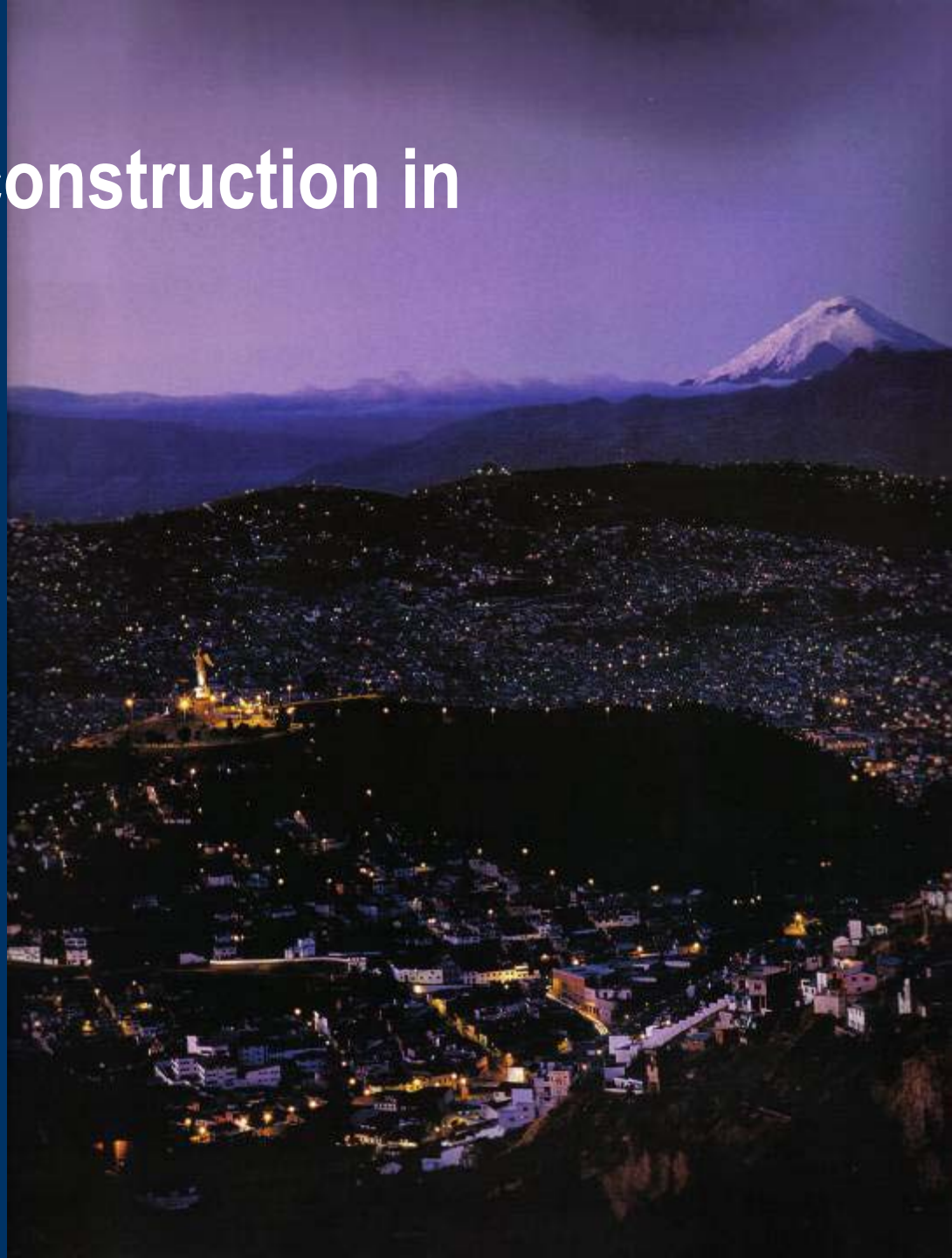


Dealing with illicit construction in Quito

Diego Carrión
Municipality of Quito
Quito - Ecuador

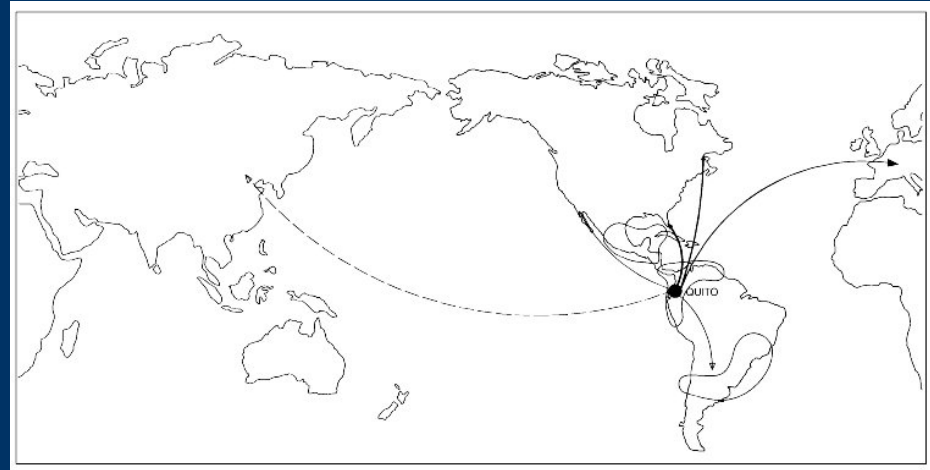


Background Information

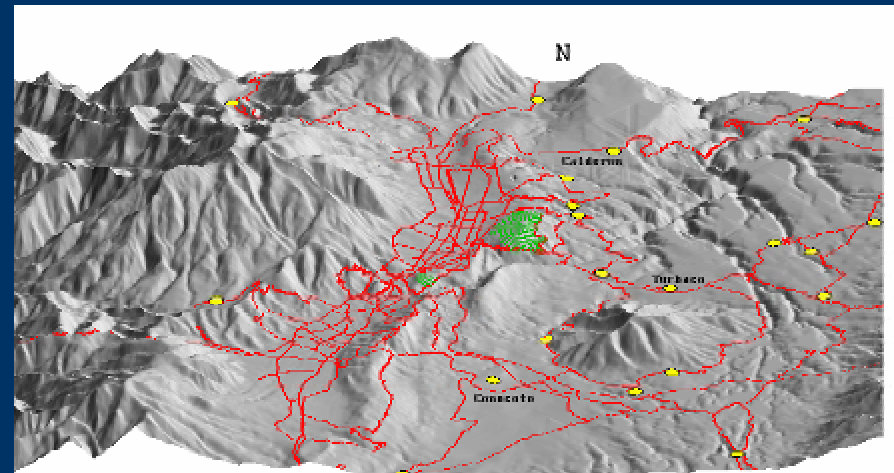
Basic Facts

- Quito, the Capital city of Ecuador, is located the Andes, in an area of intense volcanic and seismic activity. Lies in a valley at 2.850 m. above sea level.
- The city develops North-South, 40 to 50 Km. length and 6 to 12 Km. wide. It is also growing towards nearby valleys (Tumbaco and Los Chillos).
- Quito Metropolitan District has a total population of 1,843,000 inh., in an area of 425.000 hectares. The urban area has a population of 1,500,000 inh. in an area of 29,000 hectares.

Quito in the World



The site



Background Information

Urbanization in Latin America

- Latin America is one of the most urbanized regions in the world.
- Most of its cities lack effective urban planning and land use control mechanisms.
- Migration into cities, budget shortages, and decentralization add pressures on municipalities in dealing with urban management and services provision.
- The urbanization process has had impacts on the environment which in turn increase vulnerabilities in cities.

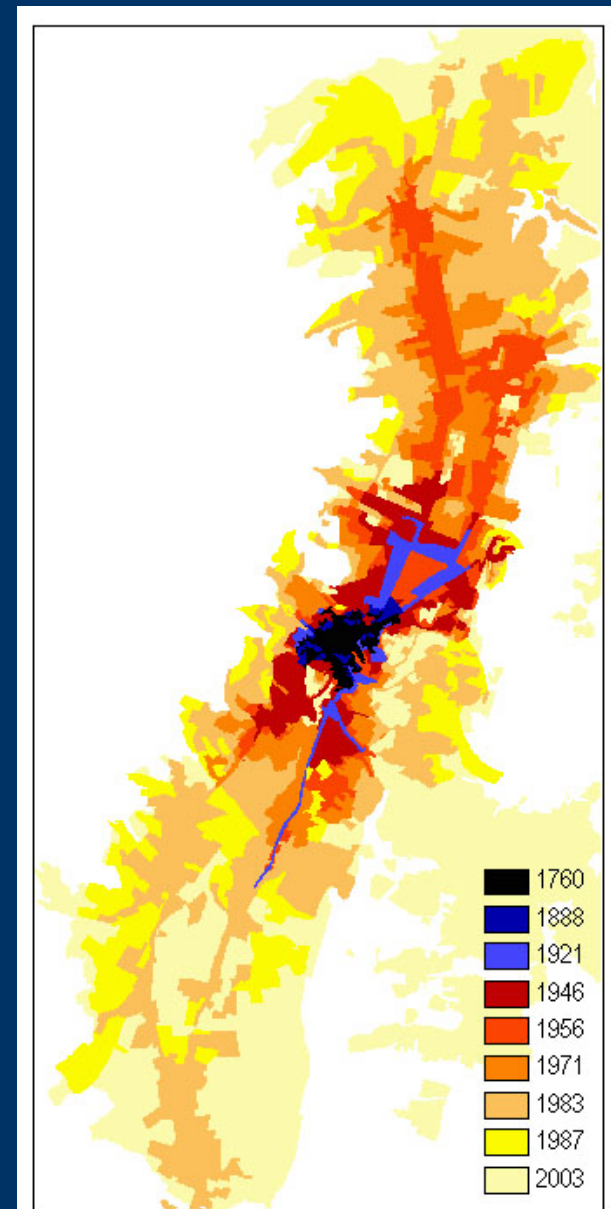
Environmental impacts in Quito

- Deforestation is caused by the need of land for building. About 100 hectares of forest are destroyed every year, this means that in 15 years it may disappear if strong actions are not taken.
- About 200 tons/day of solid waste are deposited in empty lots and ravines affecting the natural drainage system of the city, and blocking the access to the sewage and collector systems where available. (Total solid waste: 1,400 tons/day)
- Slopes are anti-technically cut weakening soils, and adding debris to these areas.

Background Information

Urban growth

- During the seventies and eighties massive immigration to Quito occurred; population grew from 432,228 in 1974 to 890,355 in 1982 and to 1'112,575 in 1990. Urban area grew from 7,355 hectares in 1970 to 19,176 hectares in 1990.
- Most of this growth is due to low-income rural population moving into Quito, forced to live in the surrounding steep slopes (in El Pichincha Volcano and other hills such as Panecillo, Puengasí, Guanguiltagua).
- The city was not prepared to receive such unprecedented population increase.



Background Information

Quito is subject to high risks

Main Hazards

- Volcanic
- Seismic
- Geomorphologic
- Morphoclimatic
- Technological
- Anthropological

Vulnerabilities

- Physical vulnerability of buildings (mainly in the Historical Centre and of informal constructions)
- Infrastructure and social services
- Poor coordination of involved actors
- Lack of appropriate protocols
- Organizational problems

Illicit Construction

Low-income settlements

- One of the phenomena associated with urbanization is the appearance of low-income settlements.
- These barrios are a survival strategy of low-income groups to find a place to live in the city.
- It is especially significant in Quito the increase of popular barrios since the 70's.

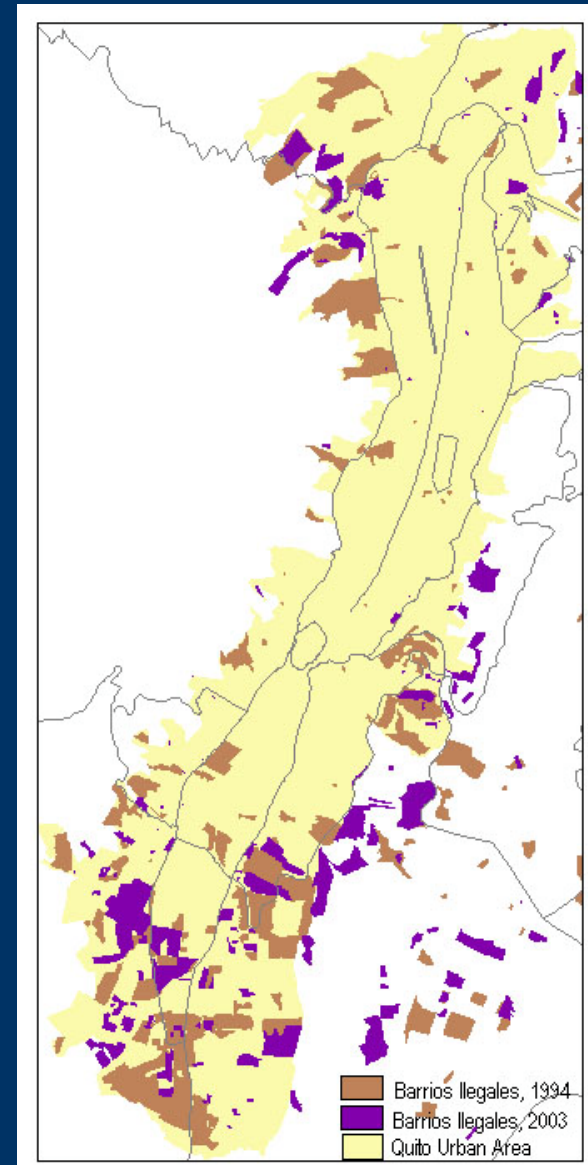
Low-income settlements in Quito 1950 - 2004

year	has
1950	267
1960	653
1970	1938
1980	1479
2003	1159
Total	5496

Illicit Construction

Low-income settlements

- In Quito there are about 254 popular barrios with approximately 15847 homes and 65101 persons.
- Usually low-income families which settle in these barrios are subject to “pirate developers”, who tricks the people.
- These barrios are mainly located in slopes or in risk sites, because of initial low purchasing land prices.
- Most of houses are build through self-help, which have not been approved by the Municipality, though are illegal.



Illicit construction

Vulnerability of buildings

- Estimates show that there are approximately 60% of total buildings built without municipal permits.
- Also, there is no certainty about anti-seismic structures in registered buildings.



Illicit construction

Informal housing

- It is estimated that there are about 153,317 housing units built illicitly by low-income groups in popular barrios (total housing units 508,728).
- These buildings do not comply with anti-seismic standards.



Geomorphologic hazards

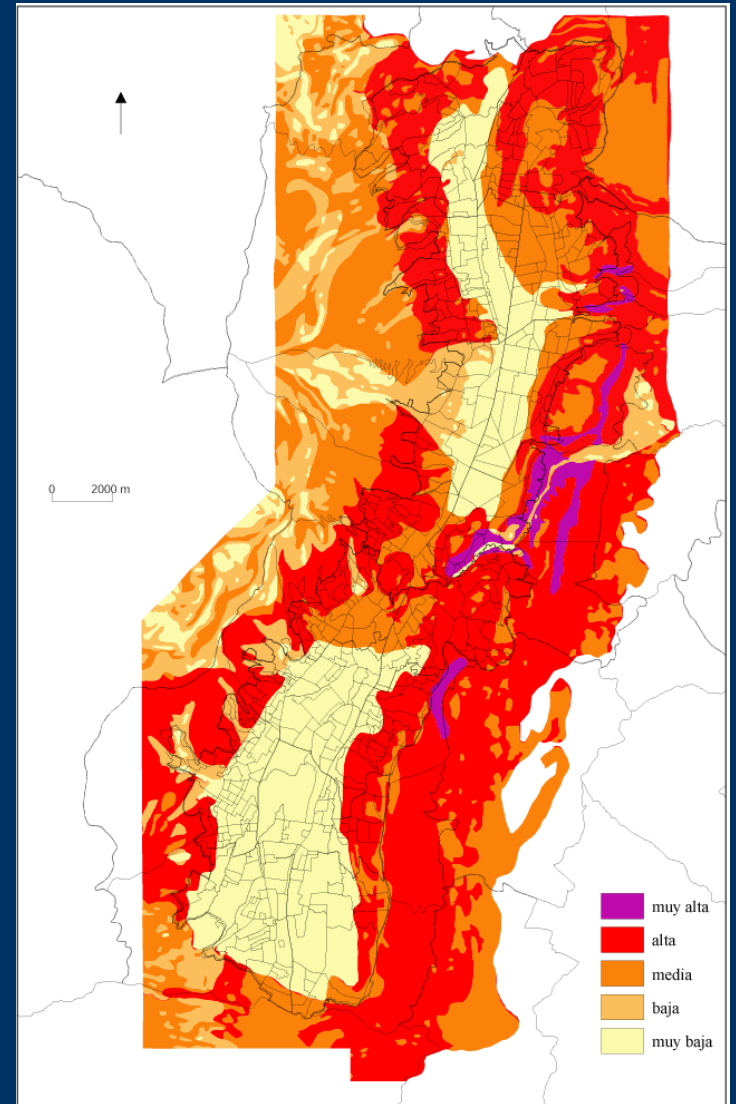


“Urbanización Carapungo” (Northern Quito)



“Barrio La Libertad” (Centre-West of Quito)

Land Instability in Quito Urban Area



Geomorphologic hazards

Landslides



Barrio 5 de Junio, Panecillo (18-05-2000)



Santa Teresita del Valle (05-2000)



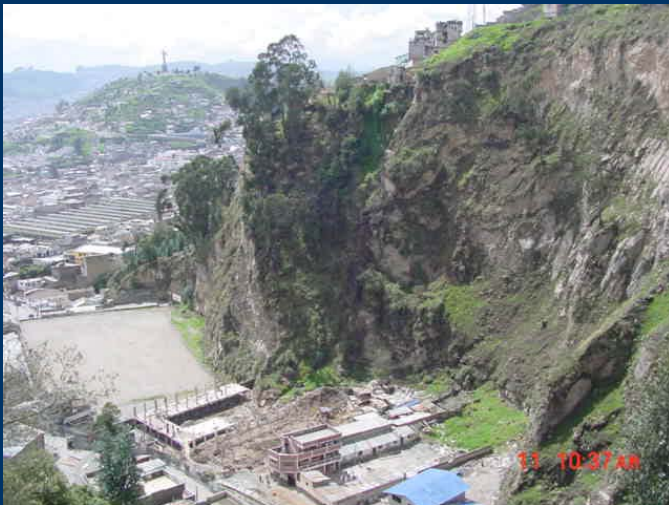
Interoceánica Road (05-07-2000)

Geomorphologic hazards

Barrio La Ermita, in San Roque

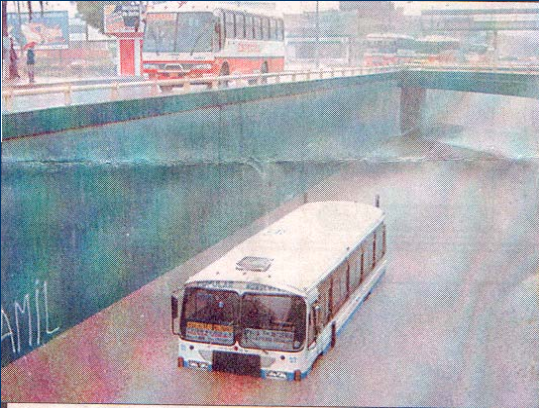


Barrio La Comuna (31 de march 1997)



Geomorphologic hazards

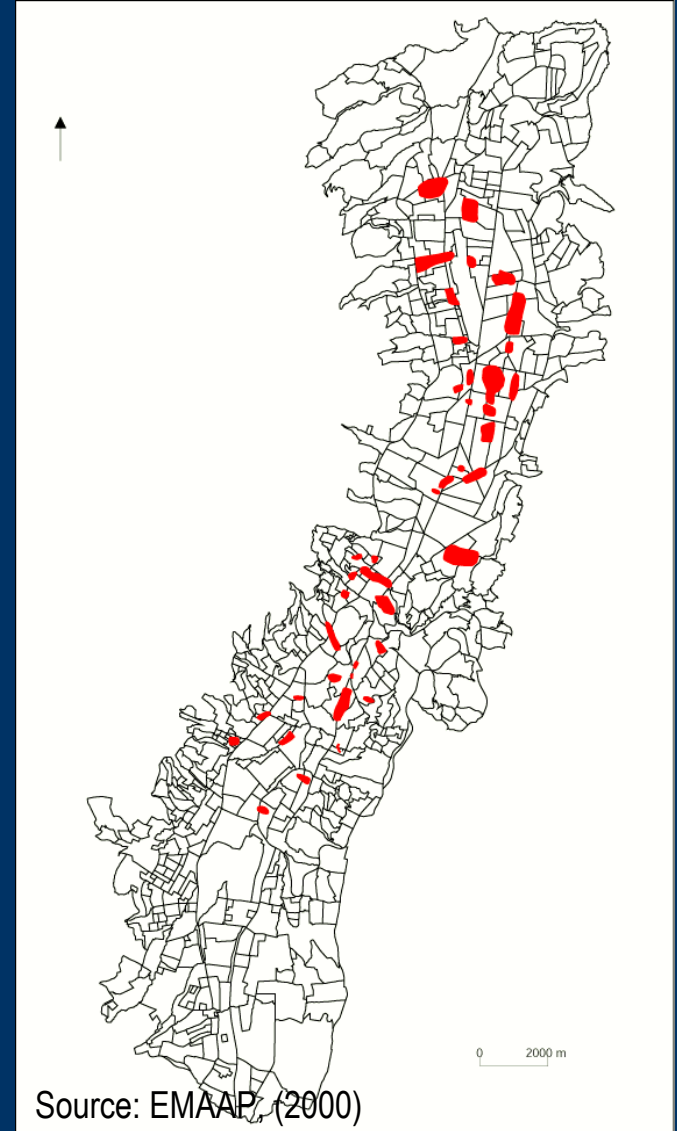
Floods in Quito



Near Airport (El Comercio)
14/04/2000



San Diego Tunnel (El Hoy,
15/04/2000)



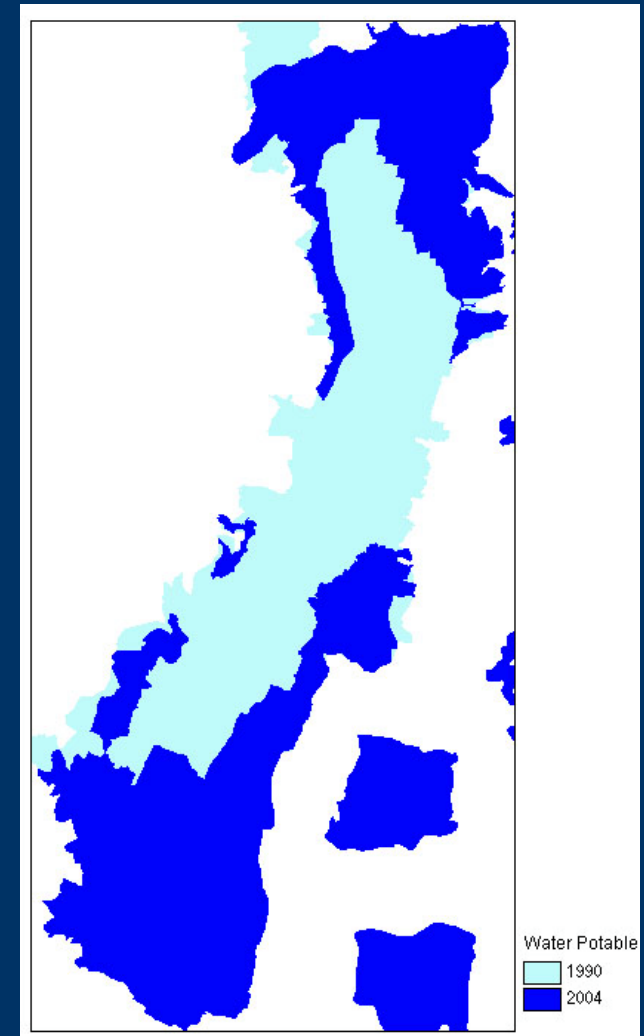
Source: EMAAP, (2000)

Municipal current policies

Potable Water and Sewage Programme

- During 2001 to 2004 the Municipality has developed an extends potable water and sewage infrastructure programme, especially concentrated in low-income settlements: benefiting 350,000 inhabitants with 1,300 Km of water lines and 1,300 sewage lines.
- The Environmental Sanitary Programme (funded by IDB) has been working since 1998 in the protection of El Pichincha slopes and installing water and sewage systems in various critical areas.
- These municipal efforts have resulted in a important reduction of land slides and floods.

Potable Water Coverage



Municipal current policies

Land Tenure Regularization Programme

Since 2000, the Municipality is working in an aggressive land tenure regularization programme.

- By 2001 there were 200 Illegal Barrios to be regularized
- 90 barrios from 2001 to 2004 regularized with 23.339 individual plots
- 182 barrios are under approval process.
- 61 barrios that are not subject of approval because are located in environmental protected or risky areas.

For 2005-2008 the Municipality will develop a massive upgrading programme in low-income settlements.

REGULARIZED BARRIOS			
YEAR	BARRIOS	PLOTS	GREEN AREA (m2)
2001	24	7.307	193.647
2002	28	5.890	209.616
2003	20	7.168	95.171
2004	18	2.974	109.903
TOTAL	90	23.339	608.339

Conclusions

- It has been difficult to deal with illicit construction In Quito. Problems persist even though the Municipality has developed a new legal framework and several improvement programmes.
- In terms of risk prevention and mitigation there is a lack of permanent policies; weak institutions, leadership and coordination to incorporate disaster prevention and territorial planning.
- Lack of appropriate legislation and control mechanisms.
- Insufficient personnel trained for different DRM.
- Weak community perception about hazards and capacity on how to react.

Conclusions

Therefore, it is necessary to establish an adequate institutional arrangement for prevention and crisis, for:

- Design and implement permanent policies related to risk prevention and mitigation and establish appropriate legislation and control mechanisms.
- Overcome weak institutions and institutional arrangement, leadership and coordination, to incorporate disaster prevention and crisis planning.
- Develop an adequate institutional framework.
 - Clarify roles of different involved actors.
 - Risk institutionalization.
 - The municipality must leader institutional coordination.

Conclusions

Quito requires a comprehensive Risk Reduction Plan for prevention and for crisis situations

Institutional actions for prevention and crisis

- Protection actions against hazards
- Strengthen municipal controls over land use and construction
- Accessibility improvement for basic services and communications network
- Insurance contracts for social services and infrastructures
- Train sufficient personnel
- Overcome weak community perception about hazards and its capacity on how to react.

Research and Monitoring

- Research about the natural environment and the social functioning
- Micro seismic research and zoning
- Research on future urban expansion areas
- Systematize local and foreign experiences
- Monitoring of identified hazards
- Establish a “Risk Information System”

