no measures of any kind have been introduced to facilitate self-evaluation, the General Manager stressed that both management and co-op functionaries

are close enough to the residents to be continuously apprised of difficulties as they arise. The currently built co-op has also been divided into eight sections, each of which has a delegate, vice-delegate, and three or four other participants whose responsibility it is to identify and resolve problems within their sectors, returning to the Board of Directors only when a problem or solution is of a community-wide nature.

B. Cooperative Housing Collaboration
Between Panamanian Organizations

Collaboration, mutual assistance, and cooperation between the different agencies and organizations concerned with cooperative housing is only in the most primitive stages at this time. Relationships between any two of the organizations involved in some aspects of cooperative housing have been poor, distant, and often unstructured in the past. Currently, they are at a historical high and still improving. BHN, MIVI, FUNDAVICO, Department of Agriculture, Nuevo Chorrillo Cooperative, and the Federation of Credit Unions appear to be placing individual differences aside long enough to amicably agree to collaborate on the creation and structure of the Department of Cooperatives at MIVI. There is yet to be final agreement on what the specific efforts of the Cooperative Department will be, whether developmental, evaluative, financial, or through technical assistance. FCH technicians are seeking to establish alternative directions and objectives the Department might take.

The Cooperative Department is not expected to be structured and properly staffed until Spring 1979 or later, depending upon the continuing priority and significance given to it by the Ministry of Housing.

Although a signed agreement for services exists between Nuevo Chorrillo and FUNDAVICO, its commencement date was left to definition by the Cooperative, which has not wanted to trigger the Agreement yet but plans to

do so apparently by January 1, 1979. The Agreement has FUNDAVICO providing technical assistance in management and administration to the Nuevo Chorrillo Cooperative, precisely where skilled help is needed. No other mutual activities are occurring at this time.

As a general statement, cooperation exists between the different institutions on a verbal level, and while it is improving, does not appear to have any established direction or specific objectives at this time.

C. Self-help

The self-help aspects of the Nuevo Chorrillo Cooperative have been among its most glowing successes. In both narrow as well as broad terms, the involvement of Nuevo Chorrilleros in the development of their community is an inspiring feature of this project. Whether in mutual self-help activities organized by "manzana," individual self-help in building walls and finishing, or in terms of the production of components and materials as in block, door, and window production this Cooperative has made self-help work. It works in economic terms by passing on substantial savings to co-op members through savings in the costs of materials, components, and labor which go into the purchase price of a house. It works in terms of guaranteeing a ready and high quality source of materials and components. It works in maintaining a ready corps of skilled and unskilled workers. It works in passing on the skills necessary to promote unit expansion and improvement--all of which adds to the value of the cooperative. It works in promoting collaboration between neighbors. And it works in terms of maintaining housing costs at sufficiently inexpensive levels to meet the needs of families earning well below Panama City's median income.

One of the few shortcomings in the self-help process is that the cooperative has not implemented a program to support individual self-help for

7 shortcomings

improvement and finishing purposes by loaning tools and materials which would facilitate such member initiative. A sign on the distribution shed announces that tools cannot be borrowed for small individual tasks (camarones). This represents a problem which is easy to overcome and one which the cooperative appeared to respond positively to resolving, when it was discussed with them.

The quality of construction attests to the quality of training and supervision of self-help labors. And, while construction skills learned do not appear to have embarked many members on different vocational trails, they certainly have provided the foundation of skills members will continually tap and use in the maintenance, repair, and improvement of their units.

D. Cooperative Education and Training

Cooperative education and training is accomplished in two ways; through a process of total immersion and through informal on-the-job (OJT) and participatory activities in which members find themselves contributing. The immersion process appears to be as effective as it is expensive. Members (heads of household only at this time) are taken to a "retreat" environment at cooperative expense, where they are bedded and boarded and administered six days of cooperative training over three whole weekends. This process was one of the most effective uses of the IAF grant. OJT learning is designed to supplement not substitute for the training by immersion. It also appears to have rendered far less measurable and standardized learning experiences, each member extracting a mixture of what was invested in the experience, and what the nature of the experience was.

The training results have produced varying degrees of sophistication among the trained members and have not produced great numbers of members eager to serve. While knowledge of cooperative organization, structure, rights, and history has been well taught and well learned, member understanding of

cooperative operations, management, business administration, budget, and finance has been sorely neglected. This is neither by design nor disinterest but primarily due to the limitations of its managers and leadership in these fields. It is here where the transition of Chorrillero to manager or officer has not taken place; the cooperative did not know to ask and no one appears to have volunteered the information until recently.

Results are negative for the cooperative and represent one of the few areas in which attention is mandatory and corrective action prerequisite. There is a shortage of "trained" members available for leadership posts in the cooperative and membership participation is on the decline. There is also a need to begin immediately to confront operational problems (budget, collections, transportation, and water, e.g.) and the cooperative appears to be ready to undertake such action. The commencement of technical assistance from FUNDAVICO in January will go a long way in helping Nuevo Chorrillo to correct its business operations. Further exposition of these problems is presented in the chapter on Financial Aspects and in the Conclusions and Recommendations of the Evaluation Team.

E. Member Satisfaction and Quality of Life

Perhaps in no other single aspect of this evaluation have the results been so clearcut and satisfying to report. Members of the Nuevo Chorrillo Cooperative appear to be highly content with their cooperative, their homes, their new lifestyles, and according to their own assessments, with an improved quality of life. In these matters the survey conducted by the Evaluation Team identified not only the satisfaction and improvement in quality of life felt by members, but furthermore the specific attributes of their houses, neighborhoods,

Cooperatives and lack of financial resources are two major obstacles to participation of more people

One year of work of 1882 funds in training and training talent

residency in Nuevo Chorrillo and involvement in the cooperative which produced these positive feelings. The survey also helped to determine, of course, what specific elements they did not like.

Specific likes and dislikes are well documented in the survey itself, which is attached to the evaluation. Some revelations of the members, however, are so relevant to this section of the evaluation that they cried for presentation. In response to the question what they most liked about their new houses, for example, 17 percent pointed to the "pleasant environment," 26 percent to the greater "comfort," and 25 percent to the "spaciousness." Responding to the question what they most liked about their new neighborhood, 43.5 percent identified the "friendliness" of neighbors, 33.3 percent the "quietness," and 12 percent "everything." Asked whether Nuevo Chorrillo was a better environment for raising their children than Chorrillo, and if so why, 35 percent described a "better all-around environment," 16 percent the absence of bad influences, and 12 percent the friendliness of the neighborhood. Of the respondents, 98.6 percent even stated that they believed their monthly payment to the co-op to be a fair one, and 100 percent of those surveyed credited Nuevo Chorrillo Cooperative with Providing an adequate solution to their housing needs.

Beyond the survey, the Evaluation Team captured some of this "rapture" and contentment in conversations with residents, over bowls of "sancocho de pollo," on film, in their hard physical labor efforts, and on video tape. It was as evident when a member, through stuckoing his unit, stepped back to look, and smiled, as it was in the nature and extent of improvement others have given to their homes.

What is obvious is that Nuevo Chorrilleros are happy about the open spaces, fresh air, physical facilities, friendliness, maintenance, and sense of community in their new neighborhood. They are not satisfied with their

water or transportation services, and they do not want animals running loose.

Difficulties in reaching and getting comprehensive services surfaced as a present-day limitation, but everyone there seems to know and understand that Panama is going to grow out to Nuevo Chorrillo, and as it does, more services will become convenient and accessible--if they are not overjoyed with commuting, what commuter is? And the 14 kilometres they travel between old and new Chorrillos is usually made in less than 25 minutes.

The overall impression of the Evaluation Team, documented in its conversations, video and still reporting, in interviews and through observation is that the co-op's members and their families are HIGHLY satisfied with their houses, neighbors, and neighborhood and believe that there has been an almost indescribable improvement in the quality of their lives, since taking occupancy in Nuevo Chorrillo. They give management good marks and appear to be welcome to participate vigorously in the government and operations of the cooperative. One member, a fisherman, told the Evaluation Team that the project and its fine cooperative services should be further exploited by being introduced to other equally needy communities. This opinion was later voiced by a number of leaders, in a meeting on the final day the Team spent in Panama.

F. Representativeness of Nuevo Chorrillo Residents to Target Group

The representativeness of the residents of Nuevo Chorrillo to the target group must be assessed in two ways: (1) whether they meet the strict definition called for in the AID documents; and (2) whether they meet the "intention" of such programs to house the poor, promote community stability, encourage economic integration, and foster community organization and development.

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In the strict definition, only 77 percent of respondents to the survey—
fell within the income limitations imposed by AID, i.e. having total family
incomes below the median income of \$350 for Panama City. Of those who did,
only 25 percent were to be found in the lowest Quintile.

The achievement of a stable, economically integrated community and cooperative organization would probably have been denied to Nuevo Chorrillo had such standards been rigidly imposed. During the years that the cooperative was endeavoring to get something "into the ground" a number of its members were busy achieving in their own right. The fisherman, for example, now one of the cooperative's leading earners, was, in 1973, as poor and disenfranchised as most Chorrilleros. Hard work and a little good fortune enabled him to pull himself up, to the delight of his neighbors, who look on him now as the embodiment of "it can happen to me." It is precisely some of its "better off" members who have had the most education and relevant experience, and who can use such backgrounds to the benefit of the entire cooperative.

Another such consideration is the way in which upward mobility could be stifled if such rigid standards were imposed without regard to the recentness of such gains, if exposure to more successful neighbors was denied to less motivated members, and if the community took on the identity of a project only "fit" for poor people.

Among those earning greater incomes than the "requirement," are a number
of professionals who were raised in Chorrillo, took part in its "lucha," and
who identify totally with the new community. One, a medical doctor, recently
graduated, plans to establish a family practice for the Nuevo Chorrillo
Community. If such a practice should come to fruition, it will resolve one of the single most identifiable complaints of the community; the inavailability of convenient health care. Is the cooperative served by excluding such a valuable community resource?

The Evaluation Team believes that the socioeconomic integration of the Nuevo Chorrillo Cooperative is one of its finest attributes, and is hopeful that similar patterns will carry over to the second and third stages of the community.

Target group may also be identified a third way; whether the membership of the cooperative comes from Chorrillo. The survey demonstrated that 43 percent of respondents hailed from Chorrillo previously. Fifty-seven percent come from surrounding slums and some at one time from Chorrillo itself,

having left as a result of marriage, family relocation, etc. This population

is highly subject to variation, however, in the subsequent sections of the

co-op. The answer to the question did this project reach its target group

must then be answered and clarified by asking, according to which definition?

The opinion of the Evaluation Team with respect to the larger picture would certainly be YES IT DID!

G. The Nuevo Chorrillo Cooperative and Upward Mobility

The determination of upward mobility in the membership of the Nuevo Chorrillo Cooperative is a highly subjective matter. Such a determination made objectively would require a longer period of study to more properly assess the "before and after" effects of Nuevo Chorrillo residency and its side-effects.

There are a few benchmarks against which upward mobility of the Nuevo Chorrilleros can be measured though. Homeostasis is one. Economic improvement is a second. Improved quality of life is a third. A fourth is self-esteem. While it is true that by and large these are subjective measurements, they do show aspects of personal growth and improvement which certainly correlate with upward social mobility.

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Homeostasis, the maintenance of health against the intrusion of disease, is one very important factor in determining upward mobility, particularly from the ranks of poverty to an improved condition. Bad health is a condition of poverty. Improved health and hygiene standards at Nuevo Chorrillo bring home this point. A toilet per family certainly promotes higher health and hygiene than does a toilet (often malfunctioning) per ten and sometimes per hundred people in the old Chorrillo. Poor water supply for washing clothes and dishes in old Chorrillo can be contrasted against more convenient and abundant (though not always) supply in the cooperative. Fewer rodents, insects, and vermin ramble around the co-op (almost unlimited open spaces lie adjacent) than did in the old neighborhood.

Economic improvement is evident both in forced savings as well as in the appreciation of the value of the co-ops and its members' property. The co-op member is also a shareholder in a profitable series of co-op business (blocks, consumer store, doors and windows, etc.). It is also visible in the improvements being made to the houses, including new furniture and furnishings that more "become" a new homeowner.

Improved quality of life is probably the largest motivating force to those striving for upward social mobility. The respondents to the survey illustrated over and over again their beliefs that their quality of lives had indeed improved. An observer seeing both the old and new neighborhoods and the housing therein, would be hard pressed not to see the great changes of life style and improvement in quality between the neighborhoods. The new community, with a few inconveniences perhaps, has vastly improved the quality of life for its residents, and they are eager to say so.

Improved self-esteem and status is an ingredient easily spotted in Nuevo Chorrillo. Home-ownership, by itself, gives great stature to these former

tenant families, both in their own eyes as well as in those of current residents of Chorrillo. The pride at having brought their own units up from the ground, with a little help, and the continual improvement in their living patterns (no more three-hour waits for the bathroom, etc.) and conditions is a constant "preening" process and ego massage. Being owners not tenants has other benefits such as freedom to participate in community affairs and decision making, and real self-government, with a community of their own to govern, all of which contribute heavily to the senses of purpose and esteem enjoyed by Nuevo Chorrillo families.

H. Perpetuation of Cooperative Housing

Cooperative housing cannot easily be perpetuated in Panama at this time. It does have the potential of becoming so in the future, however, if the variety of financial, technical, governmental, and cooperative institutions currently working at cross purposes can get together. The MIVI Co-op Housing Department will undoubtedly provide some measure of unity. We do not believe, however, that MIVI will ever enter the cooperative housing development business. While BHN states its willingness to finance future cooperative development, it is always with the proviso that "if it has funds available." Will it have with MIVI calling the "shots"? We think not, at least not on anything larger than an occasional project scale.

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The Evaluation Team is of the opinion that cooperative housing development will have to come from the private sector. The skills and bodies are there to do so. It does appear, however, that neither FUNDAVICO nor Nuevo Chorrillo Cooperative would collaborate on a project on their own. The unification of both institutions in a national federation or association of housing cooperatives would, we think, enable each organization to contribute to a

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development program without being in direct competition with the other. It would also enable each to give freely of what it had most of; FUNDAVICO, economic analysis and technical assistance, while Nuevo Chorrillo offered cooperative training, human energy, enthusiasm, and the "can do" attitude which has brought it so far. The architecture and engineering firm of Riba, Fierro, and Sousa having manifested both the technical skills and the ideological commitment is also a natural partner in this process. In addition, since Jorge Riba is both a FUNDAVICO board member as well as a Nuevo Chorrillo member, he is in an excellent position to help the other organizations blend their efforts more productively and with a greater sense of collaborative purpose. The organizations can create a natural team since FUNDAVICO appears to be more interested in the means while Nuevo Chorrillo is more interested in the ends of cooperative housing development activities.

Certainly, the utilization of outside technical assistance made available through AID auspices can be a large factor in helping to realize these development goals. In any event, further cooperative housing development is heavily dependent upon the availability of permanent financing, and the HG program looms as the most natural source. We believe Panama is almost ready for a larger scale co-op housing development program, and only some technical assistance, community organization, credit and savings stimulation, and training activities stand in the way of programs which will repeat and rival the success of Nuevo Chorrillo.

The casting of roles for future cooperative development appears to be a much more easily compartmentalized process. BHN would provide the financing, interim and permanent, and service the loans. MIVI would provide technical and governmental assistance designed to cut through the red tape which so encumbers multi-family housing development programs through coordinating materials, permit approvals, and the collaboration

The Cooperative has stated its willingness to meet with and work with the Colon community organization. It appears willing to lend not only physical and human resources but possibly even some financial ones to counterpart communities which manifest their seriousness and commitment to similar undertakings. The Evaluation Team believes the Cooperative should be encouraged to pursue such external activities.

As an indigenous cooperative, Nuevo Chorrillo has a great deal to show and tell. It has tolerated the gamut of experiences which an organization can be expected to encounter. It proves the survivability and inner strength of a properly motivated community organization. It demonstrates the value of perseverance. It highlights the opportunities of imagination and innovation. And it eloquently shows that imperfections are what distinguish human and divine organizations. To every observer, it should also signal the replicability of this form of cooperative institution.

Conclusions and Recommendations

Conclusions

Both the Nuevo Chorrillo Cooperative and indigenous cooperatives in general can be replicated. They need the same characteristics to initially succeed: leadership, popular issues, discipline, poor conditions, and common needs and objectives. They need similar characteristics to succeed over the long term: leadership, common needs and objectives, discipline, organization, proper records, and technical assistance and training.

- The institutionalization of cooperative housing is in very primitive stages in Panama at this time. Collaboration between the public and private sector organizations concerned with co-op housing is infrequent.
- Operationalization of the Cooperative Housing Department of the Ministry of Housing is necessary and will be useful in drawing

cooperative housing sponsors together, structuring their efforts, and facilitating their collaboration.

- **FUNDAVICO can provide a much wider array of technical assistance to groups and sponsors interested in cooperative housing. It can provide aid in cooperative organization and management as well as training to co-op members, directors, and managers.**
- **The indigenous cooperative is an excellent vehicle for further cooperative housing development since it encourages self-determination and acts as a catalyst for the upward social mobility of its members. It also facilitates an expanded role for members to take in the planning and development of their future housing and neighborhoods.**
- **Cooperatives are an excellent foundation for the origination of additional services and/or cooperatives. Members gain experience in working together which is easily transferred to new services and activities. Appropriate controls must be instituted to ensure democratic and prudent operations, however, and each service's budget should remain independent of the main cooperative's finances.**
- **The social and organizational benefits of rural zone nationalization were not discernible, at this time.**

Recommendations

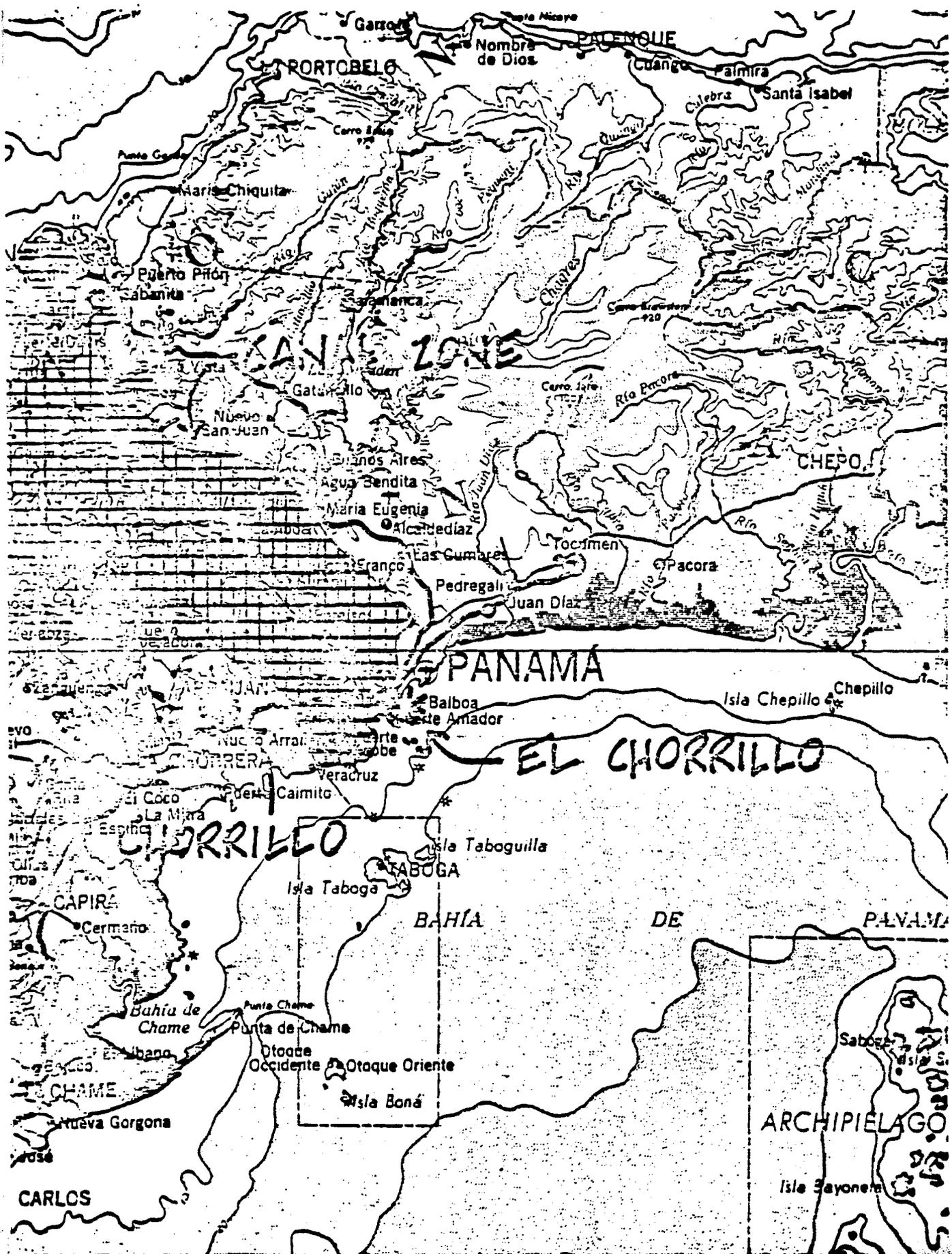
- **Collaboration between the institutions concerned with the development and construction of cooperative housing must be improved and facilitated. Both the operationalization of MIVI's Department of Cooperatives as well as the creation of a federation of housing cooperatives will promote and further these objectives.**
- **FUNDAVICO assistance to the Nuevo Chorrillo Cooperative should be implemented as soon as possible and should focus on monthly payment**

arrears, collections, budget processes, and the creation of an eviction procedure. Training of Nuevo Chorrillo principal staff and officers in cooperative operations and business management would yield positive results for the cooperative.

- Indigenous cooperatives should be encouraged by both AID and the GCP in the future. Set asides in permanent financing at specific levels of cooperative production should be made a consideration in future HG loans, and disbursements should be tied to the accomplishment of pre-determined development objectives within specifically targeted cooperative communities and identified through a performance evaluation monitoring system. *How difficult to set in 2014 + type conditions? usually set in 2014 + type conditions?*
- The Nuevo Chorrillo Cooperative should initiate active recruitment of cooperative members to ensure wider participation in cooperative government and to prepare a broader segment of the community to take active roles within its operations. Training assistance should be provided to familiarize cooperative officers and activists in the physical, financial, administrative, social, and educational matters with which they will have to deal as cooperative representatives, and which the cooperative must face as a multi-million dollar community.
- A credit union has a natural base within the Nuevo Chorrillo community and would provide a needed savings and loan service. We recommend that the Cooperative establish a committee to pursue this objective and receive training from the Federation of Credit Unions or another qualified source.
- The organization and provision of medical/dental, farmers' market, buying, and tool services could do much to satisfy the present needs of Nuevo Chorrilleros, and we recommend that the Cooperative pursue

new avenues of assistance in meeting these objectives such as a federation of farmer or production cooperatives, Ministry of Health, tool manufacturers and/or distributors, and other agencies of the GOP, AID, and the private sector.

- Membership is now extended only to heads of family (83 percent male) and only members are given cooperative education and training. We recommend that membership be afforded to both spouses and that both be given equal rights within the cooperative and equal cooperative education and training.



PORTOBELLO

PALENQUE

CANAL ZONE

CHEPO

PANAMA

EL CHORRILLO

CHORRILLO

BAHIA

DE

PANAMA

ARCHIPIELAGO

CARLOS

Isle Bayona

Maria Chiquita

Puerto Piñon

Sabanilla

Vista

Nuevo San Juan

Gatunillo

Grandes Aires

Agua Bendita

Maria Eugenia

Alcañal Diaz

Francisco

Las Guaymas

Pedregal

Juan Diaz

Tocimen

Pacora

Balboa

San Amador

Isle Chepillo

Chepillo

El Coco

La Mira

Espino

Capira

Cerroño

Bahia de Chame

Chame

Nueva Gorgona

Punta Chame

Punta de Chame

Otoque Occidente

Otoque Oriente

Isle Boná

Isle Taboguilla

Isle Taboga

Sabosa

Isle Sabosa

PHYSICAL ASPECTS

Micro Planning

A. Background

Infrastructure: Nuevo Chorrillo is planned for a total of 2,100 detached dwellings of 49 square meters on varying size lots of approximately 300 square meters each. The plan is divided into three stages: the first stage of 633⁷⁰⁰ houses is reaching completion with approximately 450 families in occupancy. The remaining houses are mostly constructed and awaiting electrical service to allow occupancy. Earth work is nearing completion on Stage II and construction of the site utilities is scheduled to begin in January of 1979. Stage II will contain 746 houses; Stage III 721. The Cooperative owns a total of 115 hectares of land at the location--enough to build all three stages.

The domestic water for Stage I is being supplied from three wells, pumped to a holding tank and gravity-fed through asbestos cement pipe to the houses. The second stage will also rely on well-water supply, but will use PVC pipe for the delivery system. There is currently no public water available in the area. However, a public water main is scheduled for construction in 1980, along the Interamerican Highway, some 1,100 meters from the site. Water service is interrupted daily due to an insufficient supply from the wells and storage tank.

The sanitary sewer system consists of one large, gravity-fed septic tank and field to serve all three stages. The field is located to the southeast of the developed area of the site, adjacent to the Aghacate River. The delivery system is cement pipe for Stage I. Stage II will utilize PVC pipe.

Storm water is a surface run-off design utilizing open concrete-lined channels adjacent to the roadway and open swales at the rear of building lots.

The main roadway is 25 meters wide. Interior streets are 15 meters and 10 meters wide. Road construction is an asphalt surface over crushed gravel base. At present, the asphalt surface has not been installed in Stage I. The 10 meter wide street has been deleted for Stage II.

Three-phase, 110-volt alternating current electrical service is available to each house from overhead wires strung on wood utility poles. The entire site is traversed by a 90-meter-wide overhead electric utility easement.

Access to the site from the Interamerican Highway is by an 1,100-meter-long, improved-surface roadway which traverses the Aghacate River with a reinforced-concrete, single-span, two-lane bridge of approximately 20 meters in length. Prior to the bridge being built in early 1978, the site was accessible during the rainy season only by a wire-suspension foot bridge built through the self-help labor of the Cooperative members. During the dry season, the river could be forded.

Nuevo Chorrillo Cooperative is an environmentally healthy alternative to El Chorrillo, with clean, fresh air and water, natural vegetation, and open space. There is some concern over soil erosion due to the 10-15 percent slopes. However, the addition of site features as each member individualizes the house and lot with retaining walls, fences, gardens, and grass areas will effectively control surface soil movement.

Community Facilities: Each stage is planned to have its own primary school constructed adjacent to the electric utility easement to utilize the open space as a playground. A two-classroom, 300-square-meter school building has been completed for Stage I and is currently being utilized as a grade-one-through-six primary school by both the children of the Cooperative and from the surrounding community. Current plans call for the construction of one secondary school to serve the Cooperative and

surrounding community. Based upon our survey, the following represents a potential school population projection for the Cooperative only:

	<u>Stage I</u>	<u>Stage II</u>	<u>Stage III</u>	<u>Total</u>
Preschool	587	692	669	1,948
Primary School	440	519	502	1,461
Secondary School	339	400	387	1,126
Total	1,366	1,611	1,558	4,535

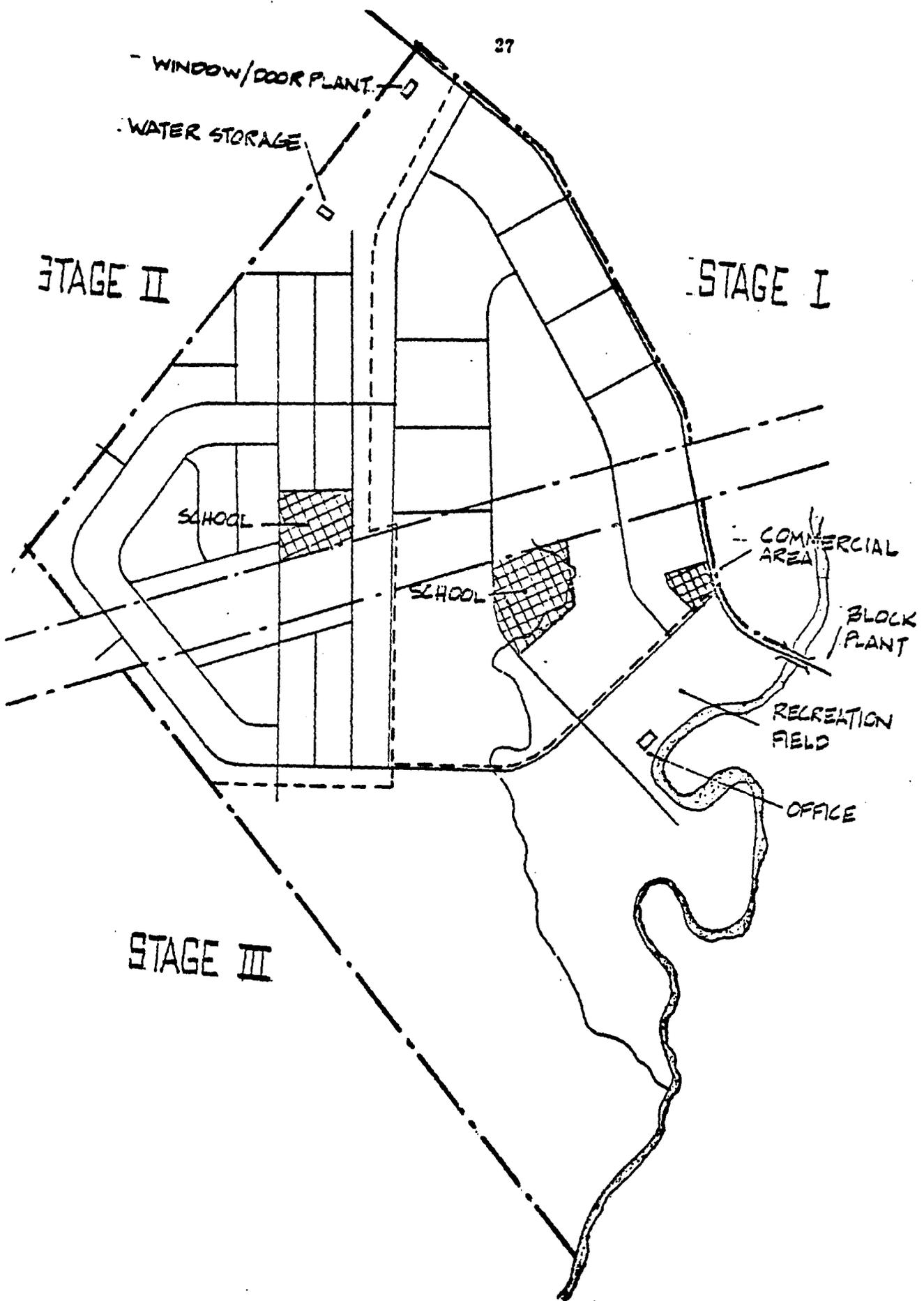
Population growth and nonattendance factors should be applied to these figures to determine classroom and school sizes for Stages II and III.

Recreation facilities planned for Stage I are not, as yet, completed, but are already in use. These include a baseball diamond adjacent to the Cooperative office and a soccer field on the utility easement. Also, people swim and bathe in the Aghacate River, which forms the southeastern boundary of the site.

Also planned for but not, as yet, developed are a commercial center adjacent to the entry road, a health center, and a community center. Each neighborhood is planned to have a small store offering food and basic commodities. The one for Stage I is complete and in operation.

Site Planning: The overall site planning philosophy is a grid pattern with 15-meter roads following the land contours and 10-meter roads traversing the contours. It should be noted that the site plan evolved from a "planning with the people" design process. University students, under the direction of architect Jorge Riba, prepared a number of design possibilities, optimizing the Cooperative members' comments into a final solution.

The grid pattern appears to be a good solution from a number of points. Household and building supplies are mostly carried on foot and short-block grid pattern offers a number of alternate short routes between any two locations within the subdivision. The mutual help effort was organized around the block and, being bounded by streets on all four sides, offered



an easily-defined territoriality, and a healthy competitiveness with the block across the street. Should incomes continue to rise in Panama, more and more people will be acquiring cars, and those cars are going to require the parking spaces that a grid street pattern offers. Finally, the Cooperative members currently rely on foot and bus transportation and, once again, the short-block grid pattern offers the most flexible route choice and least distance between any two points.

Lot sizes vary somewhat but average around 300 square meters for Stage I and 250 square meters for Stage II. Typical interior block lots are 10 meters wide by 30 and 25 meters deep. Stage I corner lots are typically 15 meters wide by 20 meters deep, in pairs. Stage II corner lots are 15 meters wide by 25 meters deep. Of course, there are some unusually shaped and sized lots due to the road system following the land contours. In these cases, members selecting larger or smaller lots pay a proportionally increased or decreased down payment. Unusually shaped portions of land not easily divisible into building lots are left as passive-use park areas.

Houses are set back five meters from the front property line and 1.5 meters from the side property line. The following chart indicates the lot and population density for Nuevo Chorrillo:

	<u>Houses/ Hectare</u>	<u>Houses/ Acre</u>	<u>*People/ Hectare</u>	<u>*People/ Acre</u>
Stage I	24.38	9.75	114.1	45.6
Stage II	27.85	11.14	130.3	52.2
**Stage III	27.90	11.2	130.3	52.2
Total	26.71	10.69	124.9	50.0

*Based upon sample survey data of 4.68 people per house.

**Estimated based upon the completed site plan for Stage II.

B. Conclusions and Recommendations

1. Lack of consistent water supply headed the list of what the members interviewed liked least about their new house. The well-water supply system should be reevaluated to determine if a greater number of wells with increased storage capacity can solve the problem. As a short-term solution, a membership education campaign on water conservation and prescheduled consumption patterns to more evenly spread demand over an 18-hour period may help alleviate the problem. The long-term solution is to engineer the Stage III water delivery system to make use of the public water supply which should be available at the time of Stage III occupancy. *✓ Check: Will main be vacated? Part 3000 there?*

2. The condition of the access road ranked fourth under what members liked least about their new neighborhood. The roadway should be upgraded to an all-weather hard surface roadway as the growing magnitude of traffic can only aggravate an already poor condition. *) uc,*

3. Adequate slope stabilization will eventually take place as members improve their lots. However, in the interim, certain extreme slopes could become a serious problem. An analysis of these potential problem areas should be made, and a program of planting (hydroseeding, if the technology is available) should be undertaken by the Cooperative. *|*

4. The 90-meter-wide electrical utility easement which traverses the entire site from northeast to southwest represents a unique resource for both active and passive recreation uses. The design should evolve over time, based upon the perceived recreation needs of the Cooperative members. It is wise to note that spaces will not be utilized unless people are visually cued into a specific use, i.e., people wait for buses where there are bus stop signs. Therefore, attention must be paid to providing the physical facilities and furnishing necessary to carry out the proposed recreation use.

This is particularly important at the small, passive-use community parks which are most likely to become part of the surrounding back yards unless they are properly planned and furnished.

5. One of the distinct advantages of El Chorrillo over Nuevo Chorrillo is the side availability of food for sale, mostly through a system of self-employed street vendors. The Cooperative should attempt to duplicate this service at Nuevo Chorrillo through the use of a Cooperative-owned vehicle outfitted to carry food products through the Cooperative for sale from the street.

6. Survey results from the question, "How do you plan to use the land which pertains to your house?" indicate a strong membership desire for a sizeable portion of land immediately available to each house. Therefore, plans for Stage III should not decrease the lot size below 250 square meters.

Macro Planning

A. Background

Nuevo Chorrillo Cooperative is located on the western side of the Panama Canal Zone, approximately 14 kilometers east of Panama City, and approximately 14 kilometers west of La Chorrera, on the northern side of the Interamerican Highway. The area is a minimally-populated rural setting of rolling hills and stream valleys. Schools, shopping, recreation, health care, and jobs are available in Panama City or La Chorrera. As one would expect, access to these life-survival services is the main problem voiced by those Cooperative members surveyed.

However, the problem is only temporary, as we shall see, and, as such, solutions should be couched in the form of short, midrange, and long-term planning objectives.

For all intents and purposes, growth of the existing Panama City conurbation is reaching its limits due to the boundaries founded by the ocean on the south, the Canal Zone on the west, the steep slopes of the mountainous water shed to the north, and the new airport to the east. Over the next decade or two, growth of the city will be toward the west because of:

- the Panama Canal Treaty which returns control of the Canal Zone lands back to the Panamanians;
- the development of a major fishing port facility at Vaca Monte, about two and one-half miles due south of Nuevo Chorrillo;
- the reconstruction of the Interamerican Highway into a limited-access super highway;
- installation of a publicly-owned domestic water service delivery system; and
- the availability of large areas of land suitable for industrial development.

What will this mean to the members of Nuevo Chorrillo Cooperative? It means that the fresh air, peace, and tranquility of the rural environment so highly prized by the Cooperative members will soon become a somewhat congested, suburban environment, eventually reaching a polluted, congested, high-density urban environment of a half-million people. The future quality of life for Nuevo Chorrillo depends on how well the government of Panama can control and direct this urban growth.

On the other hand, the lack of life support services currently very much on the minds of Cooperative members will be slowly reversed to an environment rich with the quantity and variety of services, jobs, and entertainment one would expect in a developed urban environment. The difference then, in 20-years time, between El Chorrillo and Nuevo Chorrillo will be the condition, type, and tenure of the housing stock.

B. Conclusions and Recommendations

1. Over the long term (10-20 years), job, food, commercial services, and entertainment will seek out the people of Nuevo Chorrillo. The problem will be preparing the Cooperative to deal with the impacts and exploit the advantages of a growing urban population. For instance, vehicular congestion will be a problem, but sales of cement blocks, doors, and windows will be an asset.

2. Over the short term, the immediate needs can be responded to as follows:

- Evaluate the Cooperative's bus system to increase efficiency in both operating costs and operating services. Primary emphasis should be placed on commutation, and the travel to secondary school.
- Evaluate the sources for delivering on-site health and dental care. The community center, when completed, could provide space for a preventive health and dental care delivery program to be offered to Cooperative members and the surrounding community at a predesignated time and day each week.
- Improve the delivery of food staples to the Cooperative members by increasing the number of "tiendas" and instituting a Cooperatively-owned version of the street vendor system. The "tiendas" should be located at street intersections.

3. As a mid-term solution, the economics of a small shopping center should be immediately evaluated to determine what is the minimum number of families needed to support the following types of commercial uses:

- Supermercado (supermarket)
- Lavandería (laundry)
- Cantina (tavern)
- Cocina Economica (mom and pop restaurant)
- Farmacia (pharmacy)

When that number is reached, the Cooperative should pursue a ground lease with a private investor/developer to construct an appropriate facility on the land set aside for the commercial center. The ground lease would provide the Cooperative with a cash flow and maintenance and management controls over the operation of the shopping center. The center should be constructed to allow the future addition of offices above the first-floor shops for permanent health and dental care, and other kinds of professional services that demand will dictate.

The Dwelling Unit

A. Background

El Chorrillo: The wood-frame, two-story structures were constructed about 1903 to serve as dormitories for the male canal workers and Balboa and Jamaica. The typical structure has approximately 30 rooms of about 11 square meters (120 square feet) each, 15 rooms per floor. The largest structure contained 90 rooms. With the exception of the ground-floor street side, each room is entered from a central patio open to the weather but enclosed on all sides. The dormitory rooms form the front and both sides of the patio enclosure. The rear is enclosed by common toilet facilities.

Each dormitory room provides shelter for one family of approximately 5.5 persons. Cooking is done either on a small electric range in the room or grills on the patio or second-floor balconies. A shared water supply in the patio is used for personal hygiene and the washing of clothes. Electricity from seven shared electric meters is available to each dormitory room. Monthly rents range from \$9.00 to \$12.00 with an additional \$6.00 per month for water on the average. Electricity costs were difficult to determine on a per-unit-per-month basis because of shared meters, and the case with which

one could plug into someone else's electric supply. We have assumed a range of \$10.00 to \$20.00 per month.

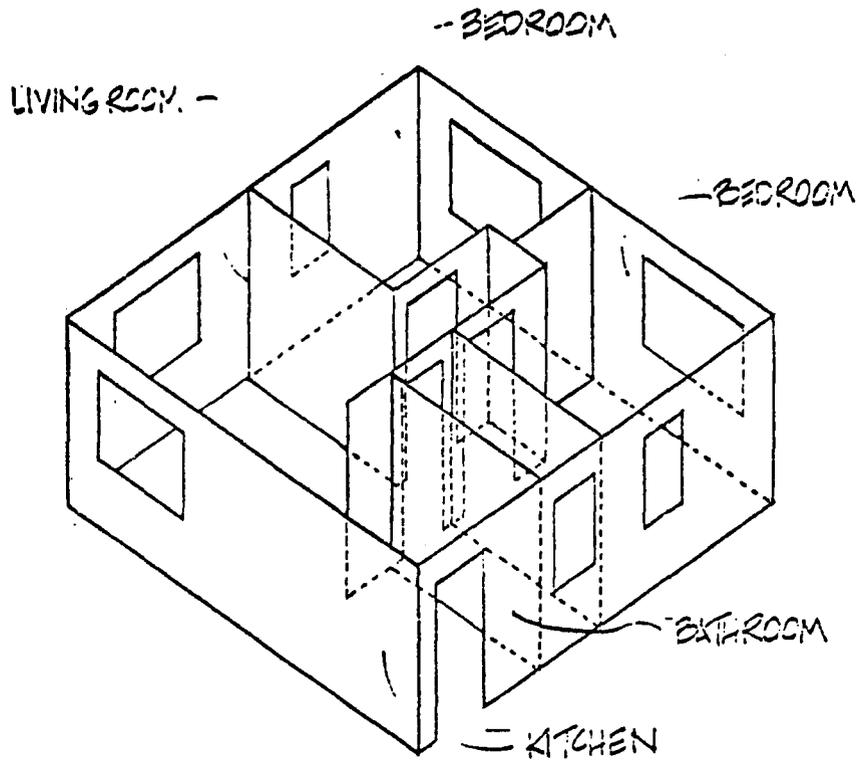
The vast majority of the Cooperative membership comes from a three-block area of El Chorrillo which is estimated to contain around 3,000 families, and some 150 structures. As a whole, the entire neighborhood known as El Chorrillo contains some 10,000 families, about 500 structures, in an area of approximately 10 square blocks. A comparison of the approximate population densities of El Chorrillo versus Nuevo Chorrillo is as follows:

	<u>Persons/Hectare</u>	<u>Persons/Acre</u>
El Chorrillo	459	184
Nuevo Chorrillo	124	50

Excepting the oppressively high population density and the inherent dangers of a lower income ghetto, Chorrillo is rich in the variety and quantity of goods, services, and entertainment. Push-cart vendors, temporary stands, and small shops abound on the streets of El Chorrillo. There is an elementary school and intermediate school in the neighborhood. There are a number of churches and cantinas.

El Chorrillo is conveniently located to bus services, jobs, and the central shopping area of Panama City. The planners of the Nuevo Chorrillo transport system have exploited these advantages well by bussing people back and forth between the old neighborhood and the new.

Nuevo Chorrillo: The basic dwelling unit at Nuevo Chorrillo is a one-story, two-bedroom, one-bath, 49-square-meter, detached single-family house. The floor is a four-inch thick concrete slab; the walls 4" x 8" x 16" concrete masonry blocks; the roof 2" x 4" wood joists at 24" on center, supporting a galvanized zinc, corrugated metal panel.



A breakdown of the room sizes is as follows:

	<u>Meters</u>	<u>Feet</u>	Square Meters	Square Feet
Bedroom	2.9 x 3.35	9' 6" x 11' 0"	9.7	104.5
Bedroom	2.9 x 3.35	9' 6" x 11' 0"	9.7	104.5
Bathroom	1.2 x 2.9	4' 0" x 9' 6"	3.5	38.0
Kitchen	2.0 x 2.9	6' 6" x 9' 6"	6.7	61.79
Living/Dining	3.9 x 3.35	12' 9" x 11' 0"	13.1	140.3

There were no closets. Bathroom fixtures included a walk-in shower and porcelain lavatory and water closet. Most kitchens contained an electric range and refrigerator, and a sink in a counter top. Cooking and eating utensils were stored on open shelves. A laundry sink and water were located on the outside wall adjacent to the kitchen and bathroom.

Seventy-one percent of those families interviewed indicated that they intended to expand their houses. Typically, those already expanded include a living room across the front of the house and one or more bedrooms added to the rear of the house. Another popular addition was a covered front porch.

B. Conclusions and Recommendations

1. Survey results from the question, "What do you like most about your house?" indicated that 24 percent of the respondents valued the spaciousness of their house most of all. Of the responses, spaciousness ranked second only to comfort, which could also be interpreted to include a feeling of spaciousness. In view of the research data, and the disproportionate reduction in monthly cost versus space, which is discussed in detail hereafter, the Evaluation Team cannot recommend a reduction in the size of the dwelling unit in Nuevo Chorrillo.

2. The quality of materials and type of construction is as maintenance-free as possible within the given technology and cost limitations. The use of

self-help labor for foundation construction did cause some problems early on in the construction period, but the inspecting architects, Fierro-Riba-Sousa, observed the causal relationship and altered the process to have the small builders pour the foundations on which to construct the walls.

Construction Process

A. Background

When comparing the cost and quality of the product sold to the Nuevo Chorrillo Cooperative members in relationship to the unit rented or sold under the various programs of the Ministry of Housing, the differences are striking.

In the place of the 400 dormitory rooms that burned on Christmas Eve of 1972, MIVI constructed a multi-story, elevator apartment structure containing two-bedroom apartments of similar size to the Nuevo Chorrillo house. The average rent is \$72.00 per month plus water. The monthly charge at Nuevo Chorrillo averages around \$50.00.

The typical MIVI single-family core house of 25 square meters, consisting of a kitchen, bath, and single room, sells for approximately the same price as the Nuevo Chorrillo Cooperative unit which is almost twice as large, and on a larger lot.

One of the main reasons for these dramatic differences is that the Cooperative has acted as the general contractor. The other reason is the self-help aspect of the construction.

The cooperative members saved the money necessary to acquire the land for the first section. Using the land as security, the Cooperative borrowed the money to build and equip a cement block production plant and begin the site grading and utility/street construction. With plans and construction

inspections by Fierro-Riba-Sousa Architects, the Cooperative rented the grading equipment, hired professional operators to do the site grading, and let a contract for construction of the streets, sanitary sewer, water supply and distribution, and storm water run-off systems.

When the money and local financing options were exhausted, Cooperative members, utilizing personal funds, went to Washington, D.C. to contact international development assistance institutions including the Inter-American Foundation and the Agency for International Development. The result was:

- a grant to provide for a window and door production facility, and buses to begin a much-needed transportation system; and
- a Housing Investment Guarantee loan of 3.4 million dollars.

At this point, the Cooperative could complete the site work, produce blocks, windows, and doors for sale to its members, and move large numbers of people from its new location.

With the block plant working three shifts around the clock, and a number of small builders to lay foundations, construct block walls, rough-in plumbing and electrical, and roof each structure, house construction was underway. Each block of approximately 24 houses was organized into a mutual-help group to lay the interior floors and install the doors and windows. The reward for their effort was a reduction in down payment and participation in a weekend work group where spirits were high, and food and beer plentiful.

Survey results indicate that only 17 percent of the Cooperative members chose to pay the full down payment and not participate in the mutual-help effort. Construction techniques were taught formally at weekend seminars and informally through neighbors, friends, and family.

With the houses closed in to the weather, lots were drawn and each family was responsible for the remainder of the house construction, including:

inside and outside stucco and painting, finish plumbing and electrical, ceramic tile, finish site grading, retaining walls, fences, walks, and landscaping. A number of families have added living rooms, bedrooms, and porches and the survey indicates a high degree of interest by all members to add to their structures.

B. Conclusions and Recommendations

1. As a general contractor administrator, the Cooperative nearly achieved its construction time and construction cost estimates due, in no small part, to Fierro-Riba-Sousa. However, they had no instruction in monitoring construction progress and cash flow. The Cooperative will need such instruction as their program continues to grow and becomes more complicated.

2. The mutual-help/self-help aspects of the construction process were arrived at through a process of trial and error and, in view of the quality and cost of the house, certainly appear to be worth modeling for future cooperatives. However, in view of the high percentage of male heads-of-household (83 percent), the dividing line between mutual help and self help was shifted to include some self-help items which may discourage participation by more female-headed households.

Development Economics

A. Background

The Cooperative purchased the first section of land from architect Jorge Riba, in 1973, for \$39,000. Today, that same land would be valued at approximately \$90,000.

The original estimate for the site work, roads, utilities, and land was \$1,800 per unit. Although it is difficult to judge the actual cost of the work because of inadequate cash flow monitoring controls which combined Stage I

costs with nearly-completed site regrading costs for Stage II, we would estimate the cost at \$1,750 per unit.

The breakdown of the total estimated development cost per house is:

- Site work and land	\$1,750
- Materials	1,860
- Contracted labor	450
- Financing	420
- Cooperative administration	<u>210</u>
Total	\$4,690

The houses sold for an average price of \$5,200.

A comparison of the Nuevo Chorrillo Cooperative against two detached-house-for-sale developments is as follows:

	<u>House Area</u>	<u>Lot Area</u>	<u>Sales Price</u>	<u>Cost Per Square Meter</u>
Nuevo Chorrillo	49 square meters	300 square meters	\$5,200	\$106.12
Almirante	47 square meters	260 square meters	7,800	165.96
Torrijos-Carter	25.2 square meters	N/A	3,626	143.88

B. Conclusions and Recommendations

1. The Cooperative can act as a developer. With proper technical advice, it is capable of locating sites, selecting housing types, planning and complicated delivery process, and pursuing financing.

2. The Cooperative can act as a general contractor and produce substantial cost savings. Future cooperatives should be trained in the elements of construction management, including:

- a firm understanding of who is responsible for what;
- a simple cash flow monitoring process; and
- a simple construction progress recording process.

3. The Cooperative can plan and organize a complex mutual-help/self-help construction process, and achieve considerable savings. The Nuevo Chorrillo model is worthwhile replicating.

FINANCIAL ASPECTS

Background

Over the period 1975-1982, the Nuevo Chorrillo Cooperative has plans to design and build a new cooperative community of some 2,100 units, housing over 10,000 people, plus community facilities. A project of this size and scope, particularly in a small country like Panama, implies a financial investment of a magnitude often contemplated only by the largest private businesses and the public sector. It is surprising, therefore, that a group of Panamanians from one of the poorest sections of the capital city, with low incomes themselves, could have been able to conceptualize such a project and then go on to secure sufficient financial commitments to assure that today at least one-half of the proposed project will be constructed and that, in all probability, funding for the remaining half will be secured over the next few years, guaranteeing completion of the project. When completed, sometime around 1982, the total investment will be in the range of \$15,000,000 to \$20,000,000, of which about 85 percent will be in the form of long-term loans.

A study of the cooperative's development processes shows that securing these financial commitments was an exceptionally difficult undertaking. Major public and private sector financial groups viewed the cooperative as a particularly bad risk. After all, this was a group of poor people who had yet to build a single house, much less a 2,100 unit housing project, in an area of Panama which at that time totally lacked the required infrastructure. The perseverance of the cooperative paid off at last, when, within a three-year period of time, the cooperative was able to convince a number of local and

international financial lending institutions that, in fact, the Nuevo Chorrillo Cooperative was an acceptable investment risk. The Panamanian Mortgage Bank (BHN), the Inter-American Foundation (IAF), and U.S. Agency for International Development (AID) together put up some \$5,000,000 in grants and loans as of the end of 1978, which ensured at least a first stage completion of 700 units. It is probable that additional funds will be obtained, in part from AID, to ensure the development of at least one-half of a second stage of another 700 units within a short time. In brief, the cooperative has demonstrated a degree of financial sophistication that has and will permit it to continue to tap into the financial markets and realize its dream of a new cooperative community.

The purpose to this section of the report, therefore, is to evaluate and quantify the financial viability of the cooperative, both to reassure, or perhaps forewarn its creditors, as well as to assist potential creditors in evaluating future financial assistance packages. In addition, this evaluation will assist the cooperative to improve its financial management operations and plan for future growth.

A. Financial Management

The capacity to effectively manage one's financial resources is one of several elements determining the continuing success or its absence in any group. The Nuevo Chorrillo Housing Cooperative is fundamentally no different in that respect from any other group; the difference being the magnitude of the financial resources it manages. Today it is about \$5,000,000, and within a few years, it may increase to four times that level. The crux of the matter is that the Cooperative must ensure itself, its members, and its creditors that the loans and grant are being put to the

uses for which they were intended, that the loans are and will continue to be repaid as scheduled, and that the financial condition of the cooperative is viable to the degree that potential financial failure is relatively remote.

(1) Uses. The BHN loan of \$750,000 was intended to be spent on site development. Indications are that these loan funds were used as intended in Phase I Development (700 units), which is virtually complete from the infrastructure standpoint, and currently are being applied to Phase II site development work.

The IAF grant of some \$734,000 provided for the purchase of buses, construction of a concrete block making plant, construction of a door and window plant, and cooperative education (\$315,000) on the one hand and for construction financing (\$420,000) on the other. This grant has been totally disbursed and used as intended.

The AID Housing Guaranty Loan of \$3,400,000 was made for long-term financing. To date, about \$2,450,000 has been disbursed, with the last closing scheduled for 28 December 1978, at which time about half the balance will be disbursed while the remainder should be disbursed by mid-1979. The AID long-term financing package will ensure the construction of 700 units, but because of the overwhelming selection by the cooperative members of the smaller, less costly A and B type units over the larger C type units, adequate funds will remain from the AID loan to finance up to an additional 70 A and B type units. All indications are that the HG funds are being spent as intended, and in fact, are almost being disbursed on schedule. Of the 700 planned occupancy agreements, 643 have been signed, triggering disbursement of loan funds by the projected target date of 31 December 1979.

(2) Loan Repayments. The BHN states that the Cooperative is current in making payments on the \$750,000 BHN loan as stipulated in the BHN/Nuevo Chorrillo Loan agreement. In addition, the Cooperative is current in its interest payments for the AID HG loan serviced through the BHN loan administrator. The BHN has been remitting the interest payments on the HG loan to the US Investor and AID, as required.

The last part of this equation concerns the monthly repayments to the cooperative by the cooperative members who have received a Nuevo Chorrillo unit. Past due monthly payments are a problem for the cooperative, although there appears to be a perfectly clear reason for this. Monthly payments are scheduled to begin when the member signs an Occupancy Agreement with the cooperative, regardless of the date he moves in. However, in 200 units, the National Electricity Company failed to install the electrical lines at the agreed upon time. Those Cooperative members who had already signed Occupancy Agreements for this section were unable to move in, and to make the Cooperative payments while continuing to make rental payments elsewhere. Now that the electric lines are being installed and members expected to move in before the end of this year, the Cooperative General Manager has reached an agreement with most which provides for 50 percent increases in their monthly payments for as long as necessary, to bring them up to date, and to avoid extending the overall payment period. This will immediately reduce the level of outstanding past due loan payments. In addition, the Cooperative had initiated two steps that would reduce the level of past due loan payments for other Cooperative members who did not have the electricity problem. One provided for the Cooperative staff member assigned to maintain the physical aspects of the Cooperative to assume the additional job of collecting past due

payments. The second provides that all cooperative members who are eligible for payroll deductions where they work (about 90 percent of the Cooperative members), must agree to a payroll deduction plan for house payments. This plan is being put into effect at the present time. While it is too soon to know how well these steps will reduce the level of past due loans, it appears that they are properly conceived. It might be pointed out that the Cooperative General Manager, in light of these provisions, does not view the receivables situation as a particularly pressing problem.

(3) Financial Statements. A general review of the monthly financial statements prepared by the Cooperative's accounting firm identifies two areas of concern. One deals with profits and losses of the cooperative enterprises (including several cooperative services such as the co-op store, bus system), and the financial returns from construction and sale of the housing units. From January through August of 1978, the cooperative experienced a loss of \$39,925, which if continued at this rate, would reach about \$60,000 by year's end. The profit and loss statement, however, does not reflect the gain or loss from construction and sale of the units. When applied to the estimated profit per unit calculated by the cooperative, this should total about \$185,000 for the four closings held this year to date. This would mean substantial overall profit by the cooperative, on its operations. An earlier audit by AID, however, stated that the cost of urbanization had been underestimated and that in fact the cooperative was selling the units at a loss. If this is true, this year's loss may be even greater than we projected above. Consequently, the true status of the cooperative as reflected in its current financial statements is unclear.

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The other area of concern has to do with the losses being experienced by the transportation system. In the first eight months of this year, the loss from operation of the bus system reached \$25,006, including \$5,524 in the month of August alone. Income from fares to August totaled almost \$38,000 while expenses totaled some \$63,000. The largest expenses were \$16,000 for bus repairs, \$25,000 for gas and oil, and \$10,000 for salaries. And because the buses were purchased with the IAF grant there is no amortization expense to take into account. It appears the fares charged are comparable to those of the private sector, which indicates that increases in the fare rate might make the cooperative bus system less competitive. The cooperative recognizes that the transportation system is a real problem but to date has been unable to reach any conclusions on how to rectify the situation.

Not possible with bus system to private operator.

The other cooperative enterprises are turning a profit, except for the Door and Window Plant, which, having opened only in August of this year, has yet to publish reports on its financial operations.

The important thing to be said about the cooperative's financial condition is that it is making a real effort to maintain a system of reporting that will identify problem areas. It now remains for the cooperative to develop an analytical system which will take advantage of the information provided by the financial books.

(4) Budgeting. To date, the Cooperative has not developed a budgeting system for use as a financial planning tool. While recognizing the usefulness of such a tool, the pressures of late to produce housing have been so great that the Cooperative has not been able to focus on this activity and thereby possibly allocate the necessary resources to prepare a financial budgeting program.

(5) Financial Controls. Immediately after incorporation as a cooperative enterprise, Nuevo Chorrillo hired the accounting firm of De Leon & Associates to provide bookkeeping and accounting services.. Some five years later, this same firm is providing a much more extensive line of services, due to the growth of the cooperative into a multi-million dollar enterprise. There are currently several specialized employees of the firm who work on one or another aspects of the cooperative's books, equalling about 40 persons/hours of work weekly. The work is carried out both in Nuevo Chorrillo and the Cooperative offices still remaining in Chorrillo. The role of the accounting firm consists of carrying the ledger accounts, preparing the payroll, accounts payable and checks, and preparing comprehensive monthly financial reports, as derived from the books being maintained by the firm on behalf of the cooperative. It is these financial reports that should provide the cooperative with the basic financial information necessary for good financial management.

The role of the Cooperative in the overall financial records management is limited to cash collections for member monthly payments and other payments for services rendered. These collections are recorded in four daily registers which are turned over periodically to the accountants.

The accounting firm also provides advice to the Cooperative in financial management on a request basis. Overall, the current procedure provides for an adequate system of internal control, and in fact provides the cooperative's members with a certain degree of confidence in their cooperative in matters of money management control.

The Cooperative does not employ the services of an external auditor.

On the other hand, the Cooperative Development Department of the Ministry of Agriculture has carried out audits of Nuevo Chorrillo, the latest having

Should consider internal audit

taken place in 1977. This audit is generally limited to ascertaining malfeasance on the part of the cooperative management. The Cooperative did not receive a copy of that audit; the implication in that being that no malfeasance was uncovered. While this is not an annual audit, its periodic occurrence does serve as one control method.

The Cooperative has established a Supervisory Committee in accordance with Cooperative development guidelines, whose role is one of oversight and control of management and directors. As the Cooperative has grown and become more complex, the role of the Supervisory Committee has decreased. For all practical purposes, the Supervisory Committee is not carrying out the role for which it was created. The management of the Cooperative seems to realize this is lacking, and has stated that efforts will be made in the forthcoming General Assembly to elect committee members with experience in those finance-related disciplines required for such work.

B. Income Criteria

(1) Reaching the Target Group. The AID Project Paper laid down certain specific criteria for selection of Nuevo Chorrillo residents who would receive a unit financed under the AID HG program. These criteria were:

- Family income must be less than the Panama City median family income estimated at \$350.00 monthly;
- 50 percent of the families must have family incomes at or below the twentieth percentile, no dollar figure was given.

The sample survey conducted by the Evaluation Team as an integral part of their effort indicated that family income for residents of Nuevo Chorrillo, all of whom received AID financing, is as follows;

<u>Monthly Income Category \$</u>	<u>Number of Families</u>	<u>Percentage</u>
0-100	--	--
101-200	17	25
201-300	23	34
301-400	16	24
401-500	5	7
Over 501	7	10
Total	68	100

Source: Sample Survey, December 1978

An analysis of the sample survey results indicates that 77 percent of the Nuevo Chorrillo resident families earn less than the median income, not 100 percent as required in the Project Paper. Assuming that a \$200 monthly family income is the limit for the twentieth percentile, it is estimated, again from the sample survey, that 25 percent of the families are below that limit rather than 50 percent, as stipulated by AID.

(2) Incomes vs. monthly payments. It has been stated in several documents including the AID Project Paper that Panamanians were not inclined to pay more than 10-15 percent of their gross family income for housing. The Sample Survey shows otherwise, particularly as it concerns Nuevo Chorrillo. The monthly payment for the typical A unit, assuming a mortgage of \$4,587, and including mortgage insurance, home owners insurance, Cooperative administration, water, trash removal, and reserve for bad debts, is about \$52.00. Assuming families would not pay more than 10-15 percent of income would imply that families earning no less than \$350.00 would apply for residence in Nuevo Chorrillo. The fact is that 77 percent of the residents earn less than \$350.00, indicating that they pay a larger percentage of their income to obtain a house in Nuevo Chorrillo than anticipated elsewhere. In

addition, 98 percent of the families surveyed stated that they believed that the monthly payment for housing paid to the Cooperative was fair.

C. Financial Replicability

Nuevo Chorrillo has been able to obtain financing for the initial stages of the housing development from several institutions in different forms for a number of interrelated purposes.

<u>Purpose</u>	<u>Institution</u>	<u>Form of Assistance</u>
Land acquisition	Co-op members fees	-----
Urbanization work	BHN	Loan
Construction financing	IAF	Grant
Block factory	"	"
Door and window factory	"	"
Purchase of buses	"	"
Cooperative training	"	"
Long-term financing	AID	Loan
School construction	J. Riba	Donation

In attempting to determine whether Nuevo Chorrillo could be replicated elsewhere, it is necessary to identify which, if any, of the above items could have been eliminated and still not affect the development of Nuevo Chorrillo housing project as conceived and formed today. Two items come to the forefront: the \$27,000 spent on Cooperative training and the \$40,000 used to purchase the buses--both of which were part of the IAF grant. Cooperative training was mandatory because of the need to train people with diverse needs and backgrounds in how to work together cooperatively. This training did not include training in motor skills necessary for self-help construction; these were learned on the job after construction of the units began. Transportation in the form of buses was required not only to transfer the Cooperative members to the site during the training and construction phases of development, but

also to assure prospective residents that transportation would be available once they relocated to a more remote area. Of course, had the Cooperative located a site closer to Panama City, transportation would not have been such a factor, but on the other hand, increased land acquisition costs associated with more close-in locations might have resulted in higher overall development costs and thereby eliminated a larger number of potential low-income families from participating in the project. Replication, therefore, of the Nuevo Chorrillo experience dictates that a source of financing--preferably a grant--be made available for cooperative training. And if remoteness of location is a factor, then transportation must be made available.

The other elements are not so key. In fact, the Cooperative financed the initial phase of the block-making plant with funds derived from Cooperative member assessments. And normally AID and many other financial institutions can provide financing for both urbanization and house construction, which is rolled over to become long-term financing. Both the block plant and the door and window plant are desirable elements, particularly in reducing some costs, but were essential only in serving the target group. The school was a fine addition at such an early date, and while it may have been a deciding factor for some families in selecting to move to Nuevo Chorrillo, the survey does not indicate that it was important. The Evaluation Team posed this question of replicability to the Cooperative General Manager, who essentially agreed with the Team's assessment; that this project could not have been developed without the IAF grant for Cooperative Training and purchase of buses.

D. Sources of Domestic Financings

The \$750,000 BHN loan is for a period of 25 years at 7 percent interest. Currently, it is being used to finance the urbanization works for Phases I and II. When the urbanization is completed, these loan funds could be used to finance the purchase of some 150 of the Type A units. Assuming BHN approval, this seems to be the best use.

The IAF grant has been used for several types of investments, parts of which are recoverable, parts of which are not, and some of which may become a source of income. The money spent to purchase the buses and provide cooperative training is not recoverable, while the block plant and door and window plant can generate income for the Cooperative, through sale of products to the general public, particularly given the anticipated growth in the West Bank of the Canal. The money currently used for construction financing could be applied to other uses once the construction phase is essentially completed. It could be used in a similar fashion as is being proposed for the BHN loan, that is converted to long-term financing towards the completion of the construction phase of the project. Assuming some \$400,000 would be available, then about 75 additional units could be financed, and as these loans are repaid, an addition eight to ten units could be financed annually from the loan proceeds generated from use of these grant funds.

A second use would be to convert these funds to seed money for financing of new cooperative developments. Nuevo Chorrillo would create a fund from which grants or loans would be made to fledgling cooperative groups, currently in a similar position to the Nuevo Chorrillo of several years ago. In order not to deplete the fund, it would be preferable that these funds be made available on a no-interest or low-interest loan basis. Such a source

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of seed money would help insure that cooperative housing developments like Nuevo Chorrillo could be replicated. Since long-term financing is more readily available than seed money, it would seem that using the bulk of the remaining IAF grant for new cooperative development would be the better of the two uses.

The management of Nuevo Chorrillo recognizes that long-term financing is assured only for one-third to one-half of the project. In order to secure the remaining financing, contacts have been made with the BHN and the Caja de Ahorros (National Savings Bank) to ascertain the possibility of part or all of the remaining required funds. Both institutions have indicated interest, but to date have not made any commitments. Together, these two institutions would be able to provide the necessary funds to finish the project, persuaded to do so.

E. HG Financing for Similar Cooperative Projects

AID has indicated its desire to continue its support for cooperative housing projects in Panama. This is most evident through AID's funding of the OPG to FCH Services, Inc. to develop a cooperative housing department in the Ministry of Housing. If AID is to finance other cooperative projects similar to Nuevo Chorrillo, however, it will have to take into consideration certain basic facts. One is that a cooperative such as Nuevo Chorrillo, even though its bias is to help low income families, cannot exclude membership to families whose incomes may exceed the median income level. This tends to be run counter to AID's policy only to assist families below the median income level. Secondly, the basic premise to a self-help construction program is that the Cooperative members learn how to work together cooperatively. This implies a certain amount of seed money for co-op education which may not be

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available through the Cooperative's own resources or through an IAF grant or anywhere else. Therefore, a source of seed money may have to be secured in order for AID to finance similar cooperative housing projects.

F. Employment Generation

To date, the Cooperative directly employs 63 full-time workers in its various cooperative enterprises. About 70 percent of these employees are Cooperative members, and of the remainder all but five belong to Cooperative members' families. For the month of November 1978, the payroll of the Cooperative totaled \$11,928, the bulk of which was funnelled into the pockets of Cooperative member families. In addition, an average of 60 persons are employed by these small contractors building the project, which when completed, will no longer provide employment. Given the plans of the Cooperative to undertake other cooperative activities at Nuevo Chorrillo, such as additional commercial activities, it is probable that additional employment over and above today's level will be generated by the Cooperative on completion of the 2,100 units.

G. Financial Considerations of Panama
Ownership of Canal Zone

Land costs vary considerably in Panama, from \$.25/m² in the neighborhood of Nuevo Chorrillo to \$75.00/m² in Chorrillo. The availability of a considerable amount of land with some services relatively close to Panama City would not only help to reduce costs associated with land acquisition, but also might be a factor in upgrading Chorrillo.

Conclusions

1. The financial management of the Cooperative, while adequate to date, needs to be improved to cope with the growth of the housing development and related Cooperative services as well as the ever-increasing amount of money the Cooperative is generating and managing. Without improved financial management the Cooperative runs the risk of potential money mismanagement and inefficiency.

2. Past due loans is a minor problem and measures taken lately by the Cooperative to resolve this problem are steps in the right direction. If not corrected, collection arrears could jeopardize the possibility of future long-term financing for additional sections of the housing project, and perhaps for other cooperatives as well.

3. Of all the services provided by the Cooperative, only the transport service is running and operating at a deficit. The continuation of this deficit implies that the bus system will eventually have to cease operations, or that the Cooperative will have to subsidize this operation from profits generated of its other operations or Cooperative member fees. Either alternative is potentially hazardous to the successful operation of the Cooperative.

4. The profit and loss statement is not an accurate portrayal of the Cooperative enterprise. Continued inability to determine the true picture as regards profits and losses could jeopardize the financial viability of the Cooperative.

5. The Cooperative has not implemented a budgeting and financial planning system, against which the actual financial management operations could be measured. Internal financial control could be improved.

6. The target group is, on the one hand, being met because the median income of Nuevo Chorrillo as a totality is less than that of Panama

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City. On the other hand, the specific AID requirement that all Nuevo Chorrillo families have incomes of less than the median of \$350.00 monthly, and that of this number one-half have incomes below the twentieth percentile, is not being met.

7. Panamanians will pay more than 10-15 percent of their income for housing, assuming that the housing being provided is recognized as a good value against the amount of the expenditure.

8. The Nuevo Chorrillo experience can be replicated from a financial standpoint if Cooperative training can be provided. This indicates that a source of funding for training must be obtained. Seed money could also be provided from the Cooperative's own resources, if available.

9. Additional sources of funds to finance the remainder of Nuevo Chorrillo are available in Panama. The problem is that Nuevo Chorrillo must compete with other institutions to secure this funding, and given Nuevo Chorrillo's past experience in obtaining local financing, it is not altogether apparent that the Cooperative will succeed.

10. The acceptance of families above the median income level as residents of Nuevo Chorrillo has assured that the new community will have an economic mix, which is a U.S. National Housing policy. It has also provided the Cooperative with a larger pool from which to draw leadership, due to the educational skills available in a larger number of members.

11. Nuevo Chorrillo, through its development of the multiple services concept and through its use of small contractors, has generated a high degree of employment, particularly among Cooperative members and their families.

12. Canal Zone land is a resource for suitably located housing development, especially low-cost housing, given the possibility of low land costs.

Recommendations

1. The agreement with FUNDAVICO must be implemented to assist the Cooperative to improve its internal financial management operation.
2. The Cooperative should more closely monitor the recent steps taken to reduce the number and amount of loans in arrears. A monthly report on arrears should be prepared by the staff member in charge of this operation and presented to the Board of Directors and the General Manager, thereby providing a month-to-month statement, against which to measure progress.
3. The Cooperative should undertake a study of alternative ways to resolve the financial problems of the transportation system. This study could be undertaken in association with the university in the same manner that the site design was selected, but by all means should be completed in time for discussion and resolution by the General Assembly at its meeting in February 1979.
4. The Cooperative should analyze its profit and loss statement with a view toward reconciling all income and expenses generated by the Cooperative. This would include a re-analysis of the actual urbanization costs as relates to the profits generated by the Cooperative through sale of the units.
5. A budget and financial plan should be prepared annually. The Supervisory Committee should be revitalized and put to work in scrutinizing the financial operations of the Cooperative.
6. AID should reevaluate its criteria for selecting a target group for Cooperative housing projects which are in fact new communities.
7. AID should accept the 25 percent housing expense to income rule of thumb for all future AID-financed projects in Panama.

8. Given the desire of both AID and the Cooperative to replicate the Nuevo Chorrillo Cooperative housing experience, and given that the construction financing portion of the IAF grant will not be used for long-term financing, then consideration should be given to using this estimated \$400,000 to set up a revolving fund to assist other cooperative groups with seed money needs. The formulation and implementation of this fund would be based on mutual agreement by the parties involved.

9. All efforts should be made to obtain the remaining long-term financial requirements of the Cooperative from domestic sources.

10. Nuevo Chorrillo should continue to accept families with incomes above the median income level as long as the median income to the community remains below the Panama City level of \$350.00 monthly.

Uses of Authorized \$75 Million HG Program

1. AID should consider providing HG funds for similar cooperative housing groups because the Nuevo Chorrillo experience is worthwhile and warrants duplicating. In addition, cooperative housing groups, if they follow the Nuevo Chorrillo example, are better able to implement AID's housing policy than many other potential recipients of HG funds, for the following reasons:

- Self-help activities organized by the Cooperative insure lower sales prices to recipients as well as a lower down payment when applied as sweat equity. This allows a lower income group to participate in HG-financed programs.
- Self-help activities also teach valuable construction skills that can be used in both employment as well as home improvement.
- A multi-service cooperative organized around a housing cooperative can generate employment, particularly for cooperative member

residents and their families. The use of small contractors insures that profits generated from construction activities have a wider distribution and reach small businessmen, some of whom are cooperative members.

- Cooperative development increases self-determination and insures a greater participatory role by the residents in governing their new communities.
- Cooperatives can facilitate economic integration as well as provide housing solutions for low-income families.
- Other cooperative housing groups, which are at earlier stages of development than Nuevo Chorrillo, exist today in Panama, and are potential vehicles for application of additional HG funds.

2. In providing additional HG funding for subsequent sections of Nuevo Chorrillo or for other housing cooperatives, AID should provide for construction of those services and facilities which complement the housing construction activity. This is particularly important in peri-urban areas where those services do not always exist in totality at the time of development. Housing cooperatives with their concept of community ownership can facilitate the operation and management of those ancillary services, for many of the reasons enumerated above.

AID should explore the possibility of providing HG funds for life support services (i.e., health clinics, food services, ride to work) in rural areas where housing exists and AID plans to finance new housing. In this case, residents of non-AID financed housing would be expected to use services financed under the HG program. The legality, as well as the feasibility from the standpoint of loan repayment, of this course of action should be studied carefully.