# Healthy and Sustainable Habitat in Colombia

## Integrated Housing in Rural and Urban Areas of Small Municipalities

*ABSTRACTS: This is a demonstrative project of a protocol for a National Health and Sustainable Habitat in Colombia Programme. It justifies and describe a process that starts up with the developing of a GIS tool by which the Municipal authorities, the communities with support of academy are able to recognize their territory and establish agreements towards addressing Urban land and developing in the small municipalities throughout all the country.*

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# Shelter Situation Analysis

## Basic General Data

### Geography and Administration

The Republic of Colombia is located in Northwest South America, being the most septentrional country of the "subcontinent" with an extension of 1,141,748 $km^2$. Its insular territory (928,660 $km^2$), is represented by a large number of islands, keys, banks and reefs in both Pacific and Atlantic oceans. In the Caribbean Sea are San Andrés, Providencia and Santa Catalina Islands; in the Pacific Ocean, we find Malpelo Island. Climate: To understand our climate we must note that our territory is located in the Intertropical Confluence Zone and that variation of altitude over sea level (0m to 5,880m) originates three basic thermal levels: Hot, Mild and Cold, with some variations depending on relative humidity and extreme altitude. Geographic regions: Three long branches of the Andes Cordillera cross over the country along with peripheral

orographic systems, originate five regions: Caribbean, Pacific, Orinochean, Amazonian and Andean. The small insular territories may be included in Caribbean and Pacific regions.

Since 1991, a new Constitution introduced solid principles of administrative decentralisation, seeking increased popular participation and territorial autonomy of regional entities, Departments, Districts, Municipalities and Indigenous Territories. It is important to highlight the impulse given to municipalities, establishing them as the fundamental entities of the political-administrative division of the Republic. Our country consists of 33 departments (including San Andres Islands), 4 districts, 1,098 municipalities, 20 departmental "corregimientos" and 8,384 human settlements including municipal "caserios" and "corregimientos" and departmental and municipal police inspections.

At present, the administrative and fiscal mechanism for transferring national funds towards municipalities is through their categorization (Law 617 / 2000). This classification is very important, because the category determines the public expenditures of the individual municipality (Table 1). It also shows the high participation of small municipalities in the territorial occupation.

*Table 1: Municipal distribution by categories* [1]

| CATEGORY | POPULATION: P | MUNICIPAL ANNUAL CURRENT INCOME, CI: USD MILLIONS | # | % | POPULATION | % |
|---|---|---|---|---|---|---|
| SPECIAL | P > 500,001 | CI > 60.00 | 7 | 0.6% | 14,181,984 | 33.7% |
| FIRST | 100,001 < P > 500,000 | 15.00 < CI > 60.00 | 48 | 4.3% | 10,308,336 | 24.5% |
| SECOND | 50,001 < P > 100,000 | 7.50 < CI > 15.00 | 55 | 4.9% | 3,697,200 | 8.8% |
| THIRD | 30,001 < P > 50,000 | 4.50 < CI > 7.50 | 97 | 8.7% | 3,625,145 | 8.6% |
| FOURTH | 20,001 < P > 30,000 | 3.75 < C I > 4.50 | 129 | 11.5% | 3,126,277 | 7.4% |
| FIFTH | 10,001 < P > 20,000 | 2.25 < CI > 3.75 | 313 | 28.0% | 4,453,592 | 10.6% |
| SIXTH | P < 10,000 | I < 2.25 | 470 | 42.0% | 2,697,968 | 6.4% |
| | | **TOTAL** | 1,119 | 100% | 42,090,502 | 100% |

## Demography and Health

As state in *Departamento Nacional de Estadistica´s* site: www.dane.gov.co, the 2005 Census was the most modern operation executed in Latin America lately: it gave the country a very useful tool for analysis over many aspects from where we got most of data used in this paper. Diversity: Within the highly mixed composition of our population, 2005 Census distinguished the presence of African-Colombians with a

[1] Calculation made for the paper upon the DANE, Encuesta de Calidad de Vida 2003

10.6%, 4,461,593 people, living mainly on the coastal and insular territories; it also revealed a small amount of indigenous people, 3.4%, 1,431,077, from several ethnics, living all over the country, and a very little presence, 0.001%, 42,090 of Roms (gipsies) living mainly within the seven major urban areas.

*Table 2 Total, Urban and Rural Population, 2005 Census * (DANE, 2005 census)*

| DESCRIPTION | Urban (*cabecera*) | Rural (*resto*) | Total * |
|---|---|---|---|
| **Population** | **31,566,276** | **10,524,226** | **42,090,502** |
| Private homes | 31,338,492 | 10,458,479 | 41,796,971 |
| Other lodging | 227,784 | 65,747 | 293,531 |
| Men | | | 20,668,157 |
| Women | | | 21,422,345 |
| **Houses** | **7,839,484** | **2,698,251** | **10,537,735** |
| **Households (families)** | **8,224,792** | **2,506,252** | **10,731,044** |
| Occupancy | | | **3.90** |
| **Economic units** | **1,429,388** | **161,655** | **1,591,043** |
| **Agricultural units **** | | **1,742,429** | **1,742,429** |

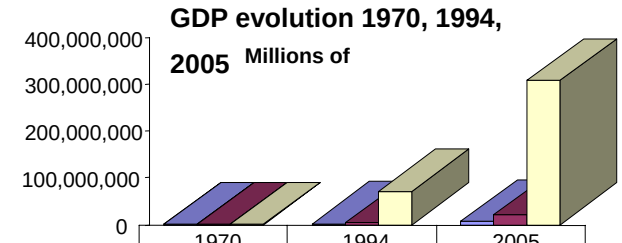
- Figures compensated from geographic omissions (1, 22%) and transference contingence (0, 26%).
- ** Units associated to rural dwellings

Health services underwent a neo-liberal privatization process since 1992, but most of Public Health actions remain of local and regional public responsibility. Particularly, gathering of relevant information about vectorial transmissible diseases, as Malaria, Leishmaniasis, Dengue fever, and American Tripanosomiasis (Chagas' disease) dealing with potential risk factors issued in dwelling quality is missing.

In his struggle against poor dwellings and bad health conditions, Michaels (1998: 87-95) show how very poor rural areas from fifteen Colombian departments have domestic infestation of Chagas' disease vectors (carriers) due to low dwelling quality, ignorance of risks and protective factors, and absence of effective control programs.

## Economy

*Table 3 Gross Domestic Product evolution: 1970, 1994 and 2005, Banco de la República.*




| | 1970 | 1994 | 2005 |
|---|---|---|---|
| PRIMARY | 203,331 | 2,055,680 | 7,016,219 |
| SECONDARY | 213,722 | 3.548,421 | 20,633,657 |
| TERCIARY | 453,098 | 71,477,885 | 307,276,962 |

Colombian economy has undergone a peculiar process since the 70's due to a diversification of export trade formerly based on coffee monoculture. Also in those years, phenomena known as coffee boom, "bonanza cafetera" and marihuana

boom, “bonanza marimbera”, drastically affected domestic product. Nowadays, on unsuspected dimension, narcotics trade has the same boom effect. Colombia is considerer a lower-middle-income economy as its GNI per capita USD 2,290 (World Bank).

Detailed analysis shows the little participation of construction in GDP, even though it increased 26% from the 2005 results (DANE). Measurable wealth is not concentrated in the real sectors but rather in the speculative tertiary activities. Non-measurable wealth originates on the new faces of a conflict that initiated 50 years ago with social equality purposes and nowadays became a land, weapons and drugs trade business that has affected morality, and has brought desolation, displacement and poverty to majority of people that are not involved in “drugs and weapons traffic”, or “money laundering”. People are in the middle of three main actors: Colombian army, parallel-armed groups (right wing), guerrilla (left wing) divided in three main groups.

## Shelter Related Facts and Figures

A question to figures (Tovar and al, 2006:16): “…The document argues that National Planning Department methodology lacks transparency as to understand exactly the way housing deficit in Colombia is calculated. On that aspect, the groups of *households without sewerage and without water supply, but with adequate walls and floors; and households without sewerage but with water supply and adequate walls and floors* do not appear explicitly in the Presentation Table, leading to an underestimation of the real housing deficit. The lack of reliability makes, that independent researchers rely not on official figures but use their own criteria calculating the deficits.”[2] Nevertheless, the tables in the paper were elaborated from National Department of Statistics, DANE, for its Spanish initials.

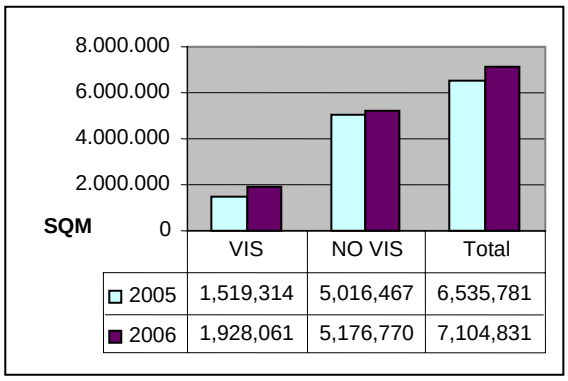
### Access to Shelter

Stock: The housing stock tendency merely covers the vegetative needs of housing (Annexed Tables 6-10), and housing construction of VIS and NO VIS[3] (Tables 4 and 5), refer to five cities and two metropolitan areas with over 500.000 inhabitants (Camacol: 2006). To meet 2006's quantitative deficit of 2,537,922 (Table 8), housing should increase substantially from actual production (see Tables 5 and 12), from which we can

[2] Free translation of the author
[3] VIS: Social Interest Housing for its Spanish initials

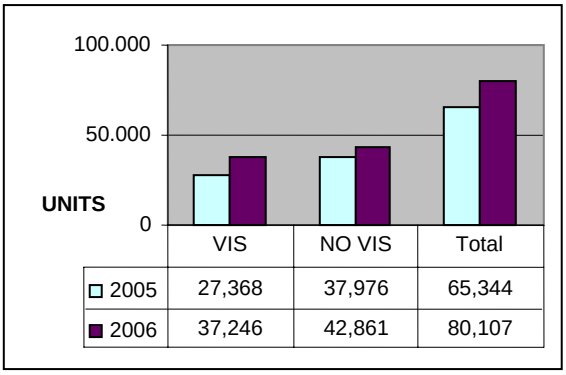
infer that constructed units in 1,012 municipalities left with less than 500,000 people were: 55,920 for 2005; and 58,600for 2006, in both categories.

Table 4 Housing constructing (m2), 2005-2006 (Camacol).




| | VIS | NO VIS | Total |
|---|---|---|---|
| 2005 | 1,519,314 | 5,016,467 | 6,535,781 |
| 2006 | 1,928,061 | 5,176,770 | 7,104,831 |

Table 5 Housing constructing (Units), Camacol.




| | VIS | NO VIS | Total |
|---|---|---|---|
| 2005 | 27,368 | 37,976 | 65,344 |
| 2006 | 37,246 | 42,861 | 80,107 |

Materials: In walls, ceramic block and brick or fine woods were used in 80% of both rural and urban areas; rough wood accounted for only 6% of cases (DANE). In a case study of 85 houses found in 27 projects in 17 municipalities (Ramírez, 2006:4-8): only 2% of floors had a finishing material on concrete slabs; 74% had structures in confined masonry; 12% in structural masonry; and the rest in other systems, including "bahareque" (traditional technique with wood, straw and mud, improved with Portland cement); 61% of roofs were in fibrocement tiles, 15% in ceramic tile, in concrete slabs 12% and 12% in zinc tiles. None of these cases, had a ceiling. Actors in Shelter Delivery and their Roles: Since 1939 when Social Housing started (ICT, BCH)[4] there have been several agencies in charge of it. Before 1991, state agencies did all the process: planning, building, adjudication, financing. Since 1991 with neo liberal politics, two agencies have been in charge: RSS, (Social solidarity Web) and INURBE (National Institute). Over the 2002- 2005 period a total of 2,923 projects were submitted to be evaluated by FINDETER (Territorial Financing Agency) actual responsible entity; from these, a total of 94,820 subsidies were delivered trough different agencies: Family compensation agencies (Cajas de Compensación Familiar), Public agrarian Bank (Banco Agrario), territorial entities: Departments and Municipalities, but it is the housing developer who in effect is funded by the subsidy. It is expected that shared participation between central and regional governments and Communities, in urban projects through a programmed savings plan (10% of dwelling cost), in rural projects trough a similar share represented in hand labour or construction materials, increases.

[4] ICT: Territorial Credit Institute and BCH: Central Mortgage Bank, for their Spanish initials

# Cesos Corporation

When Fernando Michaels was invited by RSS on April 1997 to make some recommendations about a Chagas disease control based on housing improvement he didn't imagine that this consult was going to turn over his professional life. This first experience and the particular success of his proposals for changes for integrity on vision and action from government, academic and community actors; intra and peri domicile analysis of dwellings; total upgrading instead of partial interventions and making feasible to increase the amount of housing subsidy from USD 1,200 to 1,800 for each dwelling (512 units in six municipalities); then the following nomination of this experience by Colombian Health Ministry to Best Practices contest at Dubai in 1999; the following edition of an integrating protocol of the National Chagas Disease Control Programme and the National Rural Subsidy Housing Programme for INS[5] in 2000; convinced Architect Michaels about the creation of Cesos Corporation as a Non-for profit organisation, on September 25, 2003 with the following social mission: "To promote health and general welfare of communities in harmony with environment, by means of the study, promotion and execution of investigations and projects in the fields of Physical Sciences, Human Sciences and Arts". Then as a new NGO, Cesos developed for the INS in 2004 a social participatory strategy for Dengue disease sustainable control, involving new approaches leading to an efficient social an environmental management system for municipalities. We have also prepared and held conferences and congresses, presented lectures, supported small women rural organizations and solved consulting on Social Housing Quality. These expertise is Cesos main strength as well as its board and closer volunteer collaborators. The corporation integrates working teams depending on the purpose of the project to be executed from a large Data Base of professionals. Each project has a Responsible director and an Administrative manager that become vocals at the Board. But we lack a permanent research team, which becomes our main weakness. To make an alliance with HDM-SIDA is the main opportunity for the Corporation to maintain its course to fulfil the mission.

[5] INS: Instituto Nacional de Salud, National Health Institute

# Provision of Land for Housing and "opportunities"

Law 388 of 1997, so called "Territorial Development Law" is the main instrument to institutionalize the way to develop the territory. A mandatory elaboration of a Territorial Ordering Plan, POT for its Spanish initials, is running on in all municipalities in their different steps: Scheme, Basic and Plan, which are reviewed by central authorities, Ministry of Environment, Housing and Territorial Development (MAVDT) and Regional Environmental Corporations. It is expected that POTs will control urbanisation in flooding or landslides risk areas.

According to the document 'Visión Colombia II Centenario: 2019'[6] (DNP: 2005: 255), "Task 4: To avoid the conformation of new slumps (MDG, Target 11) : During the next 15 years there will be 3.95 million of new families in urban areas, excluding one person householders. To avoid the conformation of poor human settlements, the same number of new dwellings (263,000 per year), will have to be constructed, … From which, at least 2.1 million will be of Social Interest Housing…" In the same period, government expects to overwhelm qualitative deficit in 804,000 households with low quality building materials and areas under minimum desirable. To achieve 2019 year national planned goals (DNP: 2006: 247-262), we cannot expect that the large and medium cities will be able to provide enough urban land and services for near four millions families (CAR: 2000:3; CEDE: 2006:84). On the other hand, the national security policy has been creating an appropriate scenario for people to return and recover their rural proprieties and heritage, allowing them and their families to come back to their small towns in many regions. According to UNHCR, CODHES [7] displacement figures, plus 93 daily displaced only to Bogotá, we can estimate that there are 4,000,000 temporary displaced inhabitants in Colombia. The small municipalities (780 under 20,000 inhabitants, 912 under 30,000) are not prepared either to address or to manage at least part of these issues, unbalancing the huge budgetary effort to recover Human Rights and Equity practice, which includes an enormous expense in defence (16.66% of Inversion; 2,82% of Total 2008 Budget).

Then increasing land value in the larger cities is a first obstacle, together with the fact that huge housing deficits are clearly non-operational concepts from the point of view of

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[6] Second centenary of Colombia Independency is celebrated August 7 of 2019

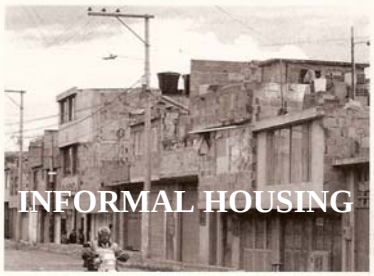
[7] United Nations High Commissioner for Refugees, 2006: 2,000,000; Consultoría para los Derechos Humanos y el Desplazamiento, 2005: 3.662.842 in temporary displacement situation.

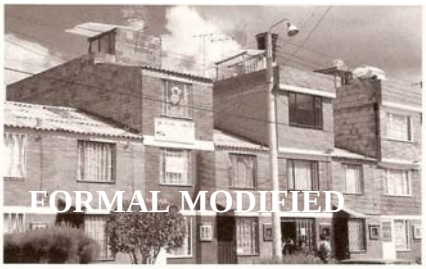
housing policy (Ternent: 2007). Thus we have to enable municipal administrations to face this issue and therefore to survey regularly the people that need and will need a shelter and that will be able to afford it opportunely. In small villages, “the lack of a land restriction enables a number of alternatives to be contemplated, which could not be in more dense areas” (Ternent: 2007); the problem is the people searching for “opportunities” in large cities, not even in medium ones.

Therefore the collecting of relevant primary information that may support real issues is a fundamental task, the creation of “opportunities” is the challenge and to get people to commune with people is the final aim.

## Shelter design and quality

A line has to be drawn dividing the way physical planning is carried out, depending on the size of the settlement. In large and medium cities corruption level is subtle and influence law at high spheres; i.e. trying to incorporate to urban perimeters reserved lands or lowlands. However projects are better built because there is an stronger control from urban authorities and consumer selection, but costs are so high that informal dwellings, 50-70% of city, keep on growing with additions of new storey, generating seismic risks and unhealthy environment; even though they have been “regularized”, as they have access to public services. At Bogotá, a “Quarter’s Legalization Plan” (Alcaldía Mayor de Bogotá) has covered 98% of neighbourhoods.






Informal urbanization persists in places where institutionalisation struggles with public and private corruption. Medium size cities carry the same structural problems of large cities and their budgets will be exhausted trying to upgrade their main urban equipment for actual needs and increasing demand of services. In small villages, incorporation of inadequate lands for urbanisation is done easily, for lawmakers are the owners of the expansion sites regardless the fact that these are insane or located in risk areas, or it is unaffordable to bring over public services (Michaels 2006:1-3). Therefore, projects in small municipalities often are done without a careful planning and lacking urban basic services. On the other hand, socio economical conditions and pressure by armed groups

have led the country to the uneven settlement situation showed in Table 1, where 81,5% (912) of municipalities under 30,000 inhabitants occupy more than 95% of the territory with just 24,4% of population. The former situation generates an unsustainable situation in the cities at the medium term, for housing quality and land provision. Furthermore, Mayors do not have relevant figures about the actual inhabitants, neither modern information systems that permit mapping analysis and planning to do a personalized housing design and a good management of dangers or risk conditions. Additionally rural areas of many of these municipalities (at least 122 from 15 studied departments out of 32) are endemic locations of Chagas disease which is transmissible in domestic environment. Urban areas of municipalities below two thousand meters of altitude present recurrence of Dengue fever due to a bad domestic management of water and solid waste disposition. These endemic diseases are associated to the presence of similar risk factors in the house (Michaels 2004: i-ii), and Malaria due to lack of sanitation in slum urban areas (El Tiempo: 2007-07-16). Besides, detriment of shelter quality originated since private investments, that have to make their profits, were involved in VIS production with a market scheme, deteriorating quality housing standards in behalf of the amount of units, even though we have rules and Building Codes: Seismic (NSR/98), a regulation to build with “bahareque” (mud or other cemented soils and cane system) and rammed earth walls; a code for electrical installations (RETIE); and a Sanitary Code (RAS).

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Rural developments of VIS generally do not take cultural conditions, bioclimatic considerations or health protective factors, in planning and choosing building materials into account. Neither community participation in planning and execution is contemplated, so new structures are often not utilized, and people remain in their traditional structures, using new dwellings as shelters for cattle or as storehouses. Rural VIS is ‘negotiated’ in the nearest capital city (regional or municipal) with a ‘promoter’ whose target is profit at the expense of quality. Government programs and housing

resources are fragmented, do not propose an integrated solution, and Chagas disease is not been reported as morbidity in official health figures (Michaels 2002:9).

## Addressing Urban Development

Recalling preamble of the second United Nations Conference on Human Settlements, Habitat II, Cesos proposal is to establish a national programme to address adequate shelter for all and sustainable human settlements development in urbanizing Colombia, alleviating the expected housing needs of the country during the next 15 years by providing to local government and communities of circa 900 municipalities with less than 30,000 inhabitants, improved methods, global environmental strategies and modern instruments, to supply sufficient healthy and sustainable housing for an addressed urban-rural growth based upon relevant figures and real commitments. Opening up more room for people to become involved is the new frontier for urban management – and real decentralization (CRUZ and al.: 2005:38; BIAGETTI: 2006). This make possible for people to commune with others.

Change has been happening in Colombia. Participatory processes all over the national territory are being undertaken everyday. Governmental actors are recovering governability by means of joint ventures, associative processes and hearings (MARIÑO: 2003: 11), recognizing that communities can be key actors. But these must be supported with modern and able tools and methods that let them address the creation of wealth in an ethical way far different from what has been occurring since we were involved in narcotics production and trade, such as the recovery of a fortune of eight thousand million dollars from a death “capo” (El Tiempo, April 29, 2007).

Our proposal longing, is to grip the former complex and chaotic situation by means of: i) identifying and promoting “cultural amphibious”[9](MOCKUS: 1994: 1-14): people and groups, capable to generate changes in their own communities; ii) developing and implementing a powerful informatics tool, able to complement census records in three fields: a) anthropological and socio-economical; b) built environment; c) non built (natural) environment; iii) to commit authorities and governmental agencies,

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[8] Michaels, Fernando: Río Meta, Caño Mochuelo, Casanare, April 2006

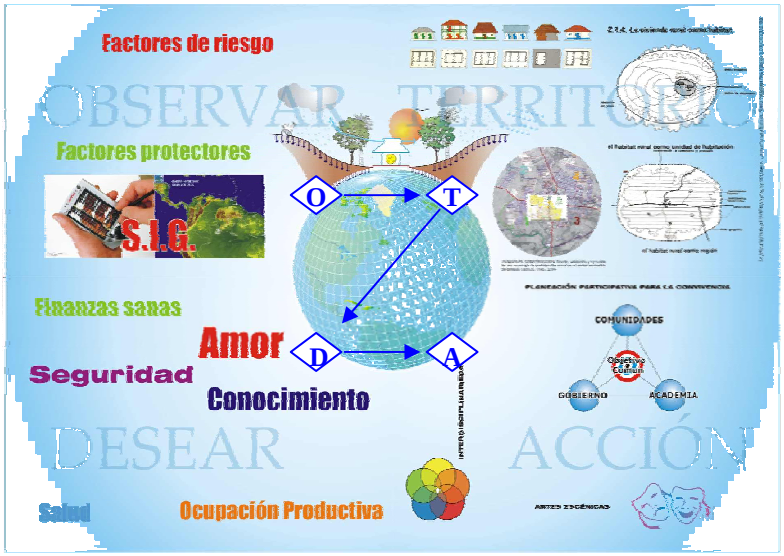
[9] “In existing societies you can see the cultural amphibious as an intensificator of social life who helps to make clear tensions that cultural diversity introduces in the triple regulation (Moral-Law-Culture).” Free translation from the author

communities and academics in agreements for specific tasks towards the creation of wealth and welfare: building and improving housing, upgrading urban services and equipment, reforesting, among other larger development issues.

## The “cultural amphibious”

The formation of intensificators, builders of a healthy and wealthy shelter for XXI$^{ST}$ century is supported on pedagogic processes based in the observation of environment, the recognition of the territory and the liberation and fulfilment of desires in actions that become life projects. Urban and rural communities living in a defined location supported and addressed by an external trained team may obtain that these communities get involved in common projects: sanitation, housing, ecological restoration, foresting, among many other productive activities towards commune with each other.

*Illustration 1 Formation Methodology for “cultural amphibious”*




[10]

Cesos has essayed this method in official projects which have strengthened its expertise. However, our main weakness is the lack of funds to finance this educational strategy in regions and municipalities. Thus HDM-SIDA-CESOS alliance will be the best opportunity to put in deeds a non formal interdisciplinary educational action programme, supported on a scenic arts sensitisation, towards the structuring of “cultural amphibious” individuals able to influence different communities.

## The Municipal Environmental Management GIS, MEMGIS for

In 1989, the United Nations Centre for Human Settlements (HABITAT) at Nairobi, enunciated the concept of Healthy Shelter which "amplify the Basic sense of shelter " including the "protection against diseases, injures and environmental stress". To

[10] Cesos Corporation, “Vivienda Sana-Vivienda enferma”, Foldable poster (interior face) presented, at “Congress about housing improvement alternatives for Chagas disease prevention in the Departament of Casanare”, Colombia March 2006

guarantee these conditions for the population of a municipality it is necessary that public administrators document habitat conditions permanently in a continuous information collecting cycle, allowing to have relevant figures and facts at disposition of everybody[11], and to involve a broad range of stakeholders including the often marginalised groups in urban decision-making (HABITAT: 2001: ix).

As public programmes and resources, basal information is also fragmented and often duplicated, it is necessary to integrate it in an unique information system, a flexible informatics tool able to survey different human geographical territories and urban settlements, compatible and complementary to statistical Colombian central information system, on an open source platform, accessible trough the Internet, with the following features:

i) Oriented to social and environmental sustainable management and education, able to cover 100% of rural and urban dwellings, service, industrial and institutional buildings and public spaces of the municipality; ii) Able to receive and transfer the basal information from statistics institutions (DANE, IGAC, SISBEN, INS) to the GIS, iii) Open to scientific analysis, and to produce mapping, find identities and obtain indicators and quantification of risks and demands, e.g. the foresting potential of a municipality; iv) Accessible trough hierarchical levels.

This system will strengthen the capacity to design Community-Based Programmes oriented to build up social agreements and practical commitments leading to improve income, welfare and quality of rural and urban housing in a participative educational action planning method. Several good practices have been implemented in the continent, e.g. the Unquillo, Cordoba, Argentina experience (ACTIS: 2006: 110-124) from which we will develop three new modules: a) anthropological and socio-economical; b) built environment; c) non built (natural) environment. Before piloting this tool in a regional project it will be essayed in the 100% of rural and urban dwellings, service and institutional buildings and public spaces of one municipality under 30,000 inhabitants.

Again in this matter, Cesos' weakness is the lack of funds to develop the GIS which is the opportunity for people to know and fit in the different human, geographic and socio-economic conditions of their territory.

[11] Certain obvious restrictions are taken in account mainly for introducing information or about censual or epidemiological restricted information in different levels of accessibility.

## The agreements

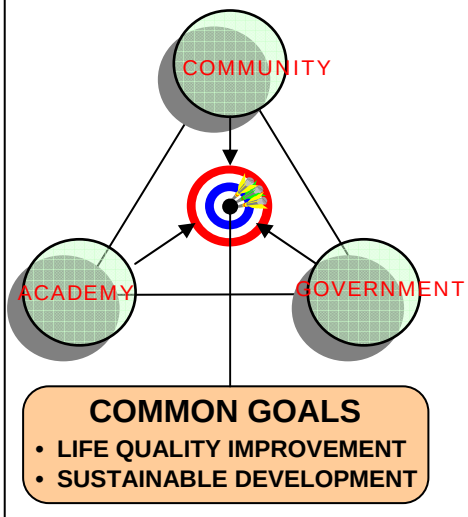
Cesos acting as an academic support, aims to stimulate the local capacity of government and communities from the small municipalities, based upon a bottom to top approach, to find endogenous (BOISIER: 1998: 8ss) means to increase development and alleviate poverty, promoting inclusive processes and pilot projects controlled and developed by communal associations.

In such a cultural, geographic and climatic diverse country like Colombia, this condition becomes of great importance, as well as the relevant information obtained through the MEMGIS, which allows to identify affinity groups and stakeholders to address the methods for engaging in activities. Nevertheless the life threats present in some geographic corridors for illegal traffic, there is still a wide range of regions where it is possible and opportune to work with communities and mayors as Asian examples show.

*Box 1 Asian Building homes, changing official approaches (CRUZ et al.: 2005: 25-45). Extracts*

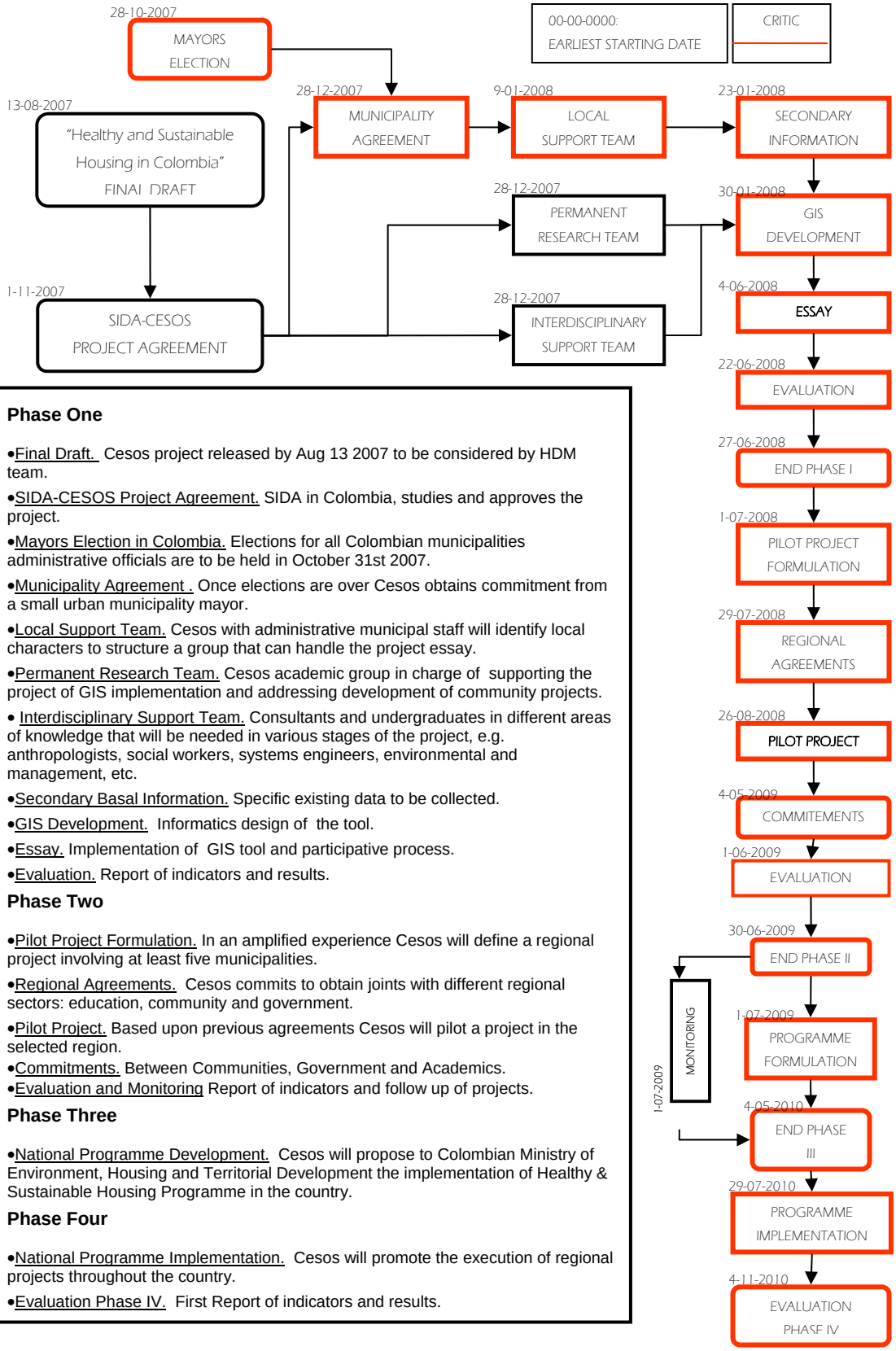
When people in communities start making collective decisions about money, they acquire the management skills and negotiation capacities needed to tackle the larger development issues… In India and in other federations, large-scale programmes develop when governments see the possibilities presented by pilot projects developed by the federations….Now the fund has been set up, and there is a serious commitment from the municipality to put a mechanism in place for allocating local government funds for community initiatives and undertaking joint ventures …tasks that can and should be designed, organized, managed and implemented by community organizations…not through taking over or directing activities that the federations should do themselves…If the urban poor had sufficient income to allow them to take loans that covered market prices for secure, good quality housing (whether they purchased these or built them), achieving MDG Target 11 would be relatively simple…But the main reason that slum dwellers live in "slums" is because of the gap between what they can afford to pay for housing and the market cost of the cheapest "adequate", legal home on a site with infrastructure and services that is accessible to income…Community driven innovations are used to change government policies and practices…decentralizes the decision-making process so that it is closer to individual communities and better able to respond rapidly and flexibly to opportunities identified by network members.

*Illustration 2 Interaction between sectors (Michaels: 2000: 11)*



# Action Plan

## a. Plan of activities




**Phase One**

•Final Draft. Cesos project released by Aug 13 2007 to be considered by HDM team.

•SIDA-CESOS Project Agreement. SIDA in Colombia, studies and approves the project.

•Mayors Election in Colombia. Elections for all Colombian municipalities administrative officials are to be held in October 31st 2007.

•Municipality Agreement . Once elections are over Cesos obtains commitment from a small urban municipality mayor.

•Local Support Team. Cesos with administrative municipal staff will identify local characters to structure a group that can handle the project essay.

•Permanent Research Team. Cesos academic group in charge of supporting the project of GIS implementation and addressing development of community projects.

• Interdisciplinary Support Team. Consultants and undergraduates in different areas of knowledge that will be needed in various stages of the project, e.g. anthropologists, social workers, systems engineers, environmental and management, etc.

•Secondary Basal Information. Specific existing data to be collected.

•GIS Development. Informatics design of the tool.

•Essay. Implementation of GIS tool and participative process.

•Evaluation. Report of indicators and results.

**Phase Two**

•Pilot Project Formulation. In an amplified experience Cesos will define a regional project involving at least five municipalities.

•Regional Agreements. Cesos commits to obtain joints with different regional sectors: education, community and government.

•Pilot Project. Based upon previous agreements Cesos will pilot a project in the selected region.

•Commitments. Between Communities, Government and Academics.

•Evaluation and Monitoring Report of indicators and follow up of projects.

**Phase Three**

•National Programme Development. Cesos will propose to Colombian Ministry of Environment, Housing and Territorial Development the implementation of Healthy & Sustainable Housing Programme in the country.

**Phase Four**

•National Programme Implementation. Cesos will promote the execution of regional projects throughout the country.

•Evaluation Phase IV. First Report of indicators and results.

We can acknowledge a typical development of activities for these processes as described for Asian experiences in Box 2. However as dealing with social processes we cannot expect to have a rigid frame to work within it. The Logical Frame Analysis "cannot capture the fluid motion of a program as it adapts to a chaotic environment and stakeholders who are constantly learning" (den HEYER; 2001: 1)must be flexible and allow to be reviewed depending on results and particular environmental conditions.

*Box 2. Asian Building homes, changing official approaches (CRUZ et al.: 2005: 36).*

Key steps:

• Identify the stakeholders and explaining the programme.

• Organize network meetings, which may include visits from people in other cities.

• Organize meetings in each urban poor community, involving municipal staff if possible.

• Establish a joint committee to oversee implementation. This includes urban poor community and network leaders, and the municipality; also local academics and NGOs. This committee helps to build new relationships of cooperation, to integrate urban poor housing into each city's overall development and create a mechanism for resolving future housing problems.

• The joint committee holds a meeting with representatives from all urban poor communities.

• A survey is organized to cover all communities, and information is collected about all households, housing security, land ownership, infrastructure problems, community organizations, savings activities and existing development initiatives. Doing the survey also provides opportunities for people to meet, learn about each other's problems and establish links.

• From the survey, develop a community upgrading plan which covers the whole city.

• (While the above is going on), support community collective savings, as these not only mobilize local resources but also strengthen local groups and build collective management skills.

• Select pilot projects on the basis of need, communities' willingness to try them out, and learning.

## b. Plan of resources

- Municipal Environmental Management GIS, Phase I: ESSAY

| **ESSAY** | **BUDGET DISTRIBUTION** | | | | **CHANGE: COP/SEK** |
|---|---|---|---|---|---|
| | | | | | **294.62** |
| **SOURCE / DETAIL** | HDM-SIDA | MUNICIPALITY | CESOS | **SUBTOTAL COP** | SUBTOTAL SEK |
| ADMINISTRATIVE COST | 0 | 0 | 6,712,000 | $ 6,712,000 | $ 22,782 |
| HUMAN RESOURCES | 55,800,000 | 0 | 0 | $ 55,800,000 | $ 189,397 |
| EQUIPMENT AND MATERIALS | 8,803,000 | 0 | 0 | $ 8,803,000 | $ 29,879 |
| WORKSHOPS | 0 | 5,200,000 | 0 | $ 5,200,000 | $ 17,650 |
| ALLOWANCES TRANSPORTS INSURANCES | 11,900,000 | 0 | 0 | $ 11,900,000 | $ 40,391 |
| **TOTAL COP** | **76,503,000** | **5,200,000** | **6,712,000** | **$ 88,415,000** | |
| **TOTAL SEK** | **259,667** | **17,650** | **22,782** | | **$ 300,098** |

| ESSAY | INVESTMENT CHRONOGRAM | | | | | | TOTAL COP |
|---|---|---|---|---|---|---|---|
| | MONTH 1 | MONTH 2 | MONTH 3 | MONTH 4 | MONTH 5 | MONTH 6 | |
| SENSIBILIZATION | 5.200.882 | | | | | | **$ 5.200.882** |
| BASAL DATA | 5.200.882 | 2.600.441 | 2.600.441 | 2.600.441 | 2.600.441 | | **$15.602.647** |
| SOFTWARE DESIGN | | 10.401.765 | 10.401.765 | 10.401.765 | 10.401.765 | | **$41.607.059** |
| WORKSHOPS | | 5.200.882 | 2.600.441 | 2.600.441 | 5.200.882 | | **$15.602.647** |
| ESSAY | | | | | | 5.200.882 | **$ 5.200.882** |
| EVALUATON & CONTROL | | | | | | 5.200.882 | **$ 5.200.882** |
| MONTHLY EXPENSE | 10.401.765 | 18.203.088 | 15.602.647 | 15.602.647 | 18.203.088 | 10.401.765 | **$88.415.000** |

| ESSAY | ACTIVITIES CHRONOGRAM | | | | | |
|---|---|---|---|---|---|---|
| STEPS / MONTH | 1 | 2 | 3 | 4 | 5 | 6 |
| SENSIBILIZATION | X X | | | | | |
| BASAL DATA | X X | X | X | X | X | |
| SOFTWARE DESIGN | | X X X X | X X X X | X X X X | X X X X | |
| WORKSHOPS | | X X | X | X | X X | |
| ESSAY | | | | | | X X |
| EVALUATON & CONTROL | | | | | | X X |

- Municipal Environmental Management GIS, Phase II: PILOT PROJECT

| PILOT PROJECT | BUDGET DISTRIBUTION | | | | CHANGE: COP/SEK |
|---|---|---|---|---|---|
| | | | | | 294.62 |
| SOURCE / DETAIL | HDM-SIDA | MUNICIPALITIES | CESOS | SUBTOTAL COP | SUBTOTAL SEK |
| ADMINISTRATIVE COST | 0 | 0 | 20,136,000 | $ 20,136,000 | $ 68,346 |
| HUMAN RESOURCES | 323,200,000 | 0 | 0 | $ 323,200,000 | $ 1,097,006 |
| EQUIPMENT AND MATERIALS | 67,895,000 | 0 | 0 | $ 67,895,000 | $ 230,449 |
| CAPACITATING | 0 | 46,000,000 | 0 | $ 46,000,000 | $ 156,133 |
| ALLOWANCES TRANSPORTS INSURANCE | 70,900,000 | 0 | 0 | $ 70,900,000 | $ 240,649 |
| TOTAL COP | 461,995,000 | 46,000,000 | 20,136,000 | **$ 528,131,000** | |
| TOTAL SEK | 1,568,105 | 156,133 | 68,346 | | **$ 1,792,584** |

| PILOT PROJECT | INVESTMENT CHRONOGRAM | | | | | | | TOTAL COP |
|---|---|---|---|---|---|---|---|---|
| | MONTH 1-2 | MONTH 3-4 | MONTH 5-6 | MONTH 7-8 | MONTH 9-10 | MONTH 11-12 | MONTH 13-18 | |
| AGREEMENTS, FORMULATION | 58,681,222 | | | | | | | **$58,681,222** |
| BASAL DATA | 29,340,611 | 14,670,306 | 14,670,306 | 14,670,306 | 14,670,306 | | | **$88,021,833** |
| PRIMARY INFORMATION | | 58,681,222 | 29,340,611 | 29,340,611 | 29,340,611 | | | **$146,703,056** |
| WORKSHOPS | | | 58,681,222 | 29,340,611 | 29,340,611 | | | **$117,362,444** |
| COMMITMENTS | | | | | | 29,340,611 | 29,340,611 | **$ 58,681,222** |
| EVALUATON & MONITORING | | | | | | 29,340,611 | 29,340,611 | **$ 58,681,222** |
| MONTHLY EXPENSE | 88,021,833 | 73,351,528 | 102,692,139 | 73,351,528 | 73,351,528 | 58,681,222 | 58,681,222 | **$528,131,000** |

| PILOT PROJECT | ACTIVITIES CHRONOGRAM | | | | | | |
|---|---|---|---|---|---|---|---|
| STEPS | MONTH 1-2 | MONTH 3-4 | MONTH 5-6 | MONTH 7-8 | MONTH 9-10 | MONTH 11-12 | MONTH 13-18 |
| AGREEMENTS & FORMULATION | | | | | | | |
| BASAL DATA | | | | | | | |
| PRIMARY INFORMATION | | | | | | | |
| WORKSHOPS | | | | | | | |
| COMMITMENTS | | | | | | | |
| EVALUATON & MONITORING | | | | | | | |

c. Indicators

d. Risk Analysis and Risk Management

e. Assumptions

- That SIDA will endorse CESOS and fund Phase One and Two (Essay and Pilot Project).
- That a Mayor will agree to support the Project Essay.
- That regional Universities and Mayors will agree to participate in the Pilot Project.
- That SIDA will endorse CESOS to sustain project results to the Colombian Ministry of Environment, Housing and Territorial Development in January 2009 towards the development and implementation of a National Programme, Phase Three and Four.

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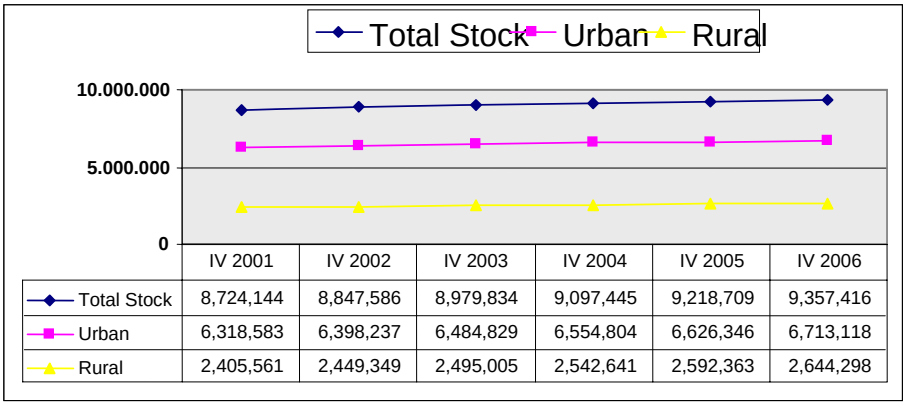
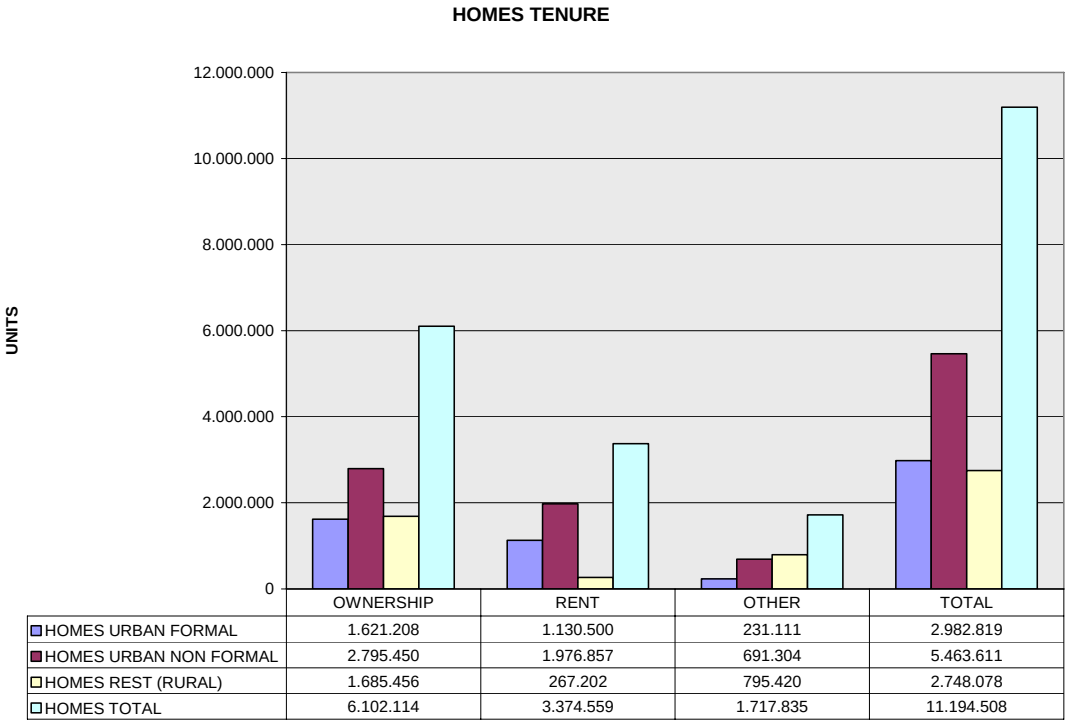
# Annexes

Table 5 Housing stock;



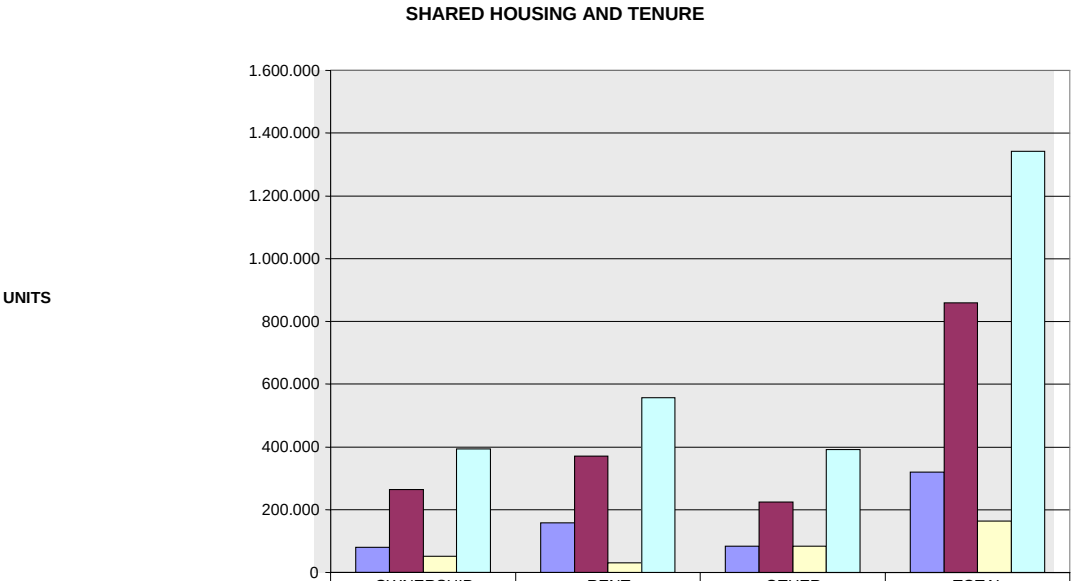

| | IV 2001 | IV 2002 | IV 2003 | IV 2004 | IV 2005 | IV 2006 |
|---|---|---|---|---|---|---|
| Total Stock | 8,724,144 | 8,847,586 | 8,979,834 | 9,097,445 | 9,218,709 | 9,357,416 |
| Urban | 6,318,583 | 6,398,237 | 6,484,829 | 6,554,804 | 6,626,346 | 6,713,118 |
| Rural | 2,405,561 | 2,449,349 | 2,495,005 | 2,542,641 | 2,592,363 | 2,644,298 |

Table 6 Homes tenure;



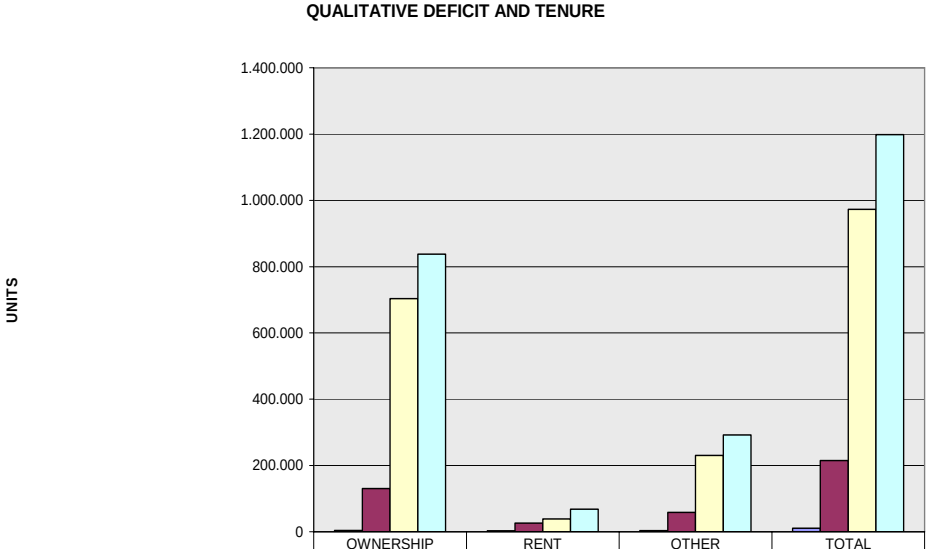

| | OWNERSHIP | RENT | OTHER | TOTAL |
|---|---|---|---|---|
| HOMES URBAN FORMAL | 1.621.208 | 1.130.500 | 231.111 | 2.982.819 |
| HOMES URBAN NON FORMAL | 2.795.450 | 1.976.857 | 691.304 | 5.463.611 |
| HOMES REST (RURAL) | 1.685.456 | 267.202 | 795.420 | 2.748.078 |
| HOMES TOTAL | 6.102.114 | 3.374.559 | 1.717.835 | 11.194.508 |

Table 8 Shared housing and tenure;



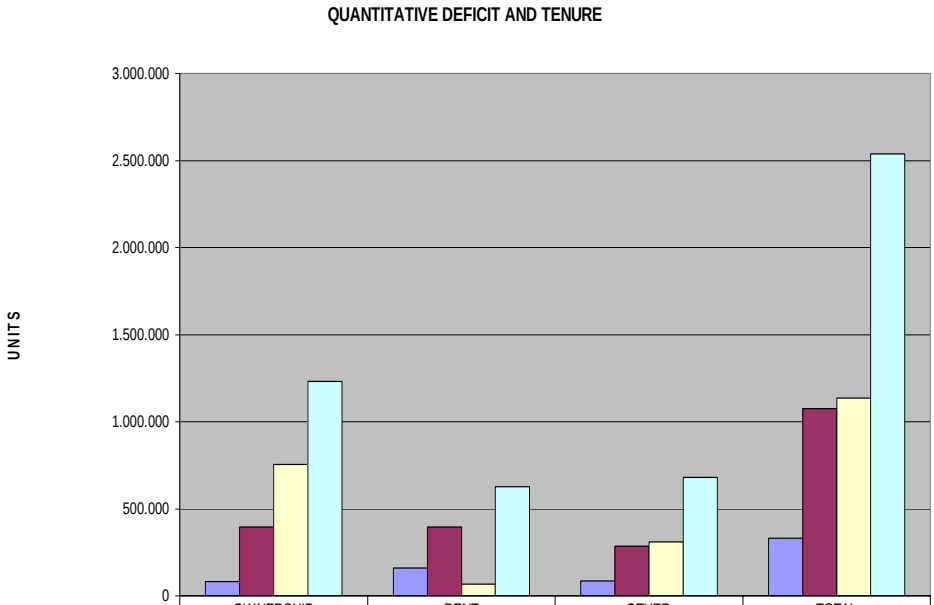

| | OWNERSHIP | RENT | OTHER | TOTAL |
|---|---|---|---|---|
| COHABITATION URBAN FORMAL | 79.356 | 157.172 | 83.234 | 319.762 |
| COHABITATION URBAN NON FORMAL | 263.229 | 370.292 | 224.778 | 858.299 |
| COHABITATION REST (RURAL) | 51.036 | 29.977 | 82.767 | 163.780 |
| COHABITATION TOTAL | 393.621 | 557.441 | 390.779 | 1.341.841 |

Table 9 Qualitative Deficit




| | OWNERSHIP | RENT | OTHER | TOTAL |
|---|---|---|---|---|
| QUALITATIVE DEFICIT URBAN FORMAL | 3.901 | 2.897 | 3.529 | 10.327 |
| QUALITATIVE DEFICIT URBAN NON FORMAL | 130.651 | 25.928 | 58.539 | 215.118 |
| QUALITATIVE DEFICIT REST (RURAL) | 703.342 | 38.901 | 230.393 | 972.636 |
| QUALITATIVE DEFICIT TOTAL | 837.894 | 67.726 | 292.461 | 1.198.081 |

Table 10 Quantitative Deficit




| | OWNERSHIP | RENT | OTHER | TOTAL |
|---|---|---|---|---|
| URBAN FORMAL | 83.257 | 160.069 | 86.763 | 330.089 |
| URBAN NON FORMAL | 393.880 | 396.220 | 283.317 | 1.073.417 |
| REST (RURAL) | 754.378 | 68.878 | 311.160 | 1.134.416 |
| TOTAL | 1.231.515 | 625.167 | 681.240 | 2.537.922 |