

## Urban Sustainability, Quality of Life and Gender

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### Introduction

This article is based on the theoretical lectures held by the author at the Internationale Frauenuniversität (ifu-2000), cluster "City and Gender: Urban Sustainability". Dealing with the same notional context, it briefly explains some conceptual advances and results of two Research Projects (FONDECYT Projects 1980865/98 and 1000414/2000 by Fadda and Jirón), about the so-called triad of "Quality of Life/Environment/Gender". One of its main objectives was to suggest a *gender awareness methodology* for solving problems of Quality of Life (QOL) in urban settlements.

It starts with a review of some fundamental concepts on Urban Sustainability, Sustainable Development, Sustainable Cities, and QOL *from a perspective of gender and environment*. Then it refers to the above-mentioned research, concepts which were applied to a case study in low-income neighbourhoods in Santiago (Chile). Finally it gives a brief reference to the ifu's Research Project, named "Are Cities Sustainable? Inequities in Quality of Life in Cities: International Comparison".

### 1. Urban Sustainability

The growing demand of goods and population services, have forced the society to artificialise, more and more, the processes of transformation of the physical environment and to increase the yield of natural resources. Besides, in ecological terms, the city is conceived as a most artificial ecosystem, and the subsistence of its inhabitants depends on the supply of resources coming from the natural system. Furthermore, great waste of natural goods and other residuals take place in the city. On this account, urban sprawl and mega cities are considered as some of the main scenarios of the environmental degradation. Nevertheless, it is necessary to say, that this does not imply that urbanisation in itself represents a threat for the environment. Rather, that some of the main causes of this situation would be attributable to the inadequate international, national, regional and urban administration and the rising patterns of growth, incompatible with a sustainable strategy.

The recent idea of the 'ecological footprint'<sup>2</sup> of cities illustrates the demands within cities for renewable resources, drawn from outside their boundaries. The

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ecological footprint is a measure of how great an ecological productive area, is required to support city based consumption and waste generation (Elliot, 1996: 159). It also offers an indicator for comparing the 'sustainability' of different cities (Rees, 1992). In terms of the ecological footprints of cities, we realise that all cities draw on natural resources produced on land outside their built-up areas (e.g. agricultural crops, wood products, fuel) and the total area of land required to sustain a city -that is to say, its ecological footprint- is typically at least ten times greater than that contained within the city boundaries or the associated built-up area.

In effect, all cities appropriate the carrying-capacity of other areas. All cities draw on material resources and productivity of a vast and scattered hinterland and discharge waste into nearby land and water (Rees, 1992).

A recent study on the ecological footprint of Greater Santiago (Chile) reveals that its total footprint is 16 times larger than the Metropolitan Area and 300 times larger than the actually built up area, with an average of 2.4 hectares per person (Wackernagel, 1998: 19). And Girardet (1999) calculated the London current Ecological Footprint in 19,700,000 hectares, which means it is 125 times the surface area of London. Girardet also states that if European figures were to be applied globally, we would need two planets; and that if we averaged American figures, we would require three planets, rather than the one we actually have. In this way he demonstrates that the ecological footprint of our cities needs to be reduced dramatically. This can be achieved by improving resource productivity of our individual consumption patterns, as well as that of the urban system as a whole.

As risks for humanities' survival became evident, at the end of 60's, the environmental problem began to be considered a high priority issue.

Developed countries, mostly affected by the impacts of industrialisation, were the first to make a commitment about this situation. Later on, the United Nations took part confirming and promoting discussion at an international level.

Thus, a wide and intense debate caused awareness of the human habitability and its environmental administration problems.

In this context a world public conscience awakening started. This new approach considers the need of protecting the environment from deterioration and degradation, and from the subsequent loss of resources and erosion of the QOL, especially for the poorest sectors in society.

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<sup>2</sup> The 'Ecological Footprint' is a measure of the 'load' imposed by a given population on nature; it represents the land area necessary to sustain current levels of resource consumption, and waste discharge by that population (Wackernagel and Rees, 1996).

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With this in sight, the "sustainable development" concept was created.

## **2. The Concept of Sustainable Development**

Sustainable development literally means, "maintaining development over time", but we really mean much more than that when we speak about it.

Among the definitions of sustainable development currently in use, we have the one of the World Commission on Environment and Development (1987:43), according to which, "Sustainable Development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Elliott, 1999: 6).

This definition is a bit ambiguous, and has been criticised as it allows different interpretations. Nevertheless, there are those who believe that "one should not try to define Sustainable Development too rigorously. To some extent, the value of the phrase does lie in its broad vagueness, because it allows people with irreconcilable positions in the environment debate to search for a common ground without appearing to compromise their positions" (Lélé, 1991: 607).

One of the principal concerns of "sustainable development" focuses on meeting human needs today, without undermining the resources and the ecological base which future generations will require to meet their own needs.

According to prevalent interpretations at the moment, sustainability is supposed to mean "the existence of the necessary ecological conditions to sustain human life at a certain level of well being now and for future generations. It tries to guarantee the capability of maintaining people benefits in time, which is impossible if the environment is degraded, and this is the first connection between sustainability and QOL.

The most important contribution to this approach is its conception, according to which, besides the ecological conditions, there are social conditions that make an impact on ecological sustainability (or non-sustainability) and on interaction between people and nature. Further studies define sustainable development as the economic, social and environmental aspirations of groups, which may or may not consider economic growth a priority.

For achieving objectives of sustainable development, equity is crucial. Equity seeks to increase the likelihood that the current aspirations of different groups will be met. It also represents a very important aspect to gender relations. Therefore, this aspect of sustainable development opens possibilities for improving woman's condition.

A further contribution of sustainable development, is that this concept includes multiple dimensions, such as, political, socio-economical, anthropological, cultural, philosophical and environmental dimensions. Thus, the environmental sustainability

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of the development processes, allows the harmonic coexistence of man with his environment, adjusting transformed systems and avoiding deterioration.

From this point of view, the Sustainable Development looks to meet five big requirements:

- 1) development, integration and conservation;
- 2) satisfaction of basic human needs;
- 3) achievement of social justice;
- 4) delivery of social self-determination and cultural diversity; and
- 5) maintenance of ecological integrity.

This interpretation is significant on urban gender studies, because it is the first time that the relation between environment, and equity and social justice appears to be included in the concept of development, because all these issues exert influence on gender relationships.

**2.1. Sustainable Cities.** We can agree that a successful city in sustainable development terms is one where many different goals of its inhabitants and enterprises are met, without passing costs over to other people or other regions. As mentioned before, cities ecosystem is artificially man made. It implies a series of malfunctions that affect its structure, operation and organisation and other subsystems. According to this, the city should be understood as an open system, or unbalanced ecosystem, where its proper functioning relies on separate parts of general environment. Its survival will depend not only on the supply of resources coming from the natural system, but also on the possibility of extracting big quantities of waste it produces. Some of the visible negative effects of urbanisation, specially in developing countries, include: segregation and isolation; overcrowding; deficient or miss-allocated facilities and services; inadequate urban transport planning; inadequate treatment of solid and liquid waste; air and water pollution; flooding and landslides risks. All contribute in making urban space inadequate for human life. These problems are part of what has been called the "Brown Agenda" (Bartone and Bernstein, 1992) which is concerned with unsustainable development in cities. The poor environmental quality in low-income neighbourhoods has been acknowledged as one of the most urgent and greatest problems of Third World cities because of the risk they represent to their inhabitants' QOL (Fadda and Jirón, 1999).

Many of these conditions have a strong influence on the idea that cities are a great obstacle to achieving sustainable development. However, cities are essential for sustainable development. They bring many advantages and untapped potentials. Some of these advantages are: lower costs per person (e.g. piped water supplies, sewers and drains, garbage collection, telecommunications, health and educational services, etc.), high concentration of population, which reduces demand for land relative to population. But to make full use of these advantages cities need good governance and managing (Mitlin and Satterthwaite, 1994: 2).

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According to Mitlin and Satterthwaite the principal goals of sustainable development applied to cities are those shown in Table 1.

**Table 1. Goals of Sustainable Development as Applied to Cities**

Source: Mitlin, D. and Satterthwaite, D. (1994: 5)

MEETING THE NEEDS OF THE PRESENT...	... WITHOUT COMPROMISING THE ABILITY OF FUTURE GENERATIONS TO MEET THEIR OWN NEEDS
<ul style="list-style-type: none"> <li>• <i>Economic needs</i>: includes access to adequate livelihood or productive assets; economic security when unemployed, ill, disabled, or otherwise unable to secure livelihood.</li> <li>• <i>Social, cultural and health needs</i>: includes a healthy, safe, affordable and secure shelter, in a neighbourhood with piped water, sanitation, drainage, transport, health care, education and child development. Also, a home, a workplace and living environment protected from environmental hazards, including chemical pollution. Important are needs related to people's choice and control, including valued homes and neighbourhoods where social and cultural priorities are met. Shelters and services must meet the specific needs for children and adults responsible of child rearing (usually women). Achieving this implies a more equitable distribution of income between nations and, in most cases, within themselves.</li> <li>• <i>Political needs</i>: includes freedom to participate in national and local politics and in decisions regarding management and development of one's home and neighbourhood within a broader framework which ensures respect for civil and political rights and the implementation of environmental legislation</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Minimizing use or waste of non-renewable resources</i> – includes minimizing consumption of fossil fuels in housing, commerce, industry and transport and changing to renewable sources where feasible.</li> <li>• There are also <i>cultural, historical and natural assets</i> within cities that are irreplaceable and thus non-renewable- e.g. historic districts, parks and natural landscapes that provide space for play, recreation and access to nature.</li> <li>• <i>Sustainable use of renewable resources</i>: cities drawing on freshwater resources at levels which can be sustained; keeping to a sustainable ecological footprint in terms of land area from which producers and consumers in any city may draw for agricultural crops, wood products and biomass fuel.</li> <li>• Wastes from cities keeping within <i>absorptive capacity of local and global sinks</i> –including renewable sinks (e.g. capacity of river to break down biodegradable wastes) and non-renewable sinks (for persistent chemicals; includes greenhouse gases, stratospheric ozone-depleting chemicals and many pesticides).</li> </ul>

There are many cities in the developing countries where a lot of the human needs mentioned in Table 1, are not met. Therefore, they are not sustainable cities.

Built environment in certain circumstances impacts several activities, which become very difficult or even impossible to carry out. Some authors speak of "coercion of the urban environments". This is harder on women than on men: the city provides more obstacles to women than men, making it possible to appreciate a gender inequity in the "right to the city". Among such obstacles, for instance in Santiago, you can find: limitations in the availability and access to infrastructure and facilities; dispersion of employment and of supply spaces; segregation in amusement places: game grounds, encounter places, squares; public transportation shortage, insecurity at the public spaces. Women dwellers of low income sectors, even though having a main

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participation role in the development of their immediate environment (housing, neighbourhood), do not have the outstanding support of facilities and infrastructure, to allow them to make use of their "right to the city". Consequently, due to their conditions of being poor and of being a woman, they are twice discriminated in terms of urban life quality. They carry out their daily work in an environment with high degrees of deterioration, unhealthiness and contamination. For this reason, an improvement of popular urban environment implies a more fair gender development and a equitable development strategy. Also, it is considered that, according to the measure by which environmental quality deteriorates, the QOL worsens. Thus a sustainable development would be important for the solution of QOL problems, where gender relations are an important issue.

Planning and urban design should influence on improving this situation. Nevertheless, until now, the topic of gender has been little investigated in urban planning, and, the design of the urban environment is one of the aspects that has been less taken into account for finding a solution to the problem of gender inequity.

As we have already mentioned, a sustainable development should imply a more gender fair development and a more equitable development strategy. Thus the concept of "Sustainable Cities" can be a valuable instrument for helping improve women conditions in the city. Additionally, the gender perspective in development intends to be a contribution for the achievement of an improved QOL through the maximisation of some rights, like: participation, autonomy, and more equity and justice.

The QOL concept is a tool developed for the study of the well being of human groups who live under specific circumstances.

### **3. The Concept of Quality of Life: a gender and environment perspective**

The concept of "quality of life", in its broadest sense, refers to factors that make a life better. It represents more than private "living standards" and refers to all the elements of the conditions in which people live, that is, all their needs and requirements. This concept has been developed by social scientists to measure and evaluate people's well-being, satisfaction and happiness. It demands, amongst other things, available and accessible social and public infrastructure to satisfy the needs of those concerned in it and affected by it as well as an environment free of serious deterioration or pollution. Such conditions are not generally met in our cities, since a large part of the inhabitants live in dwellings and neighbourhoods lacking basic facilities and services.

Milbrath (1978) states that "if QOL is defined as happiness or well-being or satisfaction, it is necessarily subjective", thus, the objects, which we value as positive, provide value to our life quality. Although the concept of QOL and environmental quality show considerable overlap, they are not identical: there are elements of happiness that have their origin in the individual. There are people who

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are able to feel happy even in the worst environmental conditions, while others cannot be happy even in the best environmental conditions.

Human beings perceive problems and possible solutions from different viewpoints or according to their social roles (including reproductive, productive, community based and political roles), and define their basic needs with different criteria. Different persons may perceive the same physical object or specific experience differently. Thus, a house may be perceived by some people as being of high quality whilst for others, it may be of lower or no quality at all. For some social groups, one environment may seem ideal yet, for others, it may hardly be acceptable or definitively unacceptable. This means that a certain environmental quality may imply contents, images, perceptions which vary for different people depending, among other things, on their gender, age, culture, ethnicity and religion (Jirón and Fadda, 1999)

This is where the gender perspective becomes useful, in evaluating how the gender relations that occur in a determined context affect QOL. In most of the literature relating to QOL, "human beings", "people", "communities" and "households" are treated as homogeneous groups when, indeed, they contain a diversity of relationships that cannot necessarily be classified as having the same needs. *Gender* cuts across all other social relations such as class, ethnicity, age and religion (Levy, 1992) and all types and/or spheres of activity: productive, distributive, organisational, political, technical and research. It also cuts across all institutional structures, organisational procedures and practices in all social sectors such as health, employment, education, transport, environment and housing (Fadda and Jirón, 1999).

The analysis of *QOL from a gender and an environmental perspective* shows that perceptions may vary according to gender relations, needs and roles, and to access resources; and decision-making processes within the household. These concepts need to be evaluated, so as to know, how satisfied users and those concerned are with their habitat. This can provide necessary criteria for designing methods in order to obtain direct, subjective and objective information.

#### **4. A Research on Quality of Life in Social Housing in Santiago**

To evaluate QOL in different areas of the Great Santiago we are developing two Research Projects<sup>3</sup>. Before referring to them, it is necessary to give some theoretical definitions:

**4.1. Some Theoretical Premises.** Many attempts to approach QOL have been restricted to studies of objective conditions of the surroundings, excluding those related to the social or cultural relations, to the expectations of development, and the perceptions of the individuals regarding their own QOL. However, these are

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<sup>3</sup> FONDECYT Research Projects N° 1980865/98 and N° 1000414/2000 by G. Fadda and P. Jirón.

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indispensable conditions for a comprehensive and actualised conception of the notion of QOL.

Objective indicators do not measure the *quality* of the environment. Positive indexes of these measurements do not necessarily carry a good environmental quality with them, and vice versa. If a person believes that his/her surrounding is good, this is so for him/her, independently of what the objective measures show.

For planning purposes, it is extremely important to have indicators of 'environmental conditions' as they account for the objective and physical changes that occur in our environment. They alert us to potential damages caused by harmful substances in our natural environment, to our health or to the ecosystem. However, information on subjective perception of the environment quality is equally important for planning and improving proper resources distribution.

If thus understood, the concept of QOL is a "construct", that is, a social construction. Rigorously speaking, QOL can only exist through the observer, and his or her experience. It is not a set of material conditions, or the mere satisfaction experienced by individuals, but an object constructed by a collective observer, an observer with a dual role: one of the watcher who observes others and who looks at his/her own experience.

If the aim is to measure quality itself, then it is important to accept the fact that this quality can only be measured in terms of how the person lives it.

This research attempts to do just that, watch the observations of those who look at their own experiences, and make a difference between men and women perceptions of their QOL.

This is an important point for the research, as it is not only up to the planners to change and improve the QOL in urban areas, but city users are indispensable for assessing and improving their QOL. Additionally, human beings perceive problems and their possible solutions from different points of view, or according to the social roles they play and how they satisfy their needs under different criteria. People will perceive the same physical object or a specific experience differently.

By using gender and the environment to "see" QOL, it becomes clear that perceptions vary depending on gender relationships, needs, roles, access to and control of the resources that men and women have, and particularly over their decision-making capacity. This perception may also differ according to the actors. For instance, the opinion of users, usually differs from that of specialists, as it also differs among the users themselves.

So, the concept of QOL is understood as a social construction (construct) and as a part of a triad, whose other two components are gender and environment.

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One of the key questions in presenting the problem of QOL is: what type of circumstances can provide good living conditions?

This question can be answered through a methodology that is in agreement with the previously defined concept of QOL. By applying a methodology that not only takes into account the objective elements, but rather, in very significant way, those subjective ones, and by focusing the study object at an urban neighbourhood level, this research intends to deepen the existing QOL studies.

Both the research on QOL and the ifu's Project were developed within these premises, and the same methodology was used. The results of this investigation are related to the conditions of QOL of women and men in low income housing in Santiago.

**4.2. The Empirical Research.** The Projects propose an assessment of QOL in Santiago, outlined comparatively, inside the community itself and among chosen urban neighbourhoods, with different social, cultural and economic characteristics.

The first objective of this case study research, looks for detection of inequalities and inequities in QOL, inside communities. The diagnosis and evaluation, arising from this first step, will give a start to a second objective: the creation of community QOL indicators which coming from the community itself, should be useful for administrating and planning the urban local environment by anyone taking part in them (authorities, officials, community). A last objective, should be elaborated, based on the theoretical framework and case studies, as a methodology for the assessment of QOL, and will respond to its objective and subjective characteristics. At a practice level, the expected result is an explanatory diagnosis of the problems detected in comparisons and propositions of indicators and actions, and is an approach to a more equitable, equal and sustainable urban development. At a theoretical-methodological level, it is expected to create and define a methodology ad hoc for evaluating the QOL at urban level. In synthesis, this Research seeks to make a contribution to the study of QOL, and create the practical and methodological instruments, necessary for implementation at local level for improving the QOL of urban inhabitants'. Same structure and objectives were applied in the ifu's research project.

The application of the QOL concept in an empirical study, is so broad and subjective that anything can be included in it, thus, it is difficult to apprehend, define and measure. In order to make it more precise, some authors recommend delimiting it according to the objectives of the research (Sheer, 1980). In these researches, it was restricted to the disciplines dealing with the neighbourhood environment, that is, the external habitat of a community settled in a public housing programme. The evaluation of QOL was made from an urban perspective of the environment and taking into account that environmental problems are not only those of our physical surroundings, but in their origins and through their consequences, they are thoroughly social problems, problems of people, their history, their living conditions

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and their relationship to the world and its reality, to their social culture and life conditions (Beck, quoted by Allen, 1999).

The collecting and examining of information, regarding conditions that impact the QOL of the inhabitants (access to goods and services, community infrastructure, education, health, employment, etc), links to the habitat immediate to the dwellings, and it is expected to achieve a diagnosis on the level and inequities of the QOL, and build a gendered index of QOL for each of the studied communities.

To structure an index that would allow measuring QOL, we started from the definition of this notion. The multiple concepts related to QOL cannot be encompassed by a single indicator, but require a combination of different indicators and dimensions, corresponding to different aspects of QOL. The compound index for each community studied, is formed five sub-indexes corresponding to five fields: natural, physical, socio-cultural, human and financial. In the first project the financial sub-index was not taken into account. These sub-indexes, in turn are compounded by multiple dimensions and indicators. As an illustration, the indicators, dimensions and sub-indexes worked out for all four fields and are shown in Table 2. They are results of a statistical study of "Principal Component Analysis".

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**Table 2. Index, Fields, Sub-indices and Indicators of Quality of Life**  
(Adapted from Fadda, Jirón and Allen, 2000)

Index	Fields	Sub-indices	Indicators
Quality of Life	Natural Field	Quality of Neighbourhood	Aspect of neighbourhood, noise level, quality of air, flooding areas.
		Quality of Housing	Temperature, noise levels
		Quality of Environmental Hygiene	Are there problems with plagues, river pollution?
	Human Field	Social problems affecting the community	Do social problems affect you? Drug addiction, alcoholism, teenage pregnancy?
		Quality of sports and health services	Health services, sports centres, emergency services, recreation, sports
		Recreation and Leisure	Leisure, time to reach parks
		Time spent to reach schools	Time going to school and child-care centres
		Time spent to reach health services	Time to health services
		Quality and capacity of schools	Perception of quality of schools and child-care centres
		Physical Field	Quality of Housing
	Physical Field	Improvements made on housing	Improvements on your housing
		Sense of improvement compared to previous housing	Comparisons with previous housing
		Quality of Facilities	Gas, electricity, water, rubbish, sewerage, rain collection
		Sense of improvement compared to previous neighbourhood	Comparison with previous neighbourhood
		City and district access	Access to inside and outside district activities
		Socio-cultural Field	Access to recreation
	Socio-cultural Field	Wanting to move or change neighbourhood	Wanting to change neighbourhood, are you thinking of moving from your neighbourhood?
		Perception of neighbours	Friendly, sympathetic, respectful, dangerous
		Citizen Security	Perception of police protection, street security
		Participation and/or sense of isolation	Do you know, and do you participate in mother centres, parents associations, students associations, sporting clubs, political parties, etc.?; installation of gates
		Empowerment	Degree of influence in the decision-making; neighbourhood pride; perception of municipal authorities (are they concerned, interested in community, do they offer solutions, do they inform?)
		Perception of disaster prevention capacity	Perception of fire fighters, disaster prevention
		Sense of isolation from the city	Do you feel isolated from the rest of the city?

As an example of what we are aiming at, a graph of the indexes of QOL obtained in the First Project is shown in Fig. 1.

The comparisons between genders in each neighbourhood will show internal results for each case, according to indexes given in the different fields. Comparisons among

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the three different neighbourhoods will provide general indexes contrasting results of QOL.

## **5. An Application: The ifu's Research Project**

In the ifu Project Area "City and Gender", teaching on "City and Sustainability" topic was developed. Fundamentals for both theoretical lessons and research project, were centred on two main topics: Urban Sustainability and QOL in Cities.

Lectures made constant reference to the case of Santiago-Chile, which was one of the four cities analysed in the course (Fadda, 2001-a). The Research Project was called "Are Cities Sustainable? Inequities in Quality of Life in Cities: International Comparison" (Fadda, 2001-b). This Project was designed according to the above described research on QOL in low-income housing, carried out in Santiago, where this methodology was applied. (Fadda and Jiron, 1999; Fadda, Jirón and Allen, 2000).

The ifu's project also aimed to analyse the relationship between "environment- QOL-gender" in urban low level neighbourhoods, but this time, through case studies of different countries. For this reason, the participants were asked to bring or obtain objective data (i.e. figures, statistics, maps, photos, films, plans, policies, strategies, etc.) from their countries, and subjective evaluations and perceptions (via workshops, surveys, etc. with inhabitants) of a chosen neighbourhood.

Twelve participants<sup>4</sup> were registered in the project, forming three working groups of four persons each. The case studies chosen belonged to low level population neighbourhoods of: Panjarapol in Mumbai City (India), Planetario in Porto Alegre (Brazil) and Novos Alagados in Salvador de Bahia (Brazil). Once the specific analysis of each case study was finished, an international team was formed by the course members in order to obtain conclusions and compare results of the three cases. For a short theoretical framework and main results of these practical examples, see Fadda (2001-b).

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<sup>4</sup> The participants were from the following countries: Bolivia, Brazil, Cuba, India, Indonesia, Kyrgystan, Malaysia, Mongolia, Nigeria, Philippines, Tanzania.

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