

Urban sprawl in the peri-urban areas and its surroundings, Argentina: an evaluation of the consequences on the sustainability of urban services.



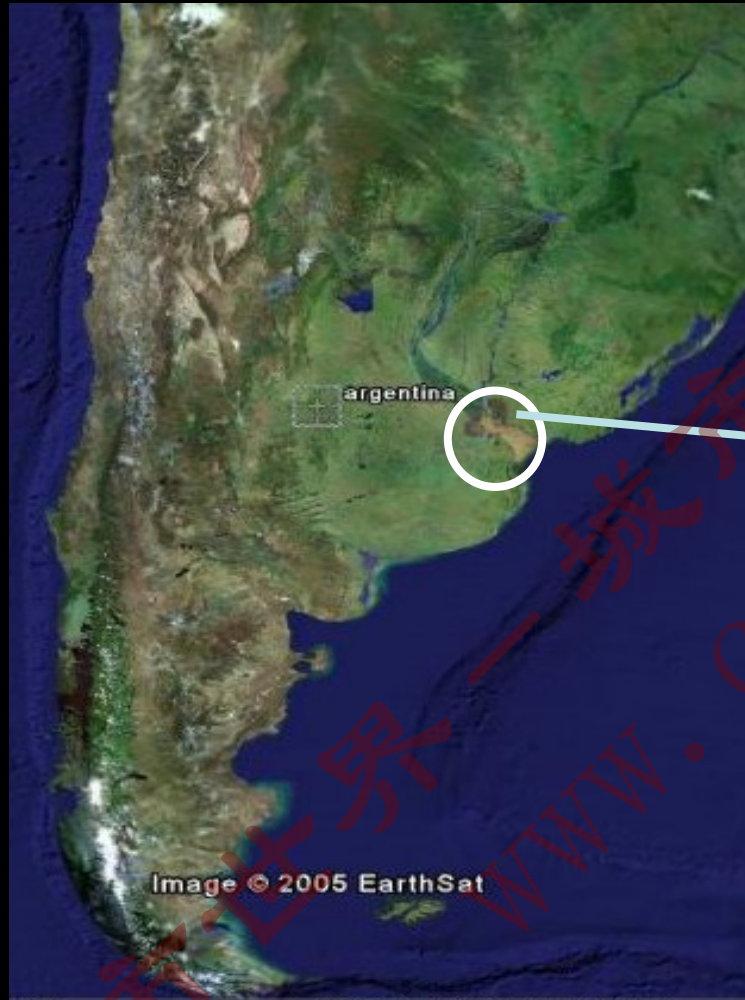
Discoli, Carlos; Martini, Irene

Urban sprawl in the peri-urban areas and its surroundings.

44th ISoCaRP Congress 2008

Unidad de Investigación N° 2 del Instituto de Estudios del Hábitat (IDEHAB),
Facultad de Arquitectura y Urbanismo, Universidad Nacional de La Plata.
Bs, As. ARGENTINA.

ANALYSIS UNIVERSE



Urban sprawl in the peri-urban areas and its surroundings

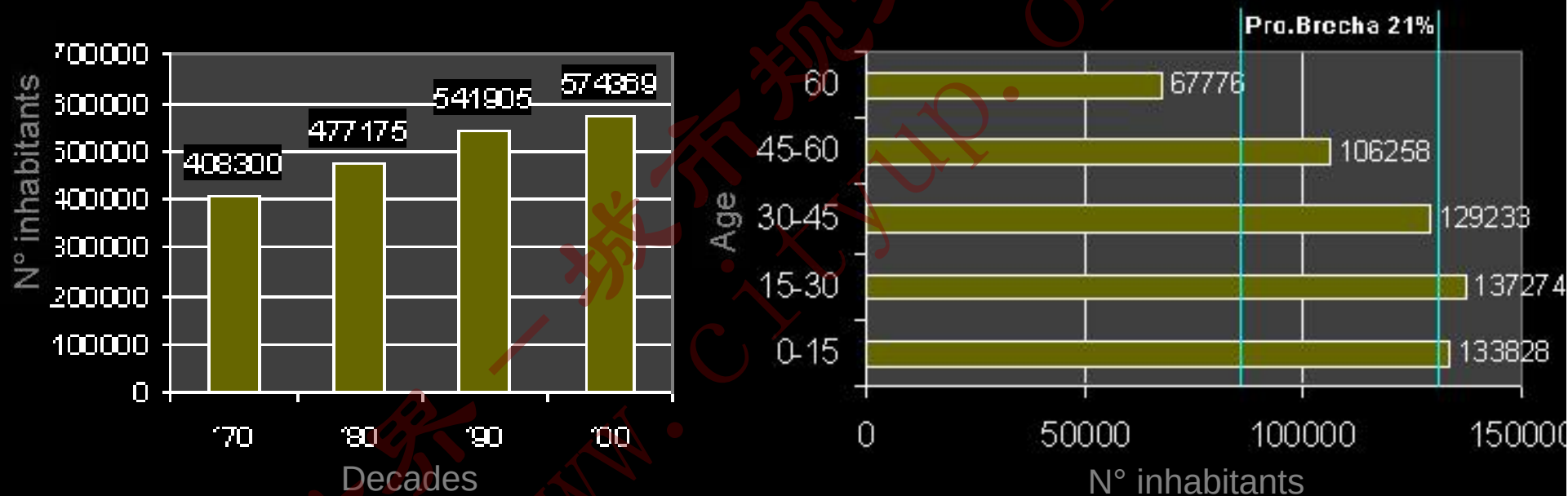
Discoli, Carlos; Martini, Irene

September 2008

ASPECTS:

- *Residential sector*: consists on evaluating the occupation in the territory, and their evolution taking into account their growth and their energy needs;
- *Basic infrastructure services*: they are related to cover the urban energy demand (Electric power and Natural Gas), obtaining profiles represented in maps with quality levels of each service, where the offer is related through qualities that characterize it and coverings of each network with the users opinion (the demand).

POPULATION PYRAMID, DENSITY AND GROWTH

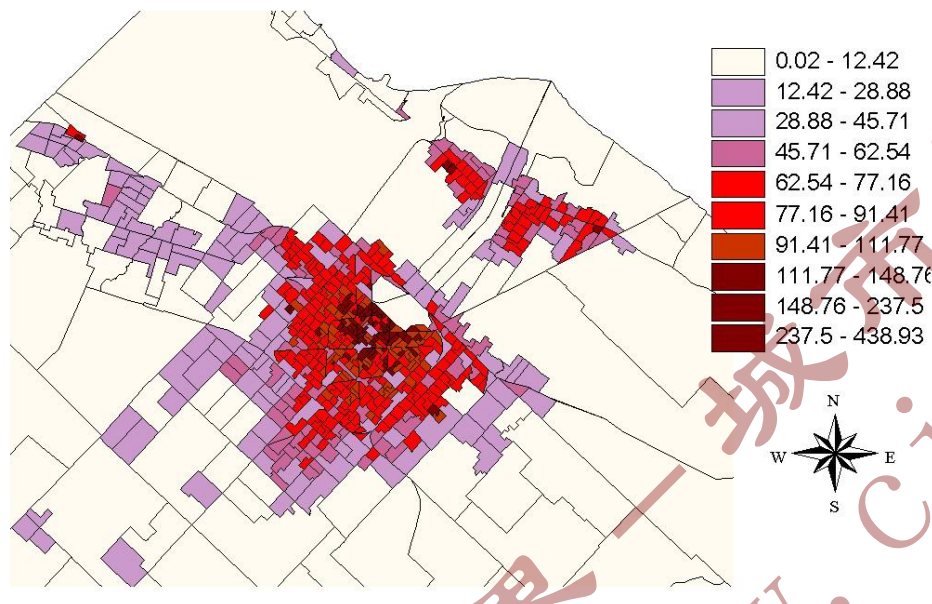


Urban sprawl in the peri-urban areas and its surroundings

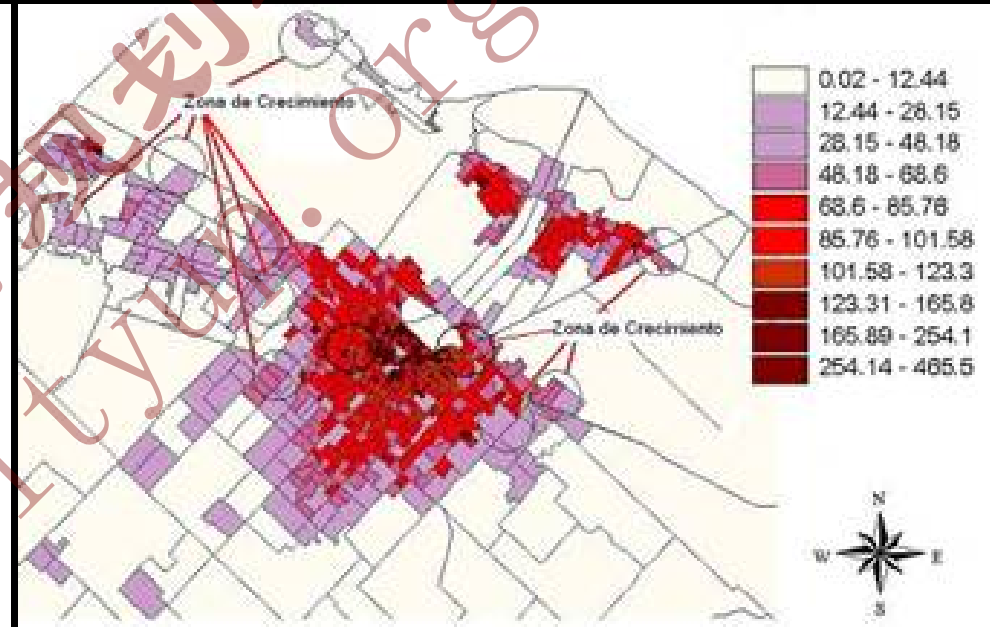
Discoli, Carlos; Martini, Irene

September 2008

POPULATION DENSITY/Ha year 1990/2000



year 1990



year 2000

Urban sprawl in the peri-urban areas and its surroundings

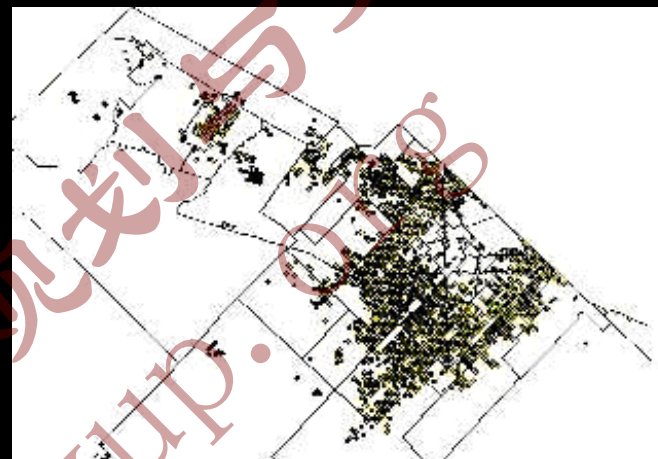
Discoli, Carlos; Martini, Irene

September 2008

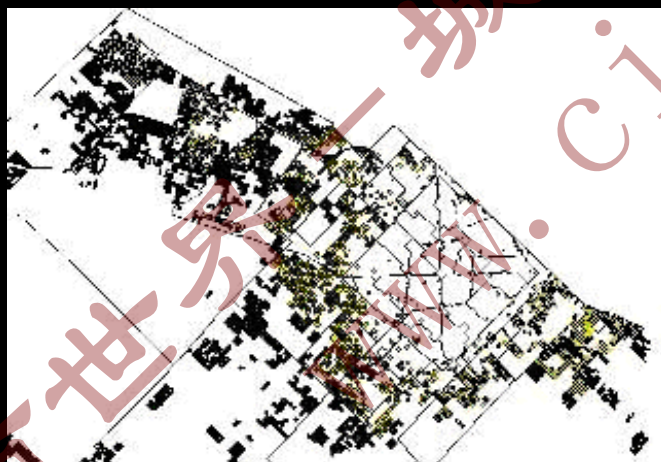
URBAN CONSOLIDATION



High consolidation: More than 70 houses per block.



Medium consolidation: Between 70 and 21 houses per block.



Low consolidation: Less than 20 houses per block.



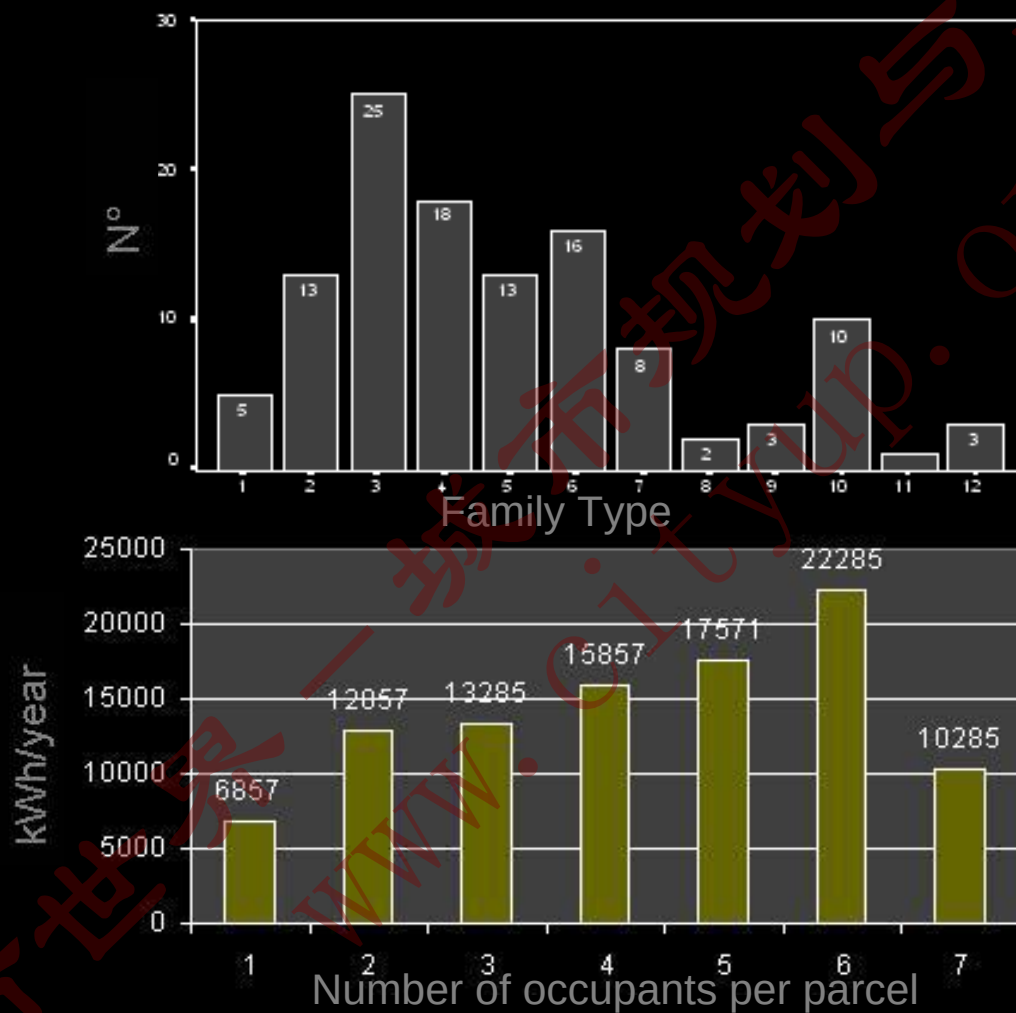
Consolidation Integration and surveyed homes

Urban sprawl in the peri-urban areas and its surroundings

Discoli, Carlos; Martini, Irene

September 2008

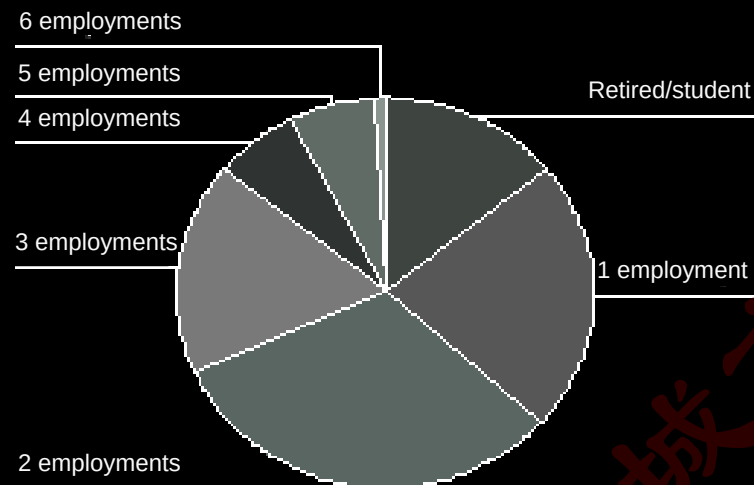
SOCIO –ENERGETIC STRUCTURE



Urban sprawl in the peri-urban areas and its surroundings

Discoli, Carlos; Martini, Irene

September 2008



Employment composition

Annual energy consumption vs
N° of employments per family

Urban sprawl in the peri-urban areas and its surroundings

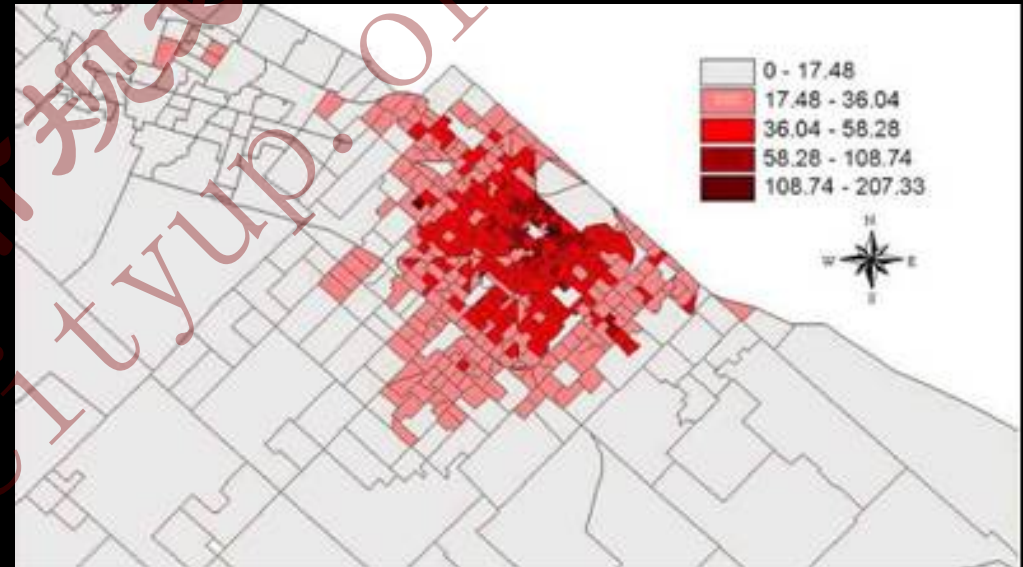
Discoli, Carlos; Martini, Irene

September 2008

TOTAL COMSUMPTION. SURVEYED HOMES



TOTAL ENERGY DENSITY - RESIDENTIAL SECTOR



Urban sprawl in the peri-urban areas and its surroundings

Discoli, Carlos; Martini, Irene

September 2008

INFRASTRUCTURE BASIC SERVICES

Electric Power Service (Ep)

- Qualities

- Coverings

- Opinion

Natural Gas Service (NG)

- Qualities

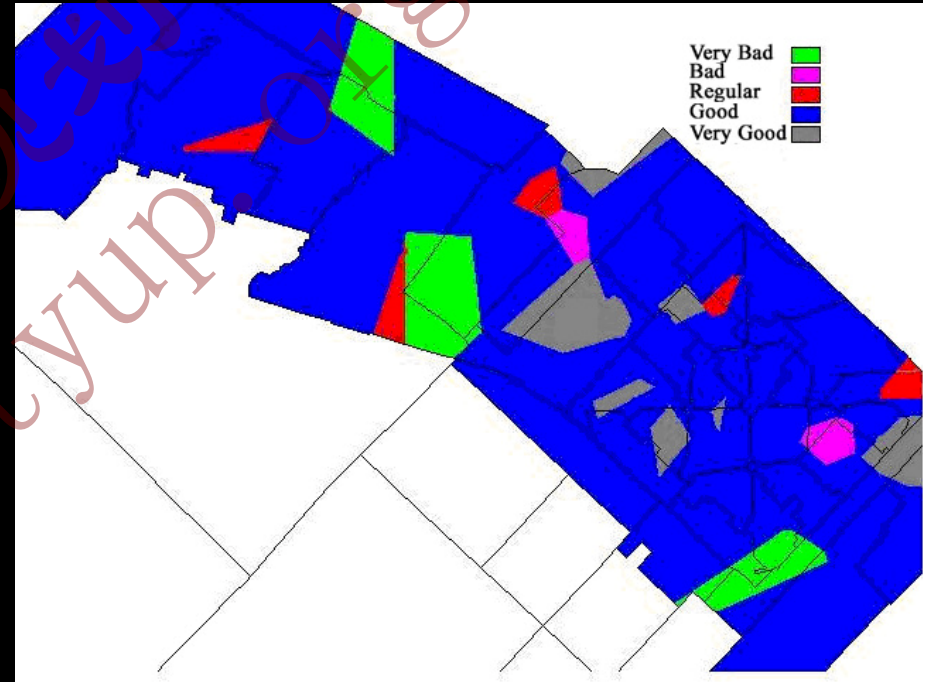
- Coverings

- Opinion

ELECTRIC POWER SERVICE



Coverings



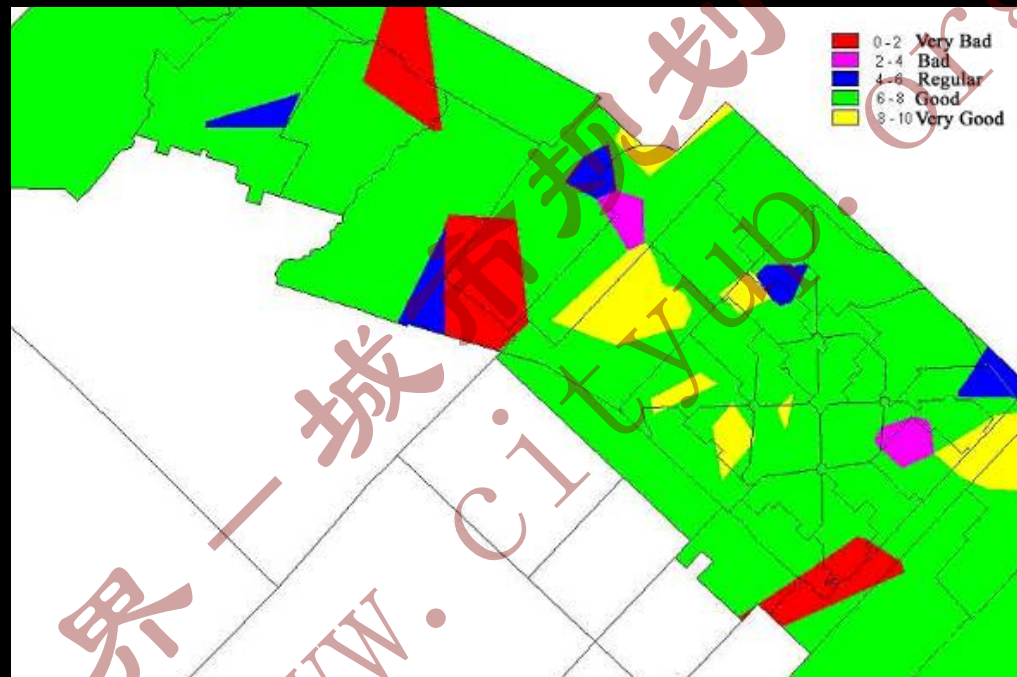
Opinion homogeneous area

Urban sprawl in the peri-urban areas and its surroundings

Discoli, Carlos; Martini, Irene

September 2008

QUALITY SERVICE PROFILE

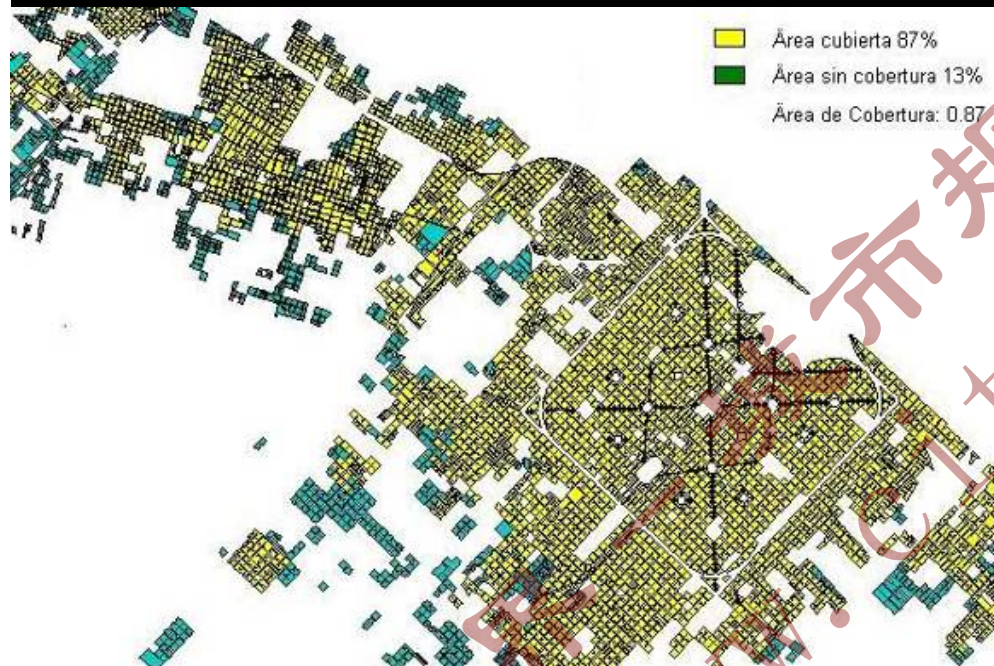


Urban sprawl in the peri-urban areas and its surroundings

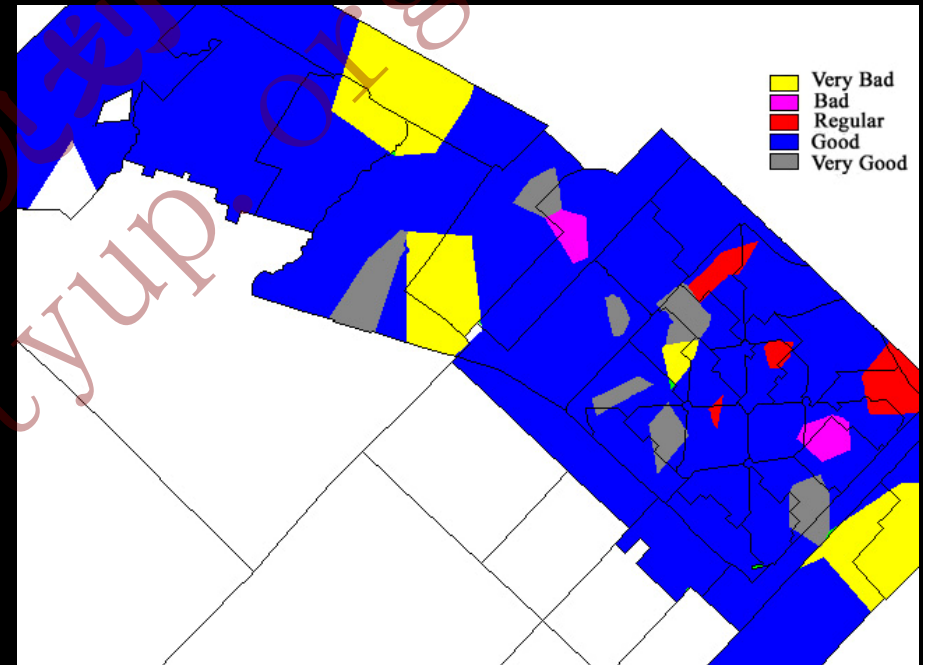
Discoli, Carlos; Martini, Irene

September 2008

NATURAL GAS SERVICE



Coverings



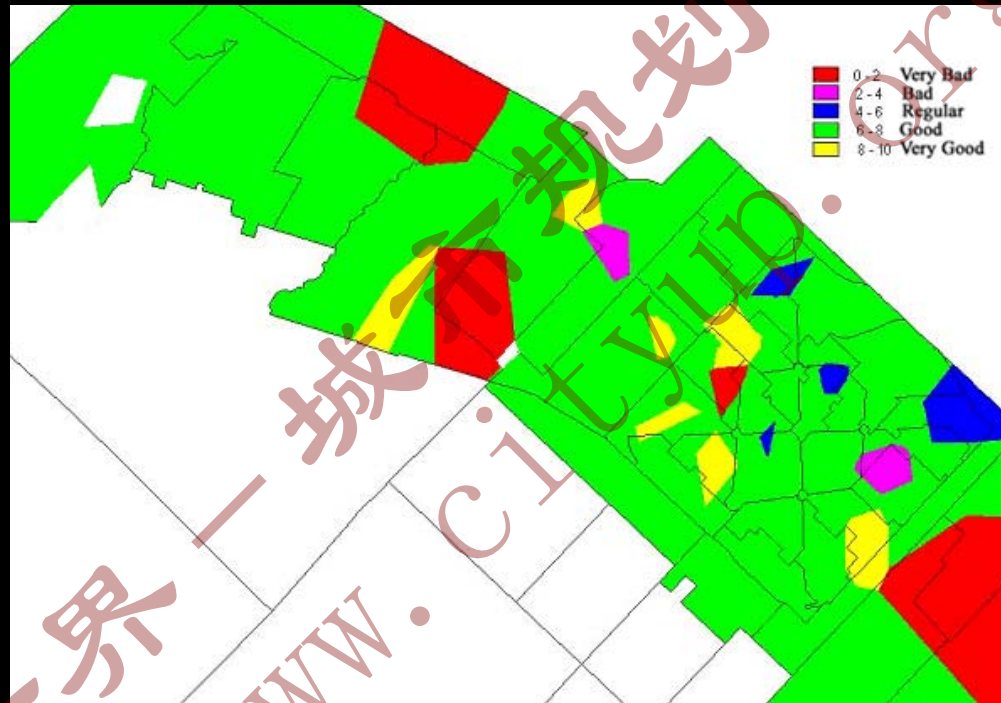
Opinion homogeneous area

Urban sprawl in the peri-urban areas and its surroundings

Discoli, Carlos; Martini, Irene

September 2008

QUALITY SERVICE PROFILE



Urban sprawl in the peri-urban areas and its surroundings

Discoli, Carlos; Martini, Irene

September 2008

CONCLUSIONS

The obtained results show:

- that the proposed methodology is effective as for the evaluation of the urban sectors and their services;
- sensibility resolution as for the obtaining of qualified information as to the conformation of descriptive homogeneous areas of each situation;
- urban equity and inequity tendencies in each valued areas, and their limits respond to the precision and localization of the primary information;

- that the foreseen tools (indexes, profiles, maps) allow us to locate the behavior tendencies of each infrastructure service (Ep and NG) in quality terms, to verify and to identify different aspects taking into account the significant participation of the demand (users) through the opinion and to establish urban vulnerability scales;
- for each energy service the first quality profiles;
- the possible to locate in the territory the inequalities taking into account the homogeneous areas identification.

- that the variable disintegration of each one can be compared with population's maps and with the consequent inhabitants' energetic demand in a same urban area;
- coincidences among those sectors that register inequities in their offer can be verified with those that register population's growths and not foreseen demands;
- that the existent network, many of them to the limit of its loads, present different supply problems, affecting the offer of each service;
- that urban sprawl will continue collapsing the energy services in their more vulnerable areas, stressing the necessity to analyze in the future the possible attractors, in order to know with more precision the growth tendencies and to begin to plan the offer.

Urban sprawl in the peri-urban areas and its surroundings

Discoli, Carlos; Martini, Irene

September 2008



ISOCARP

Urban sprawl in the peri-urban areas and its surroundings

Discoli, Carlos; Martini, Irene

September 2008

**Urban sprawl in the peri-urban areas and its surroundings.
44th ISoCaRP Congress 2008.**

THANK YOU

discoli@rocketmail.com

Unidad de Investigación N°2 del Instituto de Estudios del Hábitat (IDEHAB)

**Facultad de Arquitectura y Urbanismo,
Universidad Nacional de La Plata.
(FAU-UNLP)
Bs, As. ARGENTINA.**