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**FAMILY COMPOSITION AND HOUSING CONSOLIDATION:  
THE CASE OF QUERETARO, MEXICO**

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## I. Introduction

The aims of this paper<sup>1</sup> are twofold: first, it attempts to assess the significance of household composition in the context of housebuilding and improvement in irregular settlements in central Mexico<sup>2</sup>. Second, it aims to identify the nature of the relationship between women and housing in these settlements. Attention is drawn in particular to the following: the way in which women's involvement in decision making over housing varies according to family type and the implications of these variations for housing standards; the way in which women's domestic labour is affected by housing; and the nature of the contribution made by women in the self-build process. The paper concludes with a brief review of the potential impact of family structure and gender relations on housing policies.

Studies of Third World housing have rarely considered the role of women either in the production or consumption of self-help dwellings. On the one hand this is due to the nature and scale of the issues addressed. For example, many analyses have tended to focus on the broad economic and/or political implications of irregular settlement development. However, even in micro-level, household or community studies, women have not been a specific focus of attention. The literature on approaches to house consolidation *per se* is particularly notable for its omission of women since, in most places in the world, women play a critical role in the process of home-building (Nimpuno-Parente 1985; Moser and Chant 1985; Vance 1985). This literature appears to fall into two main groups: 'top down' and 'bottom up'. The former deals with the problem of housebuilding in irregular settlements 'from above' stressing the importance of structural economic factors such as inflation in construction materials or land prices as a major determinant of the potential levels of house consolidation by the poor (Connolly 1982; Herner and Ziss 1980). Alternatively, the 'bottom up' approach deals with the problem 'from below' emphasising the influence on the consolidation process of factors operating at the level of the household (Turner 1972, 1976; Sudra 1976; Ward 1976).

Studies which fall into this latter category, which are particularly relevant in the context of this paper, have not concerned themselves with the issue of gender. Instead they have emphasised the significance of the following factors in the self- construction process. First, security of land tenure is seen as a *sine qua non* of housing improvement (Clarke and Ward 1980; Doebele 1983; Dwyer 1975; Sudra 1976; Turner 1976; Wegelin and Chanond 1983). Whilst families live under the threat of being evicted from their land, they will not use scarce and expensive resources building permanent homes. Rather the tendency is to construct a house out of lightweight, easy-to-assemble materials which may be easily dismantled and rebuilt in another area should an eviction be ordered. Beyond the prerequisite of secure tenure for house construction, studies have also stressed the importance of a series of 'quantitative'

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<sup>2</sup>Irregular settlement may be used to describe three main kinds of low-income neighbourhood in Mexico:

- a) Squatter settlements These are formed by invasion on either public or private land and legal title is, at least initially, non-existent.
- b) Ejidal urban settlements An ejido is an area of land handed over by the state to a specific agricultural community. This land may not be sold or in any other way alienated. Despite that, many ejidal communities sell off lots illegally. Legal title does not pass into the hands of the settlers until a presidential decree makes possible expropriation.
- c) Low-income subdivisions These arise as a result of land being sold to low-income families without services. The subdivision is irregular in the sense that it offends planning regulations.

variables such as length of residence, levels of education of the occupants, employment of the household head, and, most significantly, income, in influencing the willingness and ability to invest in housing (Reid 1962; Turner 1972, 1976; Ward 1976; Wegelin and Chanond 1983). However, literature that deals with the impact of more 'qualitative' aspects of low-income households on home construction, let alone the issue of gender, is very scant.

One of the few works on the relationship between families and the housing market in Latin America was that of John Turner in the early 1970s. In his article 'Housing as a Verb', he maintains that housing is not so important for what it is, as for what it does for people: 'The worth of the physical product cannot be assumed to lie in its physical qualities, but rather in the relationship between the object and the user' (Turner 1972, p. 159). Turner developed a schema of residential patterns embodying the idea that there are three existential needs operating for low-income families in their search for shelter: these needs were termed 'opportunity', 'security' and 'status'. The search for 'opportunity' (economic opportunities or jobs) as the purportedly principal housing need is reflected in the desire for a central location near to sources of employment. 'Security' refers to the need for legal tenure and this translates into a shift from renting to ownership. Finally, in the latter stages of the life-cycle, families may begin to think about the material quality of their homes. This last priority is termed 'status' to convey an idea of house consolidation as an outward manifestation of the family's desire to demonstrate their improved economic condition.

Whilst there have been numerous critiques of Turner's work (Burgess 1978, 1982; Harms 1982) in relation to its political and economic implications, none have focused attention on its androcentric nature. In particular the priorities outlined above are not necessarily indicative of households' needs so much as those of their male heads. The recognition of women's and children's priorities as the most direct 'users' of housing are ignored. In addition, given that women's work in particular is greatly affected by the material condition of the house, the use of the term 'status' to describe the desire to improve the physical quality of one's dwelling is inappropriate. Thus, Turner's work exemplifies the gender-blind approach characteristic of most of the literature on self-help housing. Not only does this literature ignore the fact that family members other than the male head may have different priorities for housing, it also remains silent about any say (however limited) women and children may have in housing improvement. Nor does it take into account the way in which households headed by females operate within the low-income housing sub-market. In the light of these gaps in the existing literature on the impact of household composition on decision making over housing, this paper attempts to demonstrate how the organisation and internal household division of labour are of vital importance to house construction, irrespective of the 'quantitative' variables outlined earlier.

## II. The Study Settlements and Their Family Structure

Before proceeding to discuss family composition and its relation to housing, the background to the study settlements will be sketched in. The fieldwork was carried out in Queretaro, a Mexican city about 200 kilometres north of the capital, Mexico City<sup>3</sup>. The city was originally founded in 1531, and retained a distinctly colonial appearance until the mid-1950s when the first multinational located there attracted by abundant space and low land prices. Since then national government has offered subsidies and other inducements for industrial decentralisation, under a nationwide programme to relocate industry from the overcrowded, polluted capital. Queretaro is a key priority zone for decentralised industrial activity due to its relative proximity to Mexico City and its abundant natural resources. Thus over the last twenty years Queretaro has grown five times in size and currently has a population of about 400,000. Much of this population growth has resulted from in-migration of rural people in search of industrial work. Many of the poorer migrants have settled in one of the ten irregular settlements on the outskirts of the city, which now accommodate approximately one third of the city's population.

Although methods of plot acquisition in the settlements vary, most people buy land illegally, either from community leaders or from the committees of agricultural communities. In some cases, however, they acquire land from the previous occupier. Tenure remains insecure until government intervenes to legalise ownership of plots (which range in size from 100 m<sup>2</sup> - 400 m<sup>2</sup>). Although the government agency, CORETT, has in most cases expropriated land acquired illegally in the settlements around Queretaro, the areas remain poorly serviced, lacking water, sewerage, paved roads, rubbish collection<sup>4</sup>. Indeed, one community waited eight years to receive electricity - the cheapest most available service in the city.

Of the entire owning population in the settlements studied, around two thirds of the families were nuclear or conjugal families (i.e. families comprising a husband, a wife, and their offspring). Another ten per cent were single-parent families - households where an abandoned, separated or single woman lived alone with her children. The remainder comprised extended families whereby one or more relatives of the host unit (nuclear or single-parent structure) resided in the same house, sharing all domestic functions and finances, and living as members of the family. For the purposes of this study this group was further subdivided into male-headed and female-headed extended units<sup>5</sup>. It is important to note that family structure is not a static entity. Over half the families in the study settlements had experienced the loss or gain of family members between 1976 and 1982. These changes in family composition are most likely to occur when male family heads are a little older than the average of 35 years and when a female head or spouse is likely to be about 40 years old, i.e. at a stage when sons or daughters are likely to get married and in-laws come to live in the house, or when a parent dies.

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<sup>3</sup>I worked in three settlements in the city and interviewed 244 families between August 1982 and June 1983. These were followed up with in-depth interviews with 47 of the families.

<sup>4</sup>CORETT (la Comision para la Regularizacion de la Tenencia de la Tierra) was established in 1974 in order to regularise tenure of urban squatter settlements in Mexico.

<sup>5</sup>There were also a few 'nuclear-compound' families whereby two or more nuclear families lived on the same plot of land, but had separate financial and domestic arrangements. They were excluded from the sample population on the basis that the degree of 'living apart' on the same plot varied greatly from family to family.

### III. Housing Consolidation and Decision Making

#### Families and Decision Making

What are the consequences of family decision making for house construction, and how does family structure affect the nature of decision-making? Preliminary research led to the view that people with higher incomes would have higher standard dwellings than those with lower incomes. However, after a short period in the field it became obvious that the relationship was not direct. The hypotheses that the inclusion or exclusion of family members, particularly women, in decision making was an important variable emerged early on in the interviewing stage after noticing disparities between the wage of the household head and house type. Confirming this hypothesis was the observation that in families where females had paid employment and in single-parent families women tended to have a more dominant position in the household than women without paid employment. As a concomitant women in paid work - who usually laid greater stress than their husbands on improving their homes - were more successful than women with no independent income in consolidating their houses (irrespective of average household income). Other relevant features were that in several cases of single parent families women began to consolidate their houses only after their husbands had died or deserted them. Further to this was that contrary to the hypothesis that extended families and single-parent structures, as 'deviant' formations, would be worse off than nuclear families, it was often nuclear families that were found living in shack dwellings, despite the head of household often having a higher wage than some of the single-parent families.

These observations have so far revealed that income may be managed and distributed very differently from one family to another, and that higher incomes are not necessarily directly related to increased levels of house consolidation. Much depends on the nature of family structure and the way in which resources are allocated within the household. Therefore, while the possibility of generating a financial surplus for home improvements is obviously a highly important factor, I suggest here that it is a dependent rather than an independent variable in the question of housing strategies. Of key importance, rather, is the composition and cohesiveness of the family unit, leading to the hypothesis that the degree of involvement of women in economic matters within the household is a major determinant of the level of consolidation and quality of the housing.

#### The Importance of Women's Role in Decision Making

The fact that women in non-nuclear families are allowed a greater degree of participation in decision making than women in nuclear families, particularly those who have no independent source of income, is a very important aspect of housing improvement. Not only is women's domestic labour affected by the quality of housing, but women also have an informed idea about the ways in which housing might be best improved to allow efficiency of housework. If women are not included in family decision making, it is possible that the improvements or extensions to housing might not benefit them particularly.

I have discussed problems of domestic labour in irregular settlements in detail elsewhere (Chant 1984). However, it is important to examine briefly here the difficulties women face in unserviced, inhospitable environments. Housing in the settlements varies greatly, but approximately a quarter of the surveyed families live in shacks made of flimsy building materials such as tin can or corrugated cardboard with dirt floors; another quarter live in houses that are a mixture of brick and board, and although half the families live in brick-built dwellings with concrete floors and roofs these 'finished' houses often lack glass in the windows, solid doors, plastered interiors, and easy-to-clean vinyl or wood floors. Furthermore, families generally average about three years living in a shack before they are able to begin to consolidate their homes.

When families in low-income communities without basic services, such as water, paved roads, sewerage and rubbish collection also lack soundly built housing, women have to work harder in order to compensate for deficient living conditions and to ensure minimum levels of hygiene. For example, the lack of a concrete floor poses many difficulties. Dirt floors are often responsible for parasitic infections in children such as hookworms, which can enter the soles of barefoot children, resulting in young children having to be constantly supervised in their play. As there is a considerable amount of dust generated by earth floors household utensils, clothes and furniture stored in wooden crates or cardboard boxes get dirty very quickly. In the dry season, women have to sprinkle water carefully and regularly on the floor to stop the dust from rising and, in the wet season, where sporadic rainfall may be torrential, households can find themselves up to their knees in mud, which entails the women re-washing everything. A lack of glass in windows also results in dust being constantly blown in from unpaved roads and open lots. Another problem of shack dwellings is the lack of space and the mixture of domestic functions in a single room, which involves the woman in the rearrangement of bedding and furniture from day to night. Furthermore, there is little security in provisional housing of this nature, and women feel worried about leaving their shacks unguarded for too long. The quality of housing, therefore, obviously affects women a great deal in a practical sense. If their needs are not given due consideration and decisions on housing improvements are wholly dependent on the attitude of the household head, including if and how housing is to be consolidated, then inevitably women suffer most, especially given that the greater part of their lives are spent in the home.

**Nuclear Families.** There are several factors inherent in the nuclear structure which contribute to a sharp demarcation between male and female roles. A couple alone with children have to find the best way in which to balance the paid (income-earning) and unpaid (domestic labour/childcare) sides of survival. A combination of the fact that women have the capacity to bear children leading to an interrupted working life, and the fact that men on the whole are likely to earn twice as much as women, favours men as the breadwinners (Selby et al. 1981). Furthermore, a man often does not wish his wife to work as this can threaten his authority in the family, undermining his role, which may already be precarious if his wage is low and his employment insecure (Bridges 1980).

In the nuclear families surveyed, two thirds of the women were fulltime housewives and for many it was their only option. Apart from being housewives in a society where domestic labour is undervalued and non-prestigious, their subordinate position is reinforced by the fact that they have no independent source of income. This, combined with the fact that the husband's wage is frequently the only wage, resulting in the family being wholly dependent on one income, results in women often having limited bargaining power and little say in determining how the wages should be spent. A man's economic condition is not dependent on co-operation with the rest of the household and as a consequence the quality of family life is dependent on his whim, or the strength of emotional ties with his wife and children. Unlike extended families where there is generally more than one wage-earner and income is handled more openly, in nuclear families men have greater scope to dispose of their wages as they wish. This is important, because in a situation where people are living at subsistence level, with little job satisfaction and few rewards, the marital relationship may be subjected to a great deal of strain and men will look to outside pursuits as a compensation (Bridges 1980; Bromley 1982). As a result, there is often a great deal of 'secondary poverty' in the nuclear units. Because male abuse may go unchecked and because men may be extremely frustrated, they may, and often do, spend a large portion of their wages on other women, drink, card games and tobacco, and only allocate a little to the family. Therefore, the standard of living of the male breadwinner is frequently higher than that of his dependents and much potential economic surplus is diverted away from family needs.

In 60 per cent of the nuclear families, in which women were earning, men made decisions across the

board on such issues as spending on clothing and domestic items and how much should be allocated to 'housekeeping', i.e. daily expenditure on food, transport, schooling and housing, and women were given very little say. The net result was that the decision to invest in housing depended on the attitude of the household head. If he spent the greater part of his time at home instead of at the local cantina, then more money was allocated to housing. But there is little inherent in the nuclear structure to ensure that this is the case. However, in the nuclear families in which women were earning, decision making was more of a two-way process, and it was in these families that housing was given a higher priority. These women usually cited housing as their first priority for investment for a number of reasons: for example, for security in case of a death in the family or desertion by the husband; to enable them to spend less time on housework and/or to set up small businesses in the home; or to enable the family to enjoy being at home together with reasonable levels of space and comfort. This last point is important, as male shack dwellers tended to spend far more time out of their homes with male friends. Thus, while the degree of expenditure of available income on housing is closely related to the extent to which men care about and feel responsible for their families, the situation of poor and overcrowded housing itself may force men to spend more time away from their wives and children. This often leads to a situation which progressively deteriorates into one of domestic stress and alienation, thereby reducing male commitment to improving housing.

**Extended Families.** In extended family structures, the division of labour between men and women appears to be less marked than in nuclear families. Why should this be so, and what implications does it have for decision making and housing improvement? Extended families are made up of either a core male-headed nuclear family or a single parent unit with additional relatives. These families are often the product of rational planning on behalf of the host unit, especially in the case of single-parent families where the incorporation of additional adults into the household provides greater scope for managing both paid and unpaid sides of survival more efficiently (Blumberg 1978; Kerns 1982; Tienda and Ortega 1982; Winch 1978).

When adult relatives move into the home of a nuclear or single-parent family they are rarely allowed to continue as members of the household unless they pull their weight. In the great majority of cases, they participate both in waged and non-waged work for the household (Arizpe 1978). This tends to result in the following pattern of family life:

- a) There are in all cases of extended families at least two earners within the home, and in many cases there are up to four or five if part-time workers are included;
- b) The housewife's role, which in nuclear families is often burdensome and lonely, becomes far more rewarding. It becomes shared, which amongst other things has the effects of improving the efficiency of housework, in the sense of dividing up tasks rather than trying to cope with two or three jobs at once, alleviating the domestic load of each worker, and providing company for otherwise menial and repetitive chores.
- c) As there are usually other adult women in the household, female spouses have a greater opportunity to take a paid job and to enter life outside the home. This is due to the sharing of housework, which results in the fulltime mother-wife role becoming redundant. Also, the presence of other women in the household contributes to female solidarity and strength, allowing women to stake their claims better. Furthermore, the fact that household earnings are pooled means that there is a vested interest for the household as a whole in sending all possible members out to work to maximise income.

In extended families, around half the female spouses have their own income opportunities. As a concomitant, decision making patterns tend to be more 'democratic'. First, because a greater number of

wage-earners in the household requires co-operation and a common budget if the household is to function as one unit - it is rare that one person's wage can be used for drink whilst another's is spent on housing or food. In turn, a common budget gives rise to the inclusion of a far greater number of people in determining the allocation of income, and the fact that women are frequently wage-earners results in women's priorities carrying as much weight as the men's. Finally, as paid and unpaid tasks are shared more equitably between earners and non-earners and between men and women, the work done by those who do not earn is often valued more highly than it is in other households. Therefore, non-earners' needs are also taken into account and are given more priority in household decision making.

**Single-parent Families.** In single-parent units the situation of women is slightly different in the sense that by virtue of being heads of household women have more power and autonomy. Female heads may decide themselves whether or not to take up paid work, although in some cases it is difficult for them to do so when they have young dependent children. However, as the majority of single-parent families form when a mother is in her late thirties, when most women can solicit help, both of a monetary and domestic nature, from their older children. As in extended families, this results in a situation where financial resources are combined, and decisions about their allocation are made more co-operatively than in nuclear households. The important point about these more 'democratic' decision making patterns is that housing appears to be given more attention more consistently, as the priorities of those who spend most time there are taken into account.

#### IV. The Organisation of Housebuilding by Families in Irregular Settlements

This section commences with a brief look at the way in which the current recession in Mexico is affecting housebuilding, placing the question of housing improvement in its economic context. It is followed by an examination of the role that family structure plays in housing consolidation, with a brief description of the way in which women participate in the self-building process.

##### The Economic Context

In the spring of 1983, a one-roomed house of 16 m<sup>2</sup>, built of brick with a concrete floor and roof, one metal door and one glass window, costs in the region of 50,000 pesos excluding costs of land and labour.

In terms of the legal minimum wage, this is equivalent to about five months' worth of unspent earnings. Notwithstanding that many female heads earn sub-minimum wages and that people are rarely able to save more than 5 per cent of their average weekly income, moreover, and that at least half the population do not save anything at all on a regular basis, a small house such as the one identified is equivalent to about four or five years of saving if the family has only one wage earner.

It is also particularly difficult to finance housing improvements at present, given that at the beginning of 1983 wages were increasing at a rate of around only 20 per cent whereas the prices of many construction materials such as cement, wood and iron were increasing at a rate of between 50 and 60 per cent. This estimate does not include labour costs which were also rising steeply. For example, in April 1983 while a privately contracted skilled labourer charged 450 pesos a day (or 1.5 times the minimum daily wage in protected employment) in November 1982, the charge for a bricklayer or roofer was between 800 and 1,000 pesos (or around 2.5 times the daily minimum wage). There are also other costs to consider, such as the price of a construction licence, connection to drainage and cadastral rates, leading to 50,000 pesos being a very conservative estimate. How does inflation affect the families in the study settlements? How do they cut costs? How far can their own labour be substituted for professional skills?

It has long been recognised that self-help housing is not necessarily self-built housing (Burgess 1978). In Queretaro 56 per cent of all surveyed families hired paid labour for at least part of all of their construction tasks, despite the costs. However, in certain areas of housing improvement, some families have advantages over others. To portray this more closely the process of housing consolidation will be examined in three stages:

- a) **Early tasks:** includes lot clearance, laying the foundations and the erection of a temporary shack;
- b) **Middle tasks:** includes bricklaying, flooring and roofing, i.e. tasks where the basic structure of the house is built;
- c) **Finishing tasks:** includes plastering, painting and electrical wiring.

It takes an average of three to four years from the date of initial occupation of land for families to build a simple brick and concrete structure of two to three rooms.

Early tasks such as lot clearance are relatively straightforward, although they can be long and arduous, especially where the settlements are on difficult terrain. For example, in two of the communities which were located on steep hillsides and covered in cacti and rubbish, a lot of around 200 m<sup>2</sup> could take six

months to clear with family members working in their spare time at evenings and weekends. Laying the foundations may also be arduous as the land that is usually ceded (illegally) to low-income settlements is rough and infertile (for this reason it is not used for farming), and much rock has to be broken to flatten bumpy ground. Tasks such as this are usually carried out by family members with the help of friends and relatives, and occasionally paid labourers who advise on the size of the foundations, the amount of cement needed and so on. However, when families begin to undertake building which involves specialised skills, they not only have to find the money for the building materials, but also for paid labour (Valladares and Figueiredo 1983). Most families hired paid help for flooring, roofing and bricklaying. A few families do these jobs themselves, especially if there is a construction worker in the home, or if they know a close friend or relative who has worked in the building trade. However, their concern with possible materials wastage means that in many ways it is more cost-effective to hire professional help. The 'finishing' stages of housebuilding, involving such tasks as plastering and painting interior walls, and wiring the house when electricity has become available in the settlement, are lighter and tend to be carried out by the families themselves.

### **Family Structure**

Although in all types of family just over half needed to hire paid help for at least one aspect of house construction, when the different types of houses and tasks are examined more closely, significant differences emerge. The first point to note is that the poorer-quality homes tend to be self-built. Whereas 90 per cent of all shacks were built by the families themselves, only one quarter of the brick and concrete dwellings had been built entirely by family labour. On the one hand there is a group of families who are too poor to erect more than a shack and they use their own labour because they have to, although the worst housing is not always occupied by the poorest people. On the other hand there is another group of families who substitute their own labour for paid help as part of a conscious strategy to cut costs in order to save money for other aspects of house improvement. When housebuilding is broken down into its component tasks, it appears that in less specialised aspects of building, such as painting or plastering, families in which there are a greater number of adults are at a distinct advantage in that they are able to do the job themselves. Extended families, therefore, display a tendency towards a greater degree of self-build than nuclear families in certain stages of building. For example, 59 per cent of male-headed extended families had plaster on the walls, and 77 per cent of them had carried out the job themselves, whereas of 52 per cent of male-headed nuclear families which had plastered house interiors, only 30 per cent had carried out the task themselves and of these the majority were families whose head was over 40 and had grown-up sons. Furthermore, women tended to be more involved in building in extended families, meaning that the potential for the utilisation of human resources is maximised in the extended family structure.

The other group of families, single-parent families, tend to hire paid labour, and a common remark from female heads was that women on their own could not build a home. This was especially true of young abandoned mothers with dependent children. However, a significant minority, one third, prefer to build their houses with family labour if they can, if they are lucky enough to have relatives living nearby who will help out. In some cases this is because they need to save money on labour in order to purchase the materials, and in others it is because female heads are often taken advantage of by workmen. Labourers try to capitalise on what they assume

will be a greater gullibility and passivity on the part of female heads, and sometimes women's comparatively small knowledge about building means that they are cheated out of money.

### **Women's Work in House Improvement**

Although there is frequent discussion of the fact that people in the Third World have to build their own houses (Burgess 1978, 1982; Garza and Schteingart 1978; Harms 1982; Pradilla 1978; Ward 1982), there is practically no mention of women's involvement in house construction. In reality it is very rare that women are not involved in some way in the building process, even if that involvement is merely an intensification of their routine domestic work, such as fetching and carrying water, clearing up after the labourers and providing them with food and refreshment. Women's role is often supportive, and not recognised by other family members, or indeed themselves in many cases, as active participation in the construction process, and for that reason in response to questions about their participation, women often denied the fact that they had any role to play in the construction of their homes. However, after being asked pointedly, did they or the children not do anything to 'help out', it turned out that they had wetted the bricks, mixed the mortar, passed the tools and cleared up the debris afterwards. Sometimes women were even more involved if labourers were hired for the work, as they had to be on hand to direct the building while their male partners were out at their jobs. However, when there is one man or more around, women tend to get relegated to the simpler or lighter chores.

This division of labour was more marked in the nuclear families than in the non-nuclear structures. For example, in one third of the nuclear units women had not taken any active role in building (although this still meant that they had become involved in additional domestic chores as a result of construction), whereas this was the case in only 9 per cent of the single-parent families and 18 per cent of the male-headed extended families. In most instances, however, across all types of family, women were involved in a secondary or supportive fashion: for example, climbing ladders to pass on tools, mixing and blending the materials, decorating the house interior and clearing the lot. A small percentage of females, particularly from single-parent and extended structures, were very actively involved in house construction and helped to carry out such tasks as bricklaying, roofing and in some cases electrical wiring. When women are actively involved in these capacities, not only is the family maximising the use of its own labour resources but it also gives women a sense of worth and a feeling of having a stake in the property. Although some construction work is very heavy, women were quite capable and indeed what they do in housebuilding is only marginally more difficult than much of the domestic work they carry out in low-income communities. It is also important to note that the sexual division of labour, so marked and actively reinforced in nuclear families, means that young male children in nuclear families are given construction jobs which in fact their mothers could do much better by virtue of their greater size and strength. This implies that women's inclusion in construction still comes within the sphere of domestic activities and is undervalued as work for housebuilding *per se*. Men would often say they had built their houses entirely on their own.

## V. Housing Standards and Family Composition

Having looked at the ways in which various types of family decide on housing matters, and the broad ways in which different types of family approach the building of their homes, the question of whether family composition has any significant effect on resulting standards will be discussed.

House standards were assessed using a modified index of dwelling consolidation used for a housing study carried out in Mexico City in the early seventies (Ward 1976). This index gave numerical scores to various levels of services (sanitation, electricity and water), structure (material of walls, roof and floor), and graded groups of consumer goods. The rounded mean score was 18, which would usually constitute a brick and board house with above average consumer goods such as a radio and a television, a legal electricity supply and a latrine.

Male-headed extended families had the highest mean score, followed by nuclear families, than female-headed extended families and then single-parent families (see Table 1).

**Table 1**  
**House Scores and Family Structure**

Family Structure	Scores			
	House Score	Standard deviation of house score	Lowest Score	Highest Score
Nuclear	18.3	4.5	7.0	27.0
Single-parent	15.4	3.5	8.0	20.0
Male-headed extended	18.7	3.7	8.0	25.0
Female-headed extended	16.1	3.6	9.0	21.0
Mean (all families)	18.0			
Mode (all families)	18 and 20 (bi-modal)			

The sex of the head of household appeared important, with male heads scoring on average two points more than female heads. This is hardly surprising, given that in cases where the female was the only earner, she generally took home a far lower wage than her male counterpart.

Controlling for sex of head of household, it seems that extended families scored higher than their nuclear and single-parent family counterparts, again possibly demonstrating the fact that extended families are able to make some savings on labour costs when they are involved in building tasks that do not need specialised knowledge.

Other interesting features of these numerical scores are that the nuclear families display the greatest range of house score, so that at the upper end of the scale there are one or two scores of 27, and at the lowest end there are quite a few nuclear families living in completely unserviced shacks represented by a score of seven; whereas extended and single parent families showed less variation with scores of between eight and 25. This suggests that basic minimums are perhaps satisfied a little more consistently in non-nuclear structures, regardless of income.

Densities were roughly constant across different types of family, with 2.5 people per room. However, there was a higher incidence of separate kitchens in extended and single-parent families, whereas in nuclear families more women tended to be confined to a lean-to or were forced to carry out culinary activities in one corner of the bedroom or living room. This may reflect the slightly greater bargaining power of women in non-nuclear structures.

Minimal differences in scores, densities and design between the various types of household indicate that on the whole there is no direct link between family structure and housing standards. Housing is mixed in all categories of family structure, reflecting amongst other things different stages in the life-cycle, types of jobs held by family members, and numbers of workers. However, when each type of family structure is considered individually, it appears that certain families behave more consistently with housing investment than others.

Overall, income progresses in a broadly linear fashion with housing standards; however, in conjugal families there is no significant correlation between income and house type (See Table 2).

**Table 2**  
**Average Weekly Household Incomes according to House Structure and Family Type**

Family Type	House Structure			
	Shack	Brick and board	Brick and concrete	Average family income
Nuclear	309.8 (35)	3044.2 (53)	4255.4 (79)	3630.0 (167)
Single-parent	2647.2 (12)	3545.0 (7)	4100.0 (3)	3131.0 (22)
Male-headed extended	4124.7 (9)	4458.0 (11)	4752.5 (24)	4548.5 (44)
Female-headed extended	2789.0 (3)	4462.0 (6)	4896.0 (2)	4082.0 (11)

Note: a. All incomes quoted in Mexican pesos (1983).  
b. Numbers in brackets refer to numbers of cases.

While the income of non-nuclear families increases with each improved category of house, in the case of nuclear families shack dwellers actually have a higher household income than those in brick and board dwellings. Furthermore, when per capita incomes are analysed, it appears that non-nuclear families live in better housing on lower incomes. For example, as Table 2 shows, an average nuclear family unit has 6.2 persons, meaning that the weekly per capita income is 499.3 pesos in a shack, 491.0 pesos in a brick and board house, and 686.3 pesos in a brick and concrete structure; whereas female-headed extended families contain an average of 10.6 persons, meaning that in a shack the weekly per capita income is 263.1 pesos, in a brick and board dwelling 420.9 pesos, and in a brick and concrete structure 461.8 pesos. Therefore,

although structural factors such as the labour market, the price of construction materials and earning differences within the working class are important, family structure also has a great effect on the willingness to invest in housing. Provided a surplus can be generated, in non-nuclear structures, disposable income tends to be allocated to home improvements.

Furthermore, many families thought that the quality and appearance of their homes reflected the relative happiness of the people inside it: a solid, well kept house symbolised a stable and happy family life. This suggests that one should take care not to overemphasise 'quantitative' variables such as income in determining levels of house consolidation. It was often voiced that the degree of investment in housing overwhelmingly depended on the whim of the husband and reflected his personal interest in the home and family. In extended families, however, the attitude of the husband tended to be less crucial to the consolidation of housing, as his authority in the family was scaled down by the existence of other earners.

## VI. Policy Implications

Although little has been done to date by planners in the fields of formulating and implementing integrated land, housing and servicing policies for low-income groups, in the presidential manifesto of the new administration, which began in December 1982, 'self-help' is heralded as the answer to the problem of low-income housing (de la Madrid 1982). The Mexican government wishes to harness the initiative shown by people to date in solving their own housing shortages, but to refine the present methods of procuring land, and to provide support in the form of subsidised building materials and credit in order to ensure that families achieve sound dwellings in a shorter space of time.

While the ideological basis for government promotion of sites-and- services solutions has come under fire from Marxian writers (Burgess 1978, 1982; Pradilla 1978), in reality self-help is probably the only feasible solution to housing the Third World urban poor on a significant scale. Given this situation, what kinds of factors should planners bear in mind before embarking on such programmes? The most significant finding of this research was that, while the nuclear family is the most prevalent type of family unit in low-income communities, there are also considerable numbers of non-nuclear units. Furthermore, family structure is a dynamic and changing entity. Given that extended families appear to have most benefits for their individual members, it may be worthwhile to consider designing future projects with this need for flexibility in mind.

Despite the fact that there is no explicit mention of gearing housing programmes to nuclear families in the offices of the State Housing Commission of Queretaro, conjugal families are implicitly the target group of their provisional self-help plans. For example, each family will (theoretically) be given a plot of around 100 m<sup>2</sup>, with one kitchen, one bathroom and one main room as a basic dwelling, which they can then add to incrementally as their needs and income dictate. Instead of building one main room, it may be better to build two rooms and to encourage families to incorporate relatives. The advantages with regard to co-operative domestic labour where there are few services or amenities, and with regard to housing improvement, have already been made apparent. There are also considerable potential benefits for the state, provided it uses the savings it may make to create an increased supply of housing for the poor. For example, savings could be made by the public sector on the use of land and the purchase of building materials. For two families who have chosen to live jointly, two or even three rooms can be built in addition to a large kitchen and large bathroom on a plot of land that is, say, one and a half times the size of a lot that would have been granted to a single nuclear family, resulting in several benefits. The costs of building the initial dwelling per family will be cheaper, as fewer kitchens and bathrooms will need to be constructed, and more economic use will be made of land. If each nuclear family plot is 100 m<sup>2</sup> and, therefore, each extended family plot is 150 m<sup>2</sup>, then for every 2,000 m<sup>2</sup> settled, 26 families may be housed instead of 20.

Secondly, the greater number of adults in an extended family not only has a distinct advantage in terms of reducing reliance on hired labour for certain aspects of the building process, but also a greater proportion of total household earnings is spent on housing than in nuclear families. Therefore, emphasis on co-operation, by laying a basic infrastructure conducive to family co-residence is positive not only for the households themselves, but also for the state, as planning agencies are likely to gain a greater degree of success more cheaply.

Another important factor to be borne in mind by architects and planners is that basic housing units ought to be built to better encourage certain other aspects of co-operation. For example, in conventional government built housing at present, while kitchens are serviced they are very small. Future design, space and layout, therefore, ought to take into consideration the housing needs of the family as a whole. For example, larger kitchens may be more conducive to co-operative cooking and cleaning, and therefore the space to be able to share housework may help to reduce the hard work and isolation associated with

domestic labour. Future housing and upgrading schemes should incorporate women's suggestions as to how the lot and buildings should be arranged so that design can best meet the needs of the users.

The provision of services, also ought to be geared towards women's priorities, given that their lives are affected more than those of anyone else by the lack of amenities. Water is usually the last service to be provided to settlements at present, and it is the one that causes women most difficulties. Without a piped supply, women are reliant upon tankers which deliver unpurified water to the settlements about three times a week. As there are few roads in those settlements suitable for heavy vehicles, families often live several hundred metres away from their water containers which involves women in much fetching and carrying. In addition to having to boil water for 20 minutes in order to ensure that it is safe to drink, they also have to use it economically as it costs 25 times the price per cubic metre of water from a conventional piped network, and when the tankers do not turn up, women have to beg water from residents of neighbouring middle-income communities (Chant 1984). Similarly, associated services such as sewerage are usually the last to arrive, even though they cause most problems for women. Planners tend to provide cheap and visible services initially, such as electricity, with the covert aim of demonstrating that the agency cares or is efficient. They should rather take into account the social costs incurred for women when weighing up the benefits of introducing different types of services to the settlements.

The likelihood of large scale dialogue between the state and low- income groups remains remote in the near future. However, there is no doubt that the incorporation of a greater range of social parameters in planning would be useful, and could lead to more successful housing and servicing policies (Elmendorf and Buckles 1980; Martin 1983). To a certain extent, infrastructure and planning can shape social processes, and we ought to find ways in which policies can best help those families which form the target group, and ways in which women - who have spent the majority of their time in the home - could best be aided by sponsored sites-and-services schemes.

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