Residential Condition in Historic Urban Centre of La Paz, Bolivia

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About one third of the world's population is slum dwellers living either in the fringes or the inner city itself. In the case of American Spanish colonial cities, most Historic Urban Centres have progressively become slum areas, therefore this paper aims to illustrate the poor physical conditions of residential environment of La Paz focusing on *conventillo* housing typology, which comprises an important alternative for low-income households who prefer to live in inner city. This study shows a comparative analysis between both, east and west, HUC areas due to the city's original foundation where Spaniards conquerors settled down in place of the former Indians, that has influenced in the development of the target area. The research is based on the field survey on the physical and socio-economic features and clarifies the differences and shared characteristics between both areas that will provide useful information for improvement.

Keywords : *Colonial city, Slum, Low-income people, Residential Environment, Urban improvement*
植民都市，スラム，低所得者，居住環境，改善型再開発

1. INTRODUCTION

Approximately one third of the world's urban dwellers are reported to live in slums, and it is foreseen that within 30 years that figure would have doubled to two billion—a third of the current world population, the majority of them in developing world (UNHSP, 2003).

According to UNHSP, slums categorize into declining areas (old inner city slums and new slum states) and progressing settlements (squatter settlements and semi-legal subdivisions). In the case of La Paz, colonized by Spain and laid out according to Law of the Indies[1] (Angelo and Lopez, 2005), the old inner city known as Historic Urban Centre (HUC) formerly a prosperous area undergoes deterioration since the original residents have moved to better-off residential areas and the old housings –conventillos[2]- have been subdivided and rented to low-income households, becoming this an inner city slum with degraded housing in a poor state of repair with inadequate urban services.

The United Nations Expert Group Meeting (EGM) held in Nairobi in 2002 defined a slum as an area that combines the

the following characteristics: inadequate access to safe water, inadequae acces to sanitation and other infrastructure, poor structural housing, overcrowding and insecure residential status (UNHSP, 2003).

La Paz is selected as case study since it is the largest city of Bolivia, with around one million inhabitants, and has been the most affected by the immigratory phenomenon started in 1950s. It concentrates most of the local and national establishments including the parliament and presidential palace, in which proximity the slum area gradually proliferates.

Conventillos are not only a representative of inner city slum in the case of La Paz, but also of many other Latin American cities where they are known as *casas de comodo* (Rio de Janeiro), *claustros* (Colombia), *palomares* (Guatemala), *mesones* (El Salvador) or *conventillos* (Argentina, Chile, Uruguay) (Beijjard, 1988). Therefore the relevance of this research lies in its applicability to other Spanish American colonial cities under the same deteriorated housing condition in inner city.

Local and national government, non government organizations as well as researches have shown little interest in inner city housing, a fact that could be explained by two aspects, on the one hand because of the rapid growth of the poor peripheral areas and their complexity where authorities concentrated more their concern as well as researches focused

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mostly on the phenomenon of urban expansion. And on the other hand, the inner city was mainly considered as an area inhabited by a little population with fewer socio-economic problems compared to the ones in the urban fringes (Angelo and Deguchi, 2004).

Among the few studies to be mention it stands out the one conducted in 1988 by Frans Beijaard, a Dutch scholar that focused on *conventillos* as inner city rental housing (Beijaard, 1988). Although his study represents a starting point and an important contribution, the scope of the research, as he himself affirms, does not stand for a big percentage of households and *conventillos* (49 and 20 respectively).

Consequently, this paper aims to illustrate the poor physical conditions of Historic Urban Centre housing, focus on *conventillo* typology, the tight accommodations and the socio-economic characteristics of households, as well as the factors that contribute to this situation.

2. OBJECTIVES

The existing Indian settlement along the Choqueyapu River played an important role originating a bipolar city: in the east river bank the Spanish city based on the grid pattern and in the west the Indian settlement with irregular layout (Cuadros, 2003). Up to the independency date (1825) different land use transformations occurred in both areas, these facts owed to physical and socio-economic conditions. However, during the colony (1548-1825) and post-colonial eras (until about 1930s) the patio housing was implemented as typology in both areas, remaining up to now several of them.

This physical and socio-economic division is a fact that lasts up to now and has its effect on the development of HUC. Thus the study pursues a comparative analysis on the residential environment of historic areas, east and west, in order to clarify differences and shared characteristics. The main objectives of this study are:

1. To identify physical and socio-economic characteristics in order to clarify the existing residential environment condition.
2. To illustrate the different and similar aspects of both areas in order to clarify if the historic division (physical and socio-economic) still remains.

3. RESEARCH METHOD

The method is mainly based on field survey. First, specific physical data was elaborated concerning all existing lots (1830) in HUC. Then, after evaluation it was possible to identify patterns such as land use, building use from 1° to 4° floors, building height, block and lot area as well to categorize

housing typologies. From this, the colony and post-colony housings were selected to carry out questionnaires concerning physical and socio-economic features. The questionnaires were directly conducted to households, where 145 *conventillos* (51.0%) out of 283 and 378 (44.0%) households out of 858 were taken into account.

Afterwards, the output was assessed and categorized through a comparative analysis between East HUC and West HUC to establish various patterns pointing out the differences and similarities between both areas.

4. HISTORIC URBAN CENTRE
4.1 Historic preservation

In 1977, Historic Urban Centre was recognized as a human settlement strongly conditioned by physical structure originated in the past and recognizable as representative in the evolution of a town (Letter of Venice, 1977). In such sense, La Paz' local government adapted this name for the inner city where in the VI century Spaniards and Indians settled down, although in 1976 the delimitation of HUC was defined based on historic and architectural facts as well as the preservation of different buildings classified into monumental (to be completely preserved), hereditary (façade and patio to be preserved) and integration (allowed to be demolished) (Gisbert, 1995).

4.2 Physical and social features

Historic Urban Centre covers an area of 112.7 hectares, which consists of 104 blocks, 1830 lots and 22 public spaces where 16,489 inhabitants live in a density of 146.3 per hectare. The average household size is between 3~5 persons (64.0%) where most of the residents born in La Paz and 15.0% immigrated from different regions of Bolivia (GMLP, 2003). In East HUC 51.0% of the total residents are concentrated in 57.0% of the total HUC area and in West HUC 49.0% in the remaining 43.0% (Fig. 1, Fig. 2, Table 1).
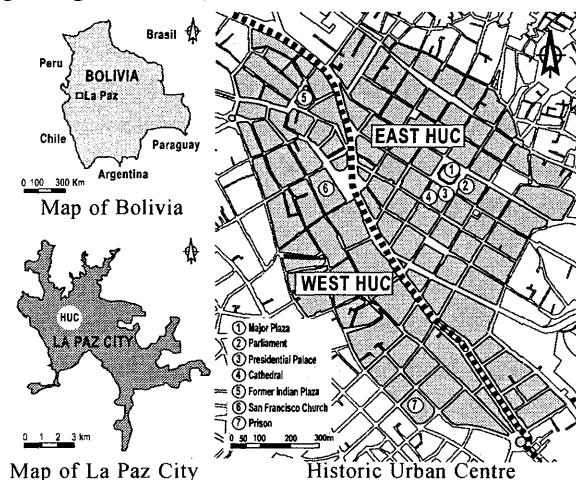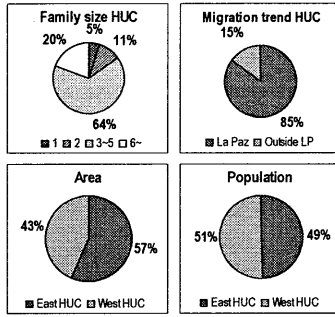

Map of Bolivia

Map of La Paz City

Historic Urban Centre

Fig. 1 Location maps

Table 1 Population

Table 1 Population

	Population	Area ha	Density inh/ha
HUC	16489	112.70	146.30
East HUC	8153	63.77	127.85
West HUC	8336	48.93	170.36

Fig. 2 Social and physical trends

## 4.3 Housing as a major building use

Commercial as well as residential are the major land uses in HUC. In east, commercial use represents almost half of the total area, 45.9%, mostly occupied by shopping centers, while in west this is more oriented to retail market, 60.3%. Residential use points out similar values, 12.9% and 10.8% respectively (Table 2). Nevertheless regarding to building use this considerably differs from land use, following the evaluation of all building uses from 1° to 4 ° floor it was identified that 62.1% (596 lots) in east and 60.5% (532 lots) in west have residential use either on 100.0% of the built up area or some percentage.

Table 2 Land use and building use

	HUC				EAST HUC				WEST HUC			
	Area (ha)	Percentage	1F Building (plot)	Percentage	Area (ha)	Percentage	1F Building (plot)	Percentage	Area (ha)	Percentage	1F Building (plot)	Percentage
Residential	13.6	12.0	365	19.5	8.2	12.9	221	22.8	5.3	10.9	144	16.1
Commercial	58.8	52.1	1213	65.3	29.3	45.9	558	57.6	29.5	60.3	665	74.5
Institutional	8.1	7.2	92	4.9	6.3	9.9	68	7.0	1.8	3.6	24	2.7
Education	9.1	8.1	85	4.5	6.2	9.7	62	6.4	2.9	5.9	23	2.6
Religion	2.3	2.0	19	1.0	1.6	2.5	13	1.3	0.7	1.4	6	0.7
Recreation	1.3	1.2	6	0.3	0.3	0.5	5	0.5	1.0	2.1	1	0.1
Health	0.4	0.4	7	0.4	0.3	0.4	4	0.4	0.2	0.4	3	0.3
Empty/Aban.	0.3	0.3	10	0.5	0.2	0.4	7	0.7	0.1	0.2	3	0.3
Vacant lot	1.6	1.4	33	1.8	1.3	2.0	23	2.4	0.3	0.6	10	1.1
Public space	3.8	3.4	22	1.8	2.1	3.3	8	0.8	1.7	3.5	14	1.6
Roads	13.4	12.0			8.1	12.7			5.4	10.9		
TOTAL	112.7	100.0	1852	100.0	63.8	100.0	969	100.0	48.9	100.0	893	100.0

Field survey, Analysis of HUC Map

The categorization allowed showing fifteen different combinations between building floors, where residential use on first floor (1F) (25.3% east, 35.7% west) is the highest trend followed by the occupation of residential use on both, first and second floor (1F-2F) with 17.6% and 13.4% respectively. However, there are cases with other uses than residential on one or two floors in between, for example first and fourth floor (1F-4F) or first and third floor (1F-3F) occupied by housing and the floors in bewteen mostly occupied by commercial or institution uses. Summarizing, 90.4% of all HUC blocks are occupied by residential use (Fig. 3).
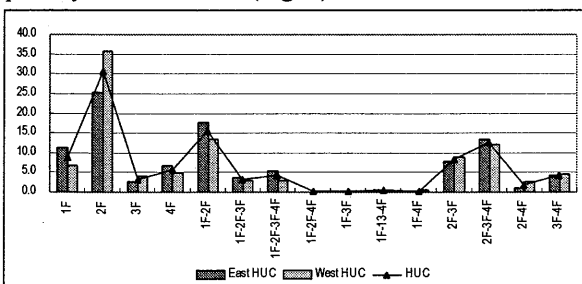
Fig. 3 Residential use by combination of floors

4.4 Housing typology

Three housing typologies were identified: apartment building, houses (attached or detach) and *conventillo*. Although *conventillo* typology is less important in quantitative terms than other housing typologies, it still constitutes a significant housing alternative for low-income households who prefer to live in inner city due to the proximity of potential job opportunities.

It is estimated that around 3500 people live in *conventillos*, representing almost 21.0% of the total residents of HUC (GMLP, 2003). In East HUC there are 522 households and 511 housing units (134 *conventillos*) while in West HUC 340 households and 354 housing units (149 *conventillos*), as seen opposite figures exist, in the former 2.1% have to share their housing with another family, and in the latter 4.1% housings are either empty, which are inhabitated although their physical structure can be in a good condition or abandoned due to their deteriorated physical condition that does not allow to be occupied. (Table 3).

Table 3 Characteristics of housing typologies

		HUC		EAST HUC		WEST HUC	
		Unit	%	Unit	%	Unit	%
HOUSEHOLD	Apartment building	1619	33.0	893	36.0	728	30.0
	House	2428	49.5	1066	43.0	1358	56.0
	Conventillo	858	17.5	522	21.0	340	14.0
	TOTAL	4905	100.0	2481	100.0	2426	100.0
HOUSING	Apartment building	1736	35.0	998	41.0	733	29.0
	House	2356	47.5	925	38.0	1440	57.0
	Conventillo	868	17.5	511	21.0	354	14.0
	TOTAL	4960	100.0	2433	100.0	2527	100.0
LOT	Apartment building	327	21.6	172	29.0	155	29.0
	House	518	40.6	288	48.5	230	43.1
	Conventillo	283	37.8	134	22.6	149	27.9
	TOTAL	1128	100.0	594	100.0	534	100.0

5. CONVENTILLOS IN INNER CITY SLUM AREA

This segment of the urban housing market comprises housings built in the colonial and post-colonial eras (until about the 1930s) that are characterized by physical deterioration and are each inhabited by several households, they are located just in the proximity of the Presidential palace or in areas that are situated along the most important traffic arteries.

These housings, which used to accommodate one household, have been subdivided by their original owner who moved to better-off residential areas and rented to lower-income families; *conventillos* are also known as absent owner housing. As outcome, overuse becomes a common phenomenon, and even though the majority of *conventillos* were constructed with solid materials like *tapial*[3] or stone, they deteriorated severely mainly because of the lack of maintenance. However,

Location of *conventillos* (Field survey) Exterior and interior view

Fig. 4 Existing *conventillos* in HUC

these buildings individually or collectively represent cultural heritage and claim for conservation (Fig. 4).

6. PHYSICAL CHARACTERISTICS

6.1 Conventillos' use

Conventillos are characterized by a low urban fabric, as much in east as in west the majority of them are two-floor-building where different mix of uses along residential exist. In east, on 1F Ho-Co-Of is the major trend, 33.3%, whereas in west Ho-Co corresponds 53.8%. Residential as a single use shows low trends in east, 2.6%, but higher in west, 15.3%.

On 2F the major trends greatly differ, housing as single use represents only 10.8% in east while this is much higher in west, 53.9%. The opposite happens concerning to Ho-Co, 48.6% in east and only 5.6% in west . Values on 3F are similar in case of housing, recreation and housing mixed with education use in east, and housing as single use is predominant in west, 67.7%.

Table 4 illustrates the different existing uses on each floor, as seen some of them compatible and others incompatible.

Table 4 *Conventillo*'s use by floor

Use	East HUC			West HUC		
	1° Floor	2° Floor	3° Floor	1° Floor	2° Floor	3° Floor
Ho	◎	◎	◎	◎	◎	◎
Co	◎	◎	X	◎	X	X
In	X	◎	◎	X	X	X
Ed	X	X	X	X	◎	X
Re	X	X	X	X	X	◎
He	X	◎	X	X	X	X
Ho-Co	◎	◎	X	◎	◎	X
Ho-In	◎	◎	X	X	◎	X
Ho-Ed	◎	◎	X	X	◎	◎
Ho-Re	X	◎	X	X	X	X
Ho-He	X	◎	X	X	X	X
Co-In	◎	X	X	◎	◎	X
Ho-Co-In	◎	◎	X	◎	X	X
Ho-Co-Re	◎	X	X	X	X	X
Ho-Co-He	X	◎	X	X	X	X
Ho-Co-In-Ed	◎	X	X	X	X	X
Ho-In-Rc	◎	X	X	X	X	X
Ho-In-Re	X	X	X	◎	X	X

Ho Housing	In Institution	He Health	◎	Existing
Co Commerce	Ed Education	Re Religion	X	Non existing
Rc Recreation				

6.2 Conventillo and housing unit

To date only 3.1% of *conventillos* built before 1800 remain in east, being the latest built between 1913 and 1930 as much as in west. Most conventillos are two century building since in both HUC areas they were built between 1801 and 1900, 74.5% and 64.1% respectively.

Regarding to *conventillos'* area, they are larger in west (601~900m²) than in east (301~600m²) but contradictorily with lesser rooms (25~30). If comparing housing, 21~50m² is the average area in both cases with the difference that there are three rooms per housing in east and four in west.

The average household per conventillo in whole HUC is two, nevertheless nine or more households can be found. Household size greatly varies, whereas it is four in east, it is only one in west due to the fact of several single or widow household type (Table 5).

Table 5 Lifespan, area and household in conventillo and housing unit

		CONVENTILLO						HOUSING IN COVENTILLO					
		HUC		East HUC		West HUC		HUC		East HUC		West HUC	
		Trend	%	Trend	%	Trend	%	Trend	%	Trend	%	Trend	%
Year	Minimium	Before 1800	2.2	Before 1800	3.1	–	–						
	Average	1801~1900	71.6	1801~1900	74.5	1801~1900	64.1						
	Maximum	1916~1930	1.5	1916~1930	22.4	1916~1930	5.1						
Area m²	Minimium	100~300	24.0	100~300	16.4	100~300	31.3	<20	19.7	<20	17.3	<20	25.6
	Average	301~600	32.0	301~600	34.4	601~900	32.8	21~50	68.6	21~50	75.5	21~50	51.3
	Maximum	601~900	27.0	1500-2000	3.3	5001~10000	1.6	51~75	11.7	51~75	7.1	51~75	23.1
Room	Minimium	10~15	11.0	10~15	8.2	10~15	9.4	1	10.4	1	4.9	1	15.6
	Average	25~30	29.0	35~40	20.3	25~30	31.1	3	20.8	3	27.9	4	19.7
	Maximum	>50	8.0	>50	4.9	>50	7.8	9	1.6	9	1.6	9	1.6
Household	Minimium	1	19.0	1	22.4	1	10.3	1	28.6	1	25.3	1	31.8
	Average	2	25.6	2	22.5	2	33.3	4	23.3	4	26.9	4	20.6
	Maximum	>9	0.7	9	2.0	>10	2.6	9	0.8	6	1.2	9	1.4

6.3 Patio housing typology

The main feature of colonial housing was the existence of central patios where all openings where directly oriented to

	One patio	Two patios	Three patios

Original plan. Today show modification due to the subdivision or addition of new rooms

Housing typology	PLOT						1° PATIO	2° PATIO	3° PATIO
	Front (m)	Depth (m)	Area (m²)	Built up area		FAR	Area (m²)	Area (m²)	Area (m²)
				1° Floor (m²)	2° Floor (m²)				
One patio	19.40	26.00	504.40	340.70	324.20	0.67	163.70	–	–
Two patios	20.40	43.88	842.45	556.75	575.85	0.66	152.20	133.50	–
Three patios	35.69	43.74	1191.30	810.08	957.80	0.68	192.22	65.50	123.50

**Fig.5** Original plan of ground level and upper floor of *conventillo*

the open space to get ventilation and sun light in shaded areas, the patio was completely opened to the clear sky. Today, three main typologies remain: one patio, two patio and three patio *conventillo*. One patio typology is the predominant in west, 71.8% whereas two patio typology in east, 39.8%. Taking examples of each one by random, it is seen that FAR is around 0.66 for all of them and the patio size diminishes according its location in the housing as shown in figure 5.

Comparing the original number of patios with the existing there is large modification or/and elimination of many of them. 93.3% of first patios have been modified and mostly reduced in west, and it affected more than 50.0% in east. They have been mainly transformed because of the construction of new rooms as well as offices or shops to rent, a fact that not only has reduced the patio area but also caused sun light and ventilation cut off since these new constructions directly face to the housing openings or some openings have been replaced by walls. (Fig. 6).
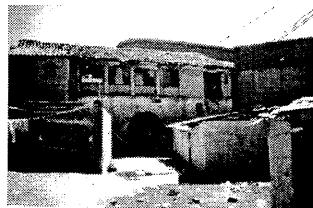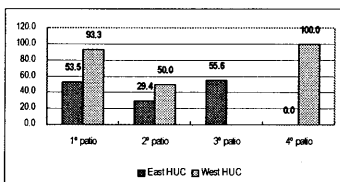
Modification of patios   Interior view of a patio
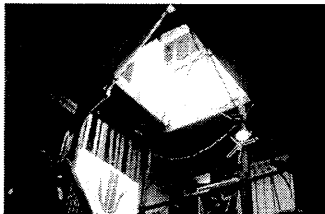
Lack of sun light   Construction of new rooms
Fig.6 Existing condition example of patio in *conventillo*

6.4 Housing room type

The average number of rooms per housing as much in east and as in west is 3 and 4 correspondingly; in many cases these numbers include bathroom and kitchen. All interviewed households affirm there is at least one bedroom in their housing which it is the average in east, 60.7%, and 2 in west, 50.0%. However, five bedrooms per housing in both areas are found (Fig. 7).

As just one family originally inhabited each of these colonial type housings, the poor quality and limited quantity of services also contribute to severe deterioration as it is the case of bathroom, where just 37.7% in east and 50.0% in west have this service due to the additional construction done either by tenant or owner. From the total housings where bathroom is separated 14.3% admits to share it with another family in east

Rooms per housing   Bedrooms per housing
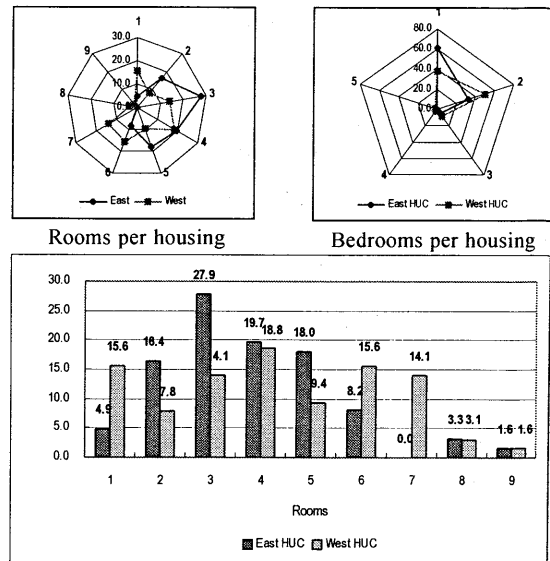
Type of room per housing
Fig. 7 Room type characteristics

whereas 8.9% in west. Only in rare cases have the *conventillos'* owners constructed additional facilities, the same applies to showers and sewage, for example two households need to share one toilet and one shower in whole HUC (Fig. 8).

	Appliances				N° of households sharing a bathroom								N° of appliances by shared bathroom							
					Household per one toilet				Household per one shower				Toilet per bathroom				Shower per bathroom			
	Shower	Toilet	Sink	Bath	1	2	3	Total	1	2	3	Total	1	2	3	Total	1	2	3	Total
HUC	198	213	205	17	2	23	4	29	1	24	4	29	25	4	0	29	26	2	1	29
	93.0	100.0	96.2	8.0	6.9	79.3	13.8	100.0	3.4	82.8	13.8	100.0	86.2	13.8	0.0	100.0	89.7	6.9	3.4	100.0
East HUC	114	120	118	0	2	11	2	15	1	12	2	15	11	4	0	15	12	2	1	15
	95.0	100.0	98.3	0.0	13.3	73.3	13.3	100.0	6.7	80.0	13.3	100.0	73.3	26.7	0.0	100.0	80.0	13.3	6.7	100.0
West HUC	84	93	87	17	0	12	2	14	0	12	2	14	14	0	0	14	14	0	0	14
	90.3	100.0	93.5	18.3	0.0	85.7	14.3	100.0	0.0	85.7	14.3	100.0	100.0	0.0	0.0	100.0	100.0	0.0	0.0	100.0

Relation between number of households and appliances

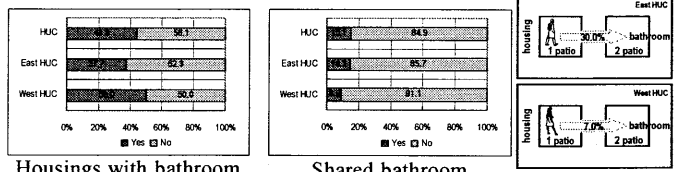Housings with bathroom   Shared bathroom   Location of bathroom
Fig. 8 Condition of bathroom in housing unit

Although the state of water, sewage and electricity supply covers almost hundred percentages, the installation is mainly shared by all households.

7. HOUSEHOLD BELONGINGS

7.1 Age, gender and household type

During the field survey 378 households were interviewed out of 858 (186 east, 192 west) and 145 *conventillos* out of 283 (71 east, 74 west). As a result, it was clarified that 492 people live in east and 542 in west, being the percentage of female higher in both cases. Yet for both the average age differs, whereas 18.9% are male from 21 to 45 and 14.4% are female from 16 to 20 years old in east, 18.5% are male from 16 to 20 and 16.3% are female from 41 to 45 years old in west. The total average age differs completely in both areas, 29.5% from 21 to

25 in east and 32.5% from 41to 45 years old in west. As seen population living in *conventillos* are much younger in west than in east (Fig.9).
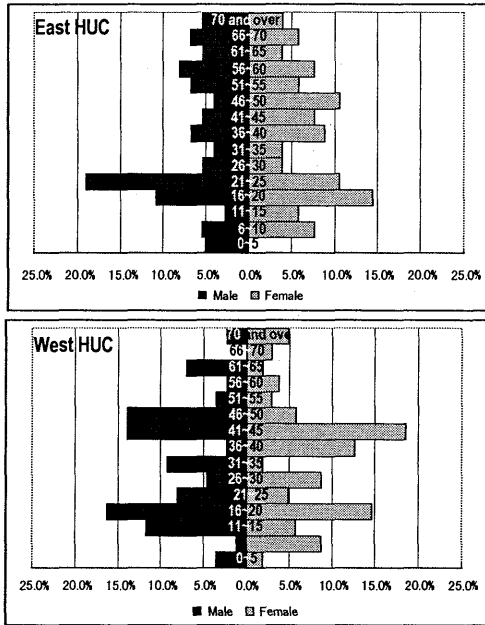

Fig. 9 Age by gender

Table 6 Household type

	Single person		Couple			Widow/Widowed		No couple		Total
	Female	Male	w/children	n/children	children + GP	w/children	n/children	Fa/children	Mo/children	
HUC	39	35	79	43	35	29	34	30	54	378
	10.3	9.3	20.9	11.4	9.3	7.7	9.0	7.9	14.3	100.0
EAST	15	16	39	23	17	15	16	15	30	186
	8.1	8.6	21.0	12.4	9.1	8.1	8.6	8.1	16.1	100.0
WEST	24	19	40	20	18	14	18	15	24	192
	12.5	9.9	20.8	10.4	9.4	7.3	9.4	7.8	12.5	100.0

While the average household size in east is 4 , 26.3%, in west it is only 1, 31.8%, fact that is attributable to the existence of several single or widow households. Couples with children are the predominant household type in both areas, 21.0% and 20.8% respectively, but in both cases there is the phenomenon of only mother in charge of children (Table 6, Fig. 10).
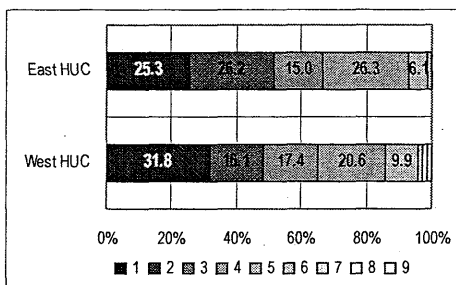
Fig. 10 Household size

7.2 Immigration trend and time of residence

The inner city slum area in La Paz as well as in other Latin American Spanish colonial cities is closely related to immigration. Respectively in both areas, 43.2% and 53.8% of households are immigrants. In most of the cases parents or grandparents moved into La Paz city searching for job

Immigration year   Reason for immigration (INE, 2001)
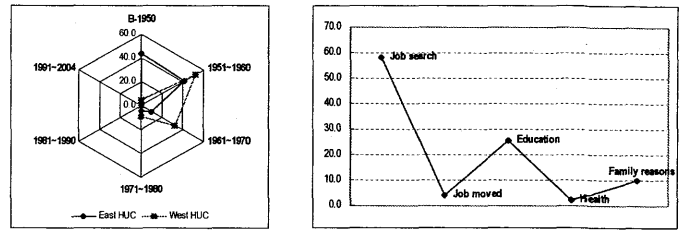
Fig. 14 Immigration characteristics

opportunities, 58.2%, others due to employment relocation, 3.9%, but many others because of education reasons, 25.6%), especially for their children (INE, 2001). The immigration event took place especially before 1950 in east , nevertheless it occurred from 1951 onwards in west (Fig. 14).

Most households had lived in the same *conventillo* for between 25 and 30 years. This suggests that the population is relatively stable, a situation that is mainly explained by the advantage of living in inner city where many facilities are available resulting in a saving of travel time and expenses (Fig. 15).
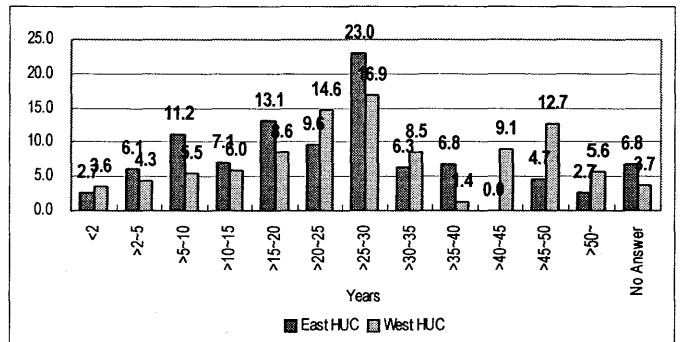
Fig. 15 Time of residence in *conventillo*

7.3 Household head

Household head differs in both areas; mother is in charge of her family in east, 41.3%, whereas both, father and mother are economically responsible in west, 39.0%. This or these household heads have different income that goes from <200 Bs to >1801 Bs. Income is higher in west, in which 22.0% get 801~1000 Bs monthly and between 601~800 Bs in east (Fig. 16).
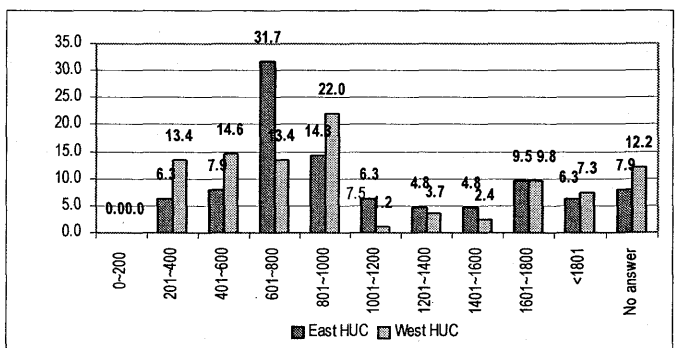

Fig. 16 Monthly income in Bolivianos (Bs)

The large majority of household head works within walking distance of their home in the inner city. While many work mostly in public institutions in east, 20.6%, they are involved in the informal sector, in west, 36.6%. As affirmed by UNHSP, in the global report on slums done in 2003, slum dwellers reside close to job opportunities where there is not need to invest in transportation expenses (Fig. 17).
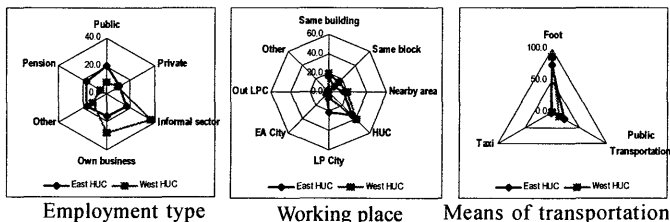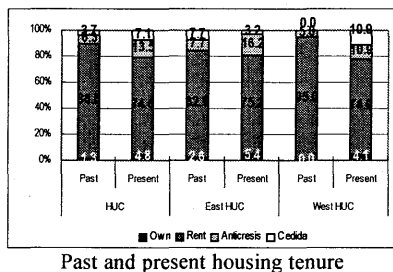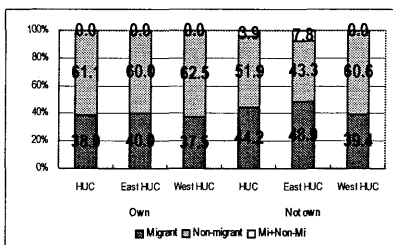

Employment type   Working place   Means of transportation

Fig. 17 Household's employment characteristics

8. HOUSING TENURE

8.1 Past and present housing tenure

During the interviews households were asked about the present and past housing tenure if they have moved to live in *conventillos* from a different place, from the total 39.8% in east and 51.3% in west affirmed to do so. To date, most of households live in rental basis, 75.2% and 74.0% respectively.

Figures show that ownership has increased 2.8%, rental basis decreased 7.3% but *anticresis*[4] increased 8.5% while *cedida*[5] has just a low value in east. Similar fact happened in west, rental basis decreased 21.0%, three fold than in east, *anticresis* as well as *cedida* increased and 4.1% have become home owners. Considering immigration factor, it is seen that neither immigrants nor a couple of immigrant and non- immigrant are mainly owner occupiers (Fig. 18).

Past and present housing tenure

Migration and ownership
Fig. 18 Housing tenure

8.2 Rental type

In La Paz, low and middle-income households have three general preferences concerning to housing tenure, in principle to own their housing, to live close to the inner city and to live in independent houses prior to other types (Angelo and Deguchi, 2003). As seen most households of *conventillos* live

in rental basis, 75.2% in east and 74.0% in west, although they affirm rent is cheaper compared to other residential areas it still is, in same cases, a significant percentage of monthly income.

In both areas <150 Bs is the minimum monthly rent. The average for both is 151~300 Bs as well as the highest rent 751~900 Bs. Concerning to monthly income, 201~400 Bs is the minimum for both. The average is higher in west than in east (801~1000 Bs) but equal in regard to the highest income (>1801 Bs) (Fig. 19).
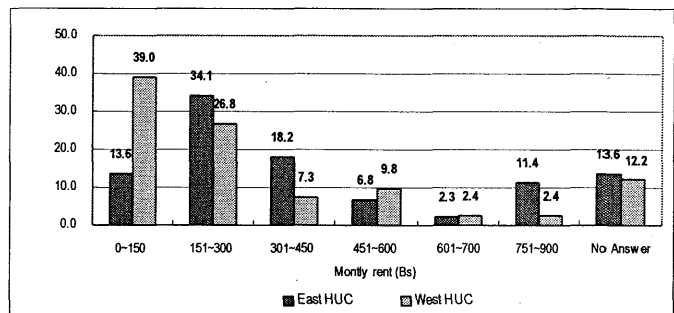

Fig. 19 Monthly rent in Bolivianos

Considering minimum, average and maximum values for income connected to rent it is seen that in west rent in some cases is about 74.6% of the minimum salary. Table 7 illustrates the relation between monthly income and rent through the significance of percentage of the latter.

Table 7 Relation between monthly income and rent

			HUC		East HUC		West HUC	
			Rate	%	Rate	%	Rate	%
RENT	Minimium		<150	26.4	<150	13.6		
	Average		151~300	30.5	151~300	34.1	<150	39.0
	Maximum		751~900	6.9	751~900	11.4	751~900	2.4
INCOME	Minimium		201~400	9.9	201~400	6.3	201~400	13.4
	Average		601~800	22.6	601~800	31.7	801~1000	14.3
	Maximum		>1801	6.9	>1801	6.3	>1801	7.3
RENT / INCOME	Minimium	Mi	<150/201	74.6	150/201	74.6	<150/201	74.6
		Ma	<150/400	37.5	150/400	37.5	<150/400	37.5
	Average	Mi	151/601	25.1	151/601	25.1	<150/800	18.8
		Mi	151/800	18.9	151/800	18.9		
		Ma	300/601	49.9	300/601	49.9		
		Ma	300/801	37.5	300/801	37.5	<150/1000	15.0
	Maximum	Mi	751/>1801	41.7	751/>1801	41.7	751>1801	41.7
		Ma	900/>1801	50.0	900/>1801	50.0	900/>1801	50.0
RENT / INCOME *	Minimium	Mi	<150/402	37.3	<150/402	37.3		
		Ma	<150/800	18.8	<150/800	18.8		
	Average	Mi	151/1202	12.6	151/1202	12.6		
		Mi	151/1600	9.4	151/1600	9.4		
		Ma	300/1202	25.0	300/1202	25.0		
		Ma	300/1602	18.7	300/1602	18.7		
	Maximum	Mi	751/>3602	20.8	751/>3602	20.8		
		Ma	900/>3602	25.0	900/>3602	25.0		

* In case of two person household head (double income)
▨ Rent over 50.0% of monthly income
▨ Rent about 50.0% of monthly income
▢ Rent about or below 15.0% of monthly income

9. MAIN EXISTING PROBLEMS

Existing problems concerning to housing, roads and public space have similar characteristics in both HUC areas.

Residents are mainly concerned about the housing deterioration not only due to the building lifespan but also because of the lack of maintenance from landowner and housing policies from government.

Although in some of *conventillos* there is not overcrowding, households affirm that housing size in relation to household size does not have equivalence. Since many patios have been modified it has affected the housings concerning to sun light and ventilation, making the inside space dark, humid and cold.

Streets, since they were designed for carriages drawn by horses, are narrow causing not only shadow from one building to another but also endless traffic congestion , in addition sidewalks are occupied by countless street vendors forcing pedestrians to walk on roads. Figure 20 and 21 illustrate the main problems from the households point of view.
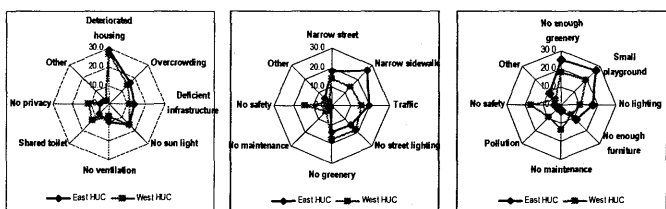
Housing   Road   Public space
Fig. 20 Main existing problems from point of view of households

Fig. 2 Different exterior view of conventillos' physical condition

Although housing condition in *conventillos* and residential environment in HUC are declining, many households affirm they will keep on living there. 32.8% will do it because of the accessibility to different facilities in east while 42.2% due to the proximity of working place in west (Fig. 22).
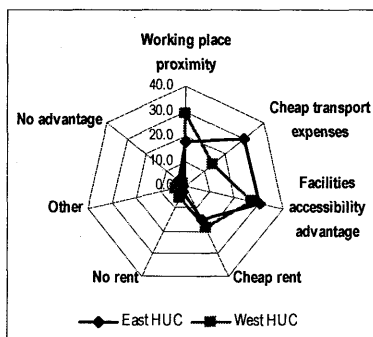

Fig. 22 Main advantages of living in *conventillos*

10. UNIQUE AND SHARED CHARACTERISTICS

As mentioned before, the two HUC's areas were established not only by different design criterion but also by different socio-economic aspects. On the basis of the questionnaire results it is identified that differences between east and west still prevails.

Table 8 shows that among thirty nine different attributes eighteen differ from each other in both historic areas. Concerning to physical condition, it shows that this is worse in east than in west where *conventillos'* area smaller with larger number of households and very poor access to sanitation.

Table 8 Different and similar aspects between east and west in HUC

			East HUC	West HUC
PHYSICAL CHARACTERISTICS	Building use	1° Floor	x	x
		2° Floor	x	x
		3° Floor	x	x
	Lifespan		◎	◎
	Conventillo area		x	x
	Conventillo rooms		x	x
	Conventillo household		◎	◎
	Housing area		◎	◎
	Housing rooms		x	x
	Patio modification	1° Patio	◎	◎
		2° Patio	◎	◎
		3° Patio	◎	◎
	FAR		◎	◎
	Room type		x	x
	Number of bedrooms		x	x
	Access to sanitation	Bathroom	◎	◎
HOUSEHOLD BELONGINGS	Age	Female	x	x
		Male	x	x
	Household type		◎	◎
	Household size		x	x
	Immigration		◎	◎
	Immigration year		x	x
	Time of residence		◎	◎
	Household head		x	x
	Monthly income		x	x
	Type of employment		x	x
	Working place		◎	◎
	Means of transportation		◎	◎
HOUSING TENURE	Tenure	Previous	◎	◎
		Present	◎	◎
	Ownership and immigration		◎	◎
	Rent to income		◎	◎
	Rent to room		x	x
RESIDENCE	Main problems	Housing	◎	◎
		Road	x	x
		Public space	◎	◎
	Reasons to remain		x	x

◎ Similar x Different

Population is much younger in east, fact that is attributed to the location of most important local and national establishments where this young population work, while older one are involved in the informal sector located in west, however this group gets higher income than the other. Although almost half of residents are immigrants in whole HUC, they immigrated earlier to east due to the opportunities that this better equipped had.

In both cases, rental is past and present housing tenure and immigrants have less possibility to become owner occupiers. Although rent is considered cheap, it still has significance on the monthly income of both groups.

As much in east as in west households are mainly concerned about the deteriorated physical structures of *conventillos*, nevertheless several households affirm they will remain in HUC due to the accessibility to facilities in east and proximity of working place in west.

11. CONCLUSIONS

Conventillos have a stable population composed in more or less equal parts by natives of La Paz as well as immigrants, this fact especially in regard to the proximity of potential jobs in west and easy access to different facilities in east.

Although households are part of the low-income group they do not belong to the poorest, since their monthly income doubles the basic national wage, 450 Bs, especially in east. In addition, a stunning characteristic is the high proportion of families headed by a single person, generally by a woman.

Physical condition is worse in east than in west, mainly because of the building overuse and transformation of the original structure. Housing as single use is representative of west area, while mix of uses predominate in east due to the proximity to important establishments.

The historic physical and socio-economic division still prevails; nevertheless it seems that there has been a turn, in which the former prosperous area —east- faces major decline concerning to *conventillos* while in former Indian settlement these housings present a better condition.

The deterioration of conventillos is reaching a high point, and since they can not be demolished due to historical value, it would be imperative the implementation of a comprehensive renovation policy, taking into account both,tenants and landowners, however this may be complex and expensive.

NOTES
[1] Design guidelines for the consolidation of Spanish colonized settlements
[2] From the meaning of "convent", assembly or gathering of people
[3] A brick of sun-dried earth and straw
[4] Housing contract, in which an amount of money is given for a certain period of time after which the money will be given back
[5] Free basis housing

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