

# URBANIZATION OF POVERTY AND THE SUSTAINABLE DEVELOPMENT OF URBAN AREAS IN CHILE

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## Abstract

The article deals with a phenomenon of urbanization and its impact not only on the sustainable economic development in Chile. The article brings a brief history of urbanization process and housing policy of Chile. Next, the author focuses on illegal settlements and gated communities which were built as a protection from dangerous elements arisen in slums. In the last part, the impacts of housing policy and other national strategies are analysed via the Urban Sustainable Index. The aim of the article is to analyse an ability of Chile to improve living condition of urban population and in provision of sustainability.

**Keywords:** sustainable urban development, housing policy, Urban Sustainable Index, Chile.

## 1. INTRODUCTION

The economic development is accompanied by a phenomenon “urbanization” which brings both, positive and negative externalities. The author focuses on the case of Chile, the most developed country in Latin America and one of the most urbanized countries in the region. Even, Chile belongs to the most urbanized countries in the world with more than 89% of population living in urban areas. Due to unplanned urbanization, many illegal settlements and gated communities arose there. These and other negative externalities such as drug cartels, violence, criminality, environmental degradation, overcrowding in urban peripheries mean obstacles for development. With regard to sustainable development, it is important to weight up threats and benefits of urbanization in each country. According to the World Commission on Environment and Development, sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987). In other words, it appear to hold out the promise of economic developments, and at least no further degradation of natural

environment, and a significant improvement in the absolute and relative of the poor (Atkinson et al, 1997). Thus, it means a big challenge for Chile such as for other countries worldwide. The aim of the article is to analyse an ability of improvement of living conditions of urban population and of provision of sustainability in Chile.

In first part, it is a current state and a brief history of urbanization process presented. Next, we deal with illegal settlements and gated communities, condominiums, which were built as a protection from dangerous elements arose in the periphery. In the last part, we observe the housing policy in Chile and focus on the main milestones of its strategy. The author analyses the impact of housing policy and national strategy on living condition of population via the Urban Sustainable Index (USI), a new methodology for measuring sustainable development.

## 2. RESEARCH METHODOLOGY

To better evaluate the sustainability of cities in Chile, we use the USI (the Urban Sustainability Index) which provides a comprehensive assessment of urban sustainability performance. The index includes four categories: society, environment (including cleanliness and the built environment), economy and resources. We selected 20 indicators to quantify the level of sustainability of urban areas in Chile. Next, we assigned equal importance to four categories, five sub-categories and 20 indicators. We designed the USI according to the Urban Sustainability Index made by the Urban China Initiative (Geng, X. & Lan X. & Woetzel, J., 2010; and Xiaopeng L. et al., 2014) and updated it for the case of Chile. Some indicators were replaced or added. Used data from period 2000-2013 are available from national (ministries) or international institutions (Cepal, Sedlac, World Bank).

Before we research the evolution of urbanization process in Chile, it is needed to define what urban area is. Each country and also organization has its own methodology how to define urban area. According to the World Bank, urban population refers to people living in urban areas as defined by national statistical offices. It is calculated using World Bank population estimates and urban ratios from the United Nations World Urbanization Prospects (World Bank, Urban Population, 2016). The United Nations uses a similar methodology based on national statistics because there is no common global definition of what constitutes an urban settlement (United Nations, Population Facts, 2014).

Different approach has OECD that depends on following criteria: administrative competence, physical indicators and functional definitions. There are four types of functional urban areas according to population size used:

- small urban areas, with a population below 200 000 people

- medium-sized urban areas, with a population between 200 000 and 500 000;
- metropolitan areas, with a population between 500 000 and 1.5 million; and
- large metropolitan areas, with a population of 1.5 million or more (OECD, 2013).

Urban areas in Chile are defined as towns where more than 2,000 citizens live, or between 1,000 and 2,000 with 50% or more economically active in secondary and tertiary sector. The cities with a population size more than 50 thousand inhabitants, containing other municipalities or local governments (Orellana, 2013) are considered metropolitan area.

### 3. THE EVOLUTION OF URBANIZATION IN CHILE

Chile belongs to the most urbanized countries in the world. Today, more than 89% of its population lives in urban areas (World Bank, Urban population (% of total), 2016). According to OECD, it is estimated that the share of urban population will reach 90% by 2025 and will approach 95% by 2050 (OECD, 2013). Within Latin American and Caribbean region, Chile belongs to the top 5 most urbanized countries. In South America it is the 4th country with highest urban population. In the case of both comparisons, it can be understand that Chile is stronger urbanized than an average of regions how the following figure demonstrates. However, it is estimated that in the future the averages of both regions will get closer to Chile what means that the urban population growth is slower in Chile in comparison with both, Latin America and Caribbean region and South America region (Figure 1).

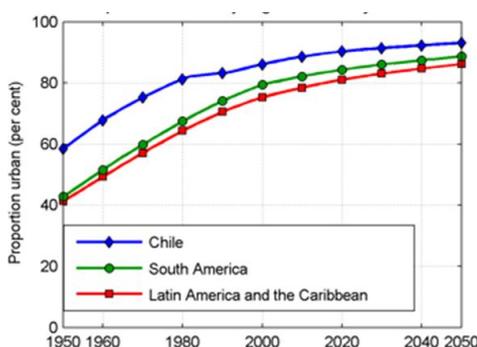


FIGURE 1- SHARE OF URBAN POPULATION (% OF TOTAL) IN CHILE, SOUTH AMERICA, LATIN AMERICA AND CARIBBEAN

Source: United Nations, Population Divisions (2014).

Today, the strong and unplanned urbanization does not only relate to metropolises but it can be also observed in medium- and small-sized towns which are gradually growing faster and faster. These areas become more vulnerable and endangered by the negative externalities of urbanization. The Chilean

biggest city is the capital, Santiago de Chile. The population of Chile is divided into different sized cities as shown below (Figure 2).

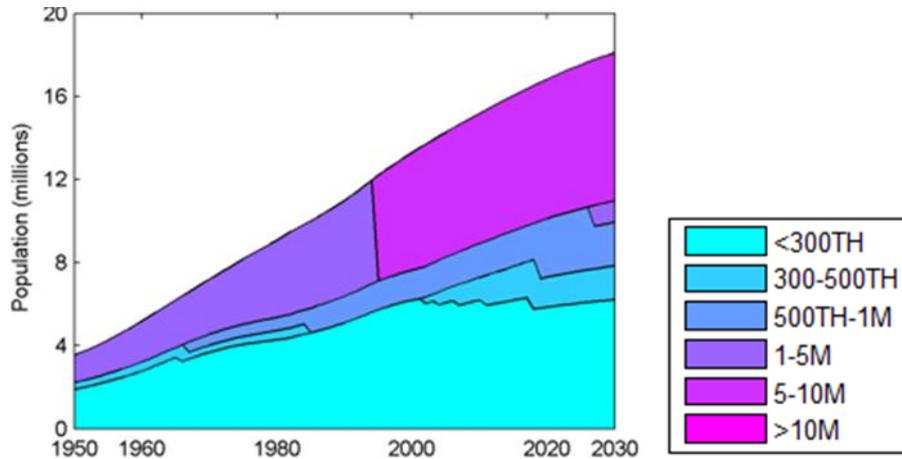


FIGURE 2- URBAN POPULATION BY CITY SIZECLASS IN CHILE

Source: United Nations, Population Divisions (2014).

Chile was always a high urbanized country, even in the 1960s when in the urban areas lived almost 68% of all population. The next decades, ratio of urban population gradually increased (Figure 3). In the middle 1970s, Chile was the first Latin American country which opened up and liberalized its economy. Despite this fact, gated communities were established in the late 1980s for the first time (Borsdorf, Hidalgo, 2008).

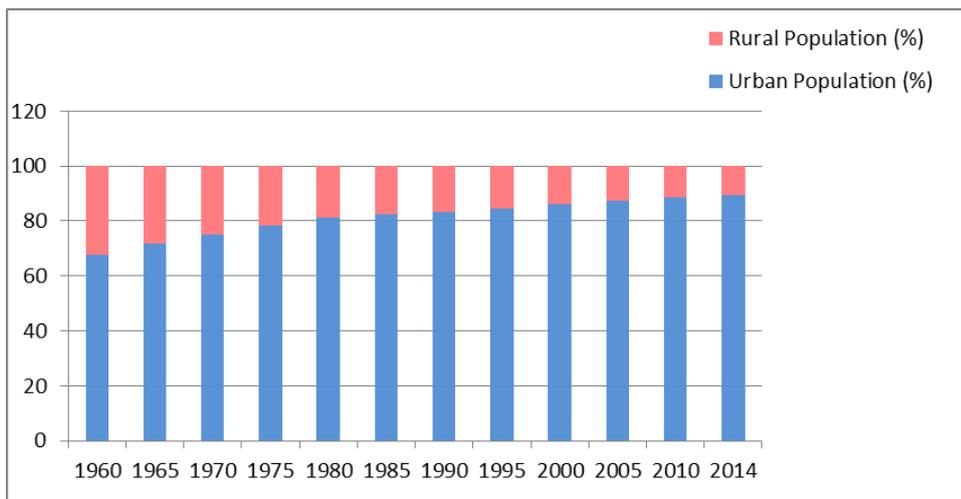
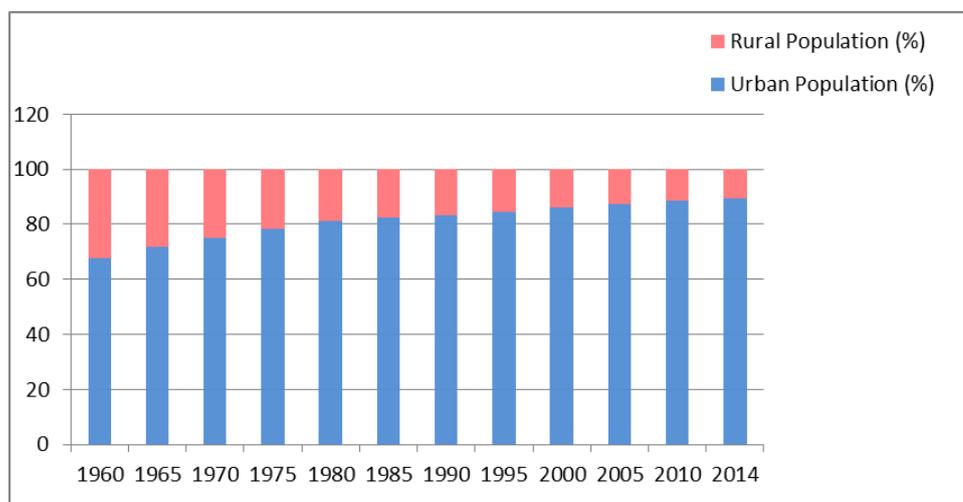


FIGURE 3 – SHARE OF POPULATION BY TYPE OF AREA IN CHILE

Source: World Bank, Rural population (% of total population)/ Urban population (% of total population) (2016).

They were an answer to creation of slums which became dangerous for neighbourhoods and were also the result of processes of conflictive urbanization, including land seizures and programs of eradication and relocation (Aguilera, 2015). The capital, Santiago de Chile, started to change since 1970s. Until that

time, it was characterised by four different organisational forms: private, individual building by the inhabitants, social housing, rental housing<sup>1</sup> and shanty towns (Borsdorf, Hidalgo, 2008).



#### 4. THE ILLEGAL SETTLEMENTS IN CHILE

From 1830s to the 1940s, illegal settlements were highly controlled and tolerated only on land with unclear ownership or in areas of public property such as outside city limits or on riverbanks (Jirón, 2010). The industrialisation of country at mid-century caused massive flows of immigrants from rural areas. Santiago, as the most developed city, was unable to accommodate this new population that settled in the periphery in informal settlements characterised by precarious physical and sanitary conditions (Greene, 2003). The beginning of callampas, or mushroom settlements, is dated in the 1950s when the land belonged to the Housing Corporation and was taken by a large group of homeless (Rubio, 2003). In the 1970s, the activity of homeless committee soon became an organised, national dwellers movement, coordinated centrally, directed by proletarian parties and linked to the new revolutionary organisations which were emerging in the country (Jirón, 2010). This settlement process is known as campamentos, urban settlements without regularised land property rights, where at least one of three basic services (electricity, potable water and sewer systems) are lacking, and where the dwellings are agglomerated (OECD, 2013). During president Allende's period (1970-1973) the growth of informal settlements increased. In 1970, 60,000 people lived in the suburbs of Santiago in comparison of 800,000 in 1973 (Jirón, 2010).

In the 1980s, the urban space was highly polarised and divided between poor and rich. It was strongly connected to location within the Santiago. Gradually, the model of cities in Chile changed. In the 1990s,

<sup>1</sup> In Chile they are rarely used. Chile has relatively small rental markets.

20% of the country's population lived in the campamentos, in overcrowded houses without access to electricity, savage and drinking water. Thanks to Chilean housing policy, the number of slums decreased, reaching 693 shanty towns with around 36,023 people living in them in 2015 (TECHO, 2016). It must be said that the gated communities, an answer to slums, started to originate not just within upper-middle areas but also the middle and lower classes began to enclose their quarters. Firstly, they were small- and medium-sized territories at the most 150 residential units.

Progressively, they have changed from barrios cerrados (closed residential quarters) to a ciudades valladas (fenced-in towns). Settlements of poor and rich people moved closer to one another due to the occupation of suburban and formerly poor areas by high-income populations (Borsdorf, Hidalgo, 2008) and in the cities was created a new model of urban agglomeration (Figure 4).

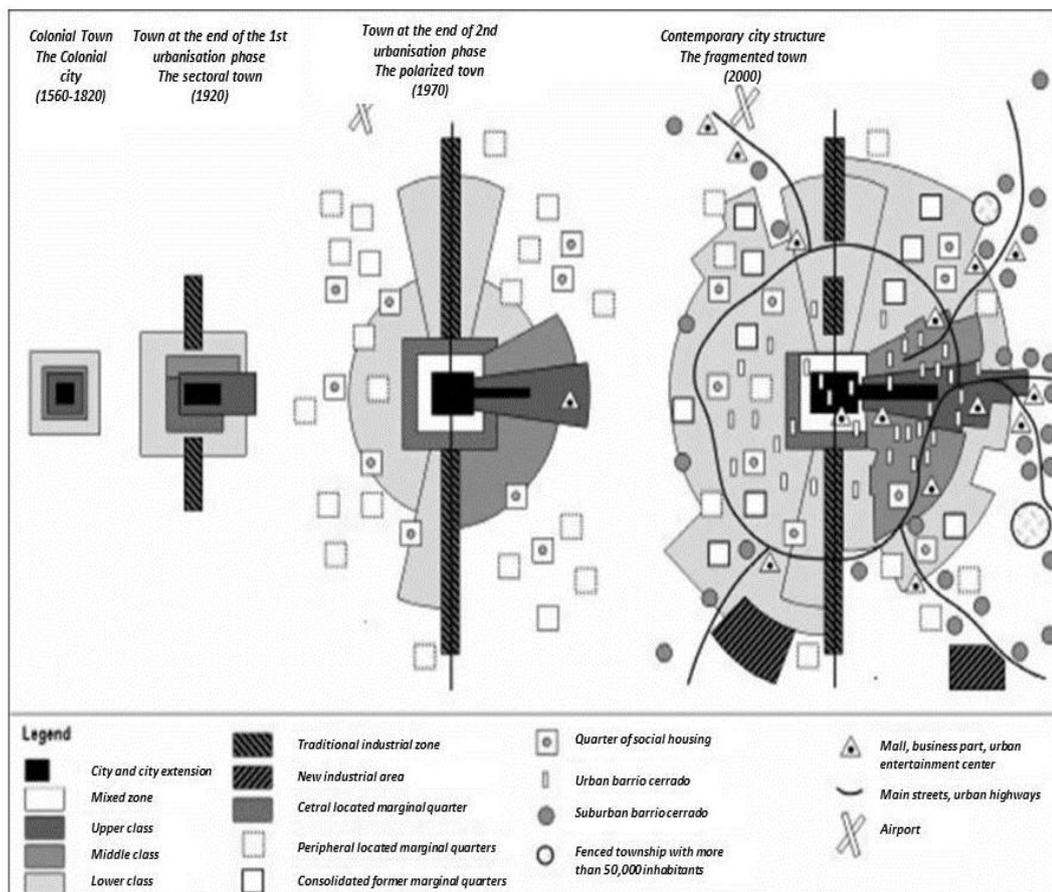


FIGURE 4- EVOLUTION OF URBAN MODEL IN CHILE  
Source: Borsdorf, Hidalgo, Sanchez (2007).

In 2016, it is estimated that 692 slums will situate and 35, 986 families will live there. The shanty towns differ from each other in building materials, shapes and vulnerability. The figure 5 shows the evolutions of number of slums and the evolution of families living in slums in new millennium.

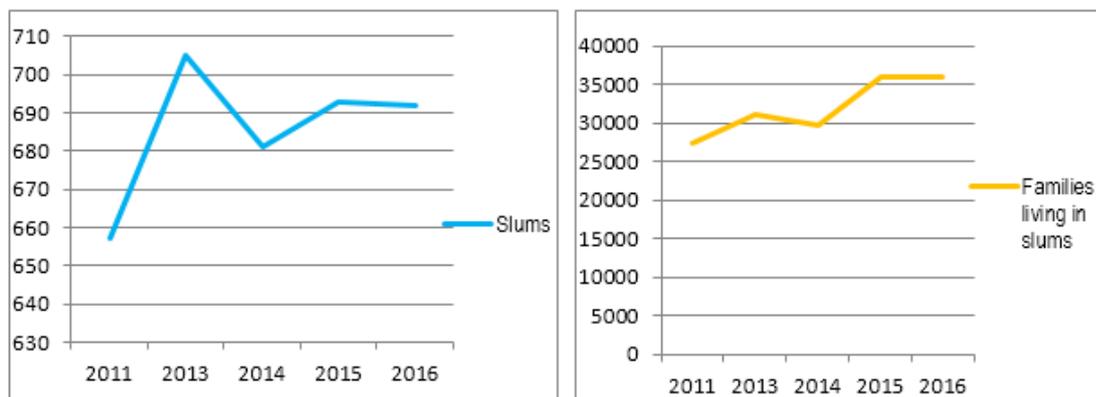


FIGURE 5: THE EVOLUTION OF SLUMS (TOTAL, NUMBER) AND THE EVOLUTION OF FAMILIES LIVING IN SLUMS

Source: TECHO (2016).

Currently, the majority of shanty towns are located in Valparaíso, Bio-Bio and the metropolitan region of Santiago (Figure 6). The most families live in campamentos in Valparaíso, Bio-Bio, Antofagasta followed by Santiago (Figure 6).

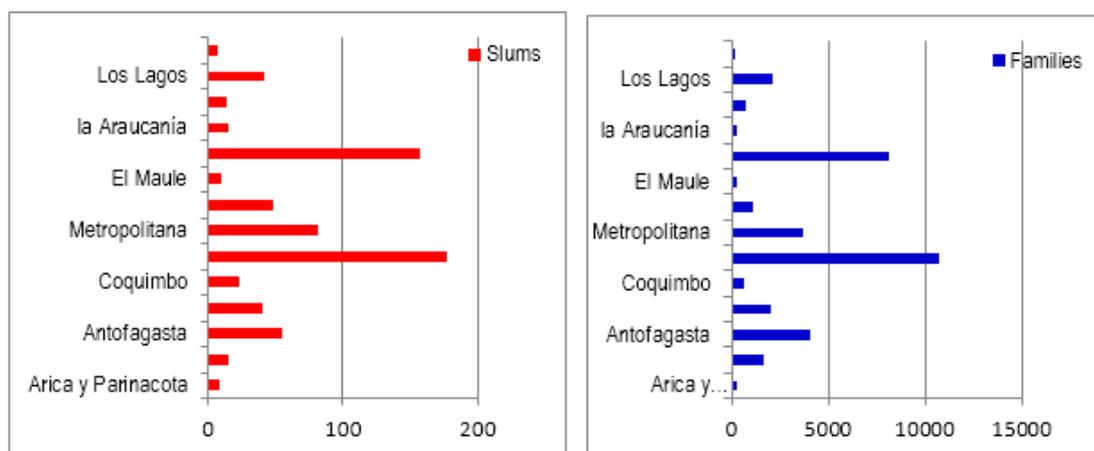


FIGURE 6- NUMBER OF SLUMS AND NUMBER OF FAMILIES LIVING IN SLUMS TOTAL,REGIONS)

Source: TECHO (2016).

### 5. THE HOUSING POLICY IN CHILE

The housing policy has a long tradition in Chile. It has been developed since 1906. Throughout the history, many types of housing policy were implemented in the country. Till 1950s, the Chilean housing policy was influenced by different charities and targeted to lower-middle income group. During the massive rural-urban migration, people living in the suburbs enormously increased, because there was a lack of housing units. The first significant change brought president Frei's government (1964-1970) when the Ministry of Housing and Urban Affairs was created and the program of land regularization and housing construction started. Salvador Allende (1970-1973), Frei's successor, continued in

implemented policies. During Pinochet's era, the social and also housing acquirement was a private matter. In 1979, Pinochet's government changed an attitude and introduced the National policy on urban development (Borsdorf, Hidalgo, 2007) that reformed the Frei's housing policy in the following principles:

- the state supported only by subsidy of the family who had saved a small amount of money and used it as a down payment
- housing was redefined from a "social right" to a commodity
- the administrative boundaries were moved from the municipalities to smaller and homogeneous ones (Salcedo, 2010).

Through this housing strategy of investment in subsidized housing, more than a million Chileans moved out of slum neighbourhoods and became property owners (Jaitman, 2015). Thousands families were relocated to distant locations what caused the socio-spatial segregation of the cities, mainly Santiago de Chile. Beside the segregation between poor and rich, family links broke and it was very difficult for the poor people to travel for the employment to the centres. Because of this problems and political pressure, the Pinochet's government modified the urban policy by adjusted policy, which reasserted urban planning as an exclusive function of the state, and declared land as a scarce resource that should be allocated according to its most productive use (Jirón, 2004).

After return of democracy in 1990, new government tried to reduce the housing deficit. Thus money spent in housing programs was dramatically increased (Salcedo, 2010) and different new strategies were implemented: the Progressive Housing Programme, the Chile Barrio Programme, Chilean Progressive Housing Program, the New Housing Policy, Social Integration Projects Programme and etc. But not all of them are focused on low income group and the housing policy is still weakly connected with other policies and it is focused on quantity. But besides subsidizing programs, there are others initiatives that help to improve urban life in the peripheries. The cooperation among many agencies, departments and ministries is really important for development of vulnerable areas. One of them, the Transantiago Plan, is focused on improvements of public transport with rapid bus transport (Jaitman, 2015) in order to reduce air pollution and contribute to the sustainable development. Other strategy originated in Chile, Plan Cuadrante, was one of the first strategies aimed at crime prevention in Latin America. It was implemented in many countries in the region. The policy presence increased in quadrants of city and specific needs were taken into account in each area. Because this plan is not based on a reform in the structure of the police, it is universal and can be implemented in different cities

and countries. Due to the Plan Cuadrante, Chile has become a leader in the fight against violence in Latin America.

### 5.1. THE EFFECTIVENESS OF URBAN POLICY AND NATIONAL STRATEGY IN CHILE

In the long term, Chilean government was generally successful in reduction of population living in poor housing conditions, from 30% in 1990 to less than 10% in 2009 (OECD, 2013). In addition, share of owners of a house increased from 40.4% in 1990 to 51.7% in 2003 for the poorest 20% of population (table 1). Thanks to the Chilean housing policy live less family members in a house and families own bigger houses. Share of poor dwellings has fallen from 29.8% in 1990 to 1.6% in 2013 in the case of first quintile. In like manner, quality of materials has improved, share of dwellings of low quality decreased from 35.4% to 5.8% in the same period (SEDLAC, 2016).

TABLE 1- SHARE OF OWNERS OF HOUSE IN CHILE (QUINTILS, %)

year/ quintile	Share of housing owners					Total
	I	II	III	IV	V	
1990	40.4	53.1	61.3	68.3	67.0	59.5
1998	54.8	62.7	69.5	70.3	70.5	66.6
2006	56.8	65.9	69.7	70.7	69.0	66.9
2013	51.7	62.5	64.9	64.8	65.8	62.4

Source: SEDLAC (2016).

Note: I= the lowest income group, V= the richest income group.

However, the housing subsidies provided by government are distributed almost equally among different income segments in society. Thus the housing policy should more focus on two lowest and the most vulnerable groups in Chile. Moreover, the non- government organizations are really active and helpful in solving the housing problem of poor population in the country.

TABLE 2- INCOME DISTRIBUTION OF HOUSING SUBSIDY BENEFICIARIES

Income quintile	% recipients
V (highest income level)	12.1
IV	20.1
III	23.0
II	23.0
I (lowest income level)	21.8

Source: OECD (2013).

The housing policy has also improved the living conditions of poor population. The water supply coverage was always high and nowadays it is comparable with the most developed countries. In other indicators, the changes are more significant in access to hygienic restrooms, sewerage and telephone (Table 3).

TABLE 3- INFRASTRUCTURE IN URBAN AREAS, CHILE (QUINTILES, %)

year/ quintile	Water		Hygienic restrooms		Sewerage		Electricity		Telephone	
	I	V	I	V	I	V	I	V	I	V
1990	94.2	99.9	71.4	97.6	67.7	95.8	96.9	99.8	-	-
1998	97.2	99.8	78.8	99.0	75.0	97.2	98.9	100.0	26.3	90.9
2006	98.2	99.8	91.2	99.5	86.0	97.7	99.3	100.0	85.1	98.7
2013	99.2	100.0	97.4	99.8	94.4	98.8	-	-	96.5	99.3

Source: SEDLAC (2016).

Note: I= the lowest income group, V= the richest income group.

While the programs have positive effects on housing condition such as access to water, sewerage, telephone and electricity, they also have negative impacts on overcrowding, segregation of cities, deterioration of job opportunities and psychological problems when relocated families are far away from their friends, relatives, networks of solidarity and support. Thus they can feel lonely and underestimated by new neighbourhoods. Other problems have social character, including drug addiction, alcoholism, teenage pregnancy or crime (Jirón, 2004).

To better evaluate the sustainability of cities in Chile, we use the USI (the Urban Sustainability Index) which provides a comprehensive assessment of urban sustainability performance. Urban areas have seen a gradual improvement in sustainability from 2000 to 2013. At that time, average growth rate of sustainability increased by 6.15% (Appendix 1). The country has reached the greatest successes in meeting economy and environment- built environment indicators (Figure 7). In addition, Chilean urban space experienced the most significant changes in reduction of poverty, growth of internet users and income level (Figure 7).

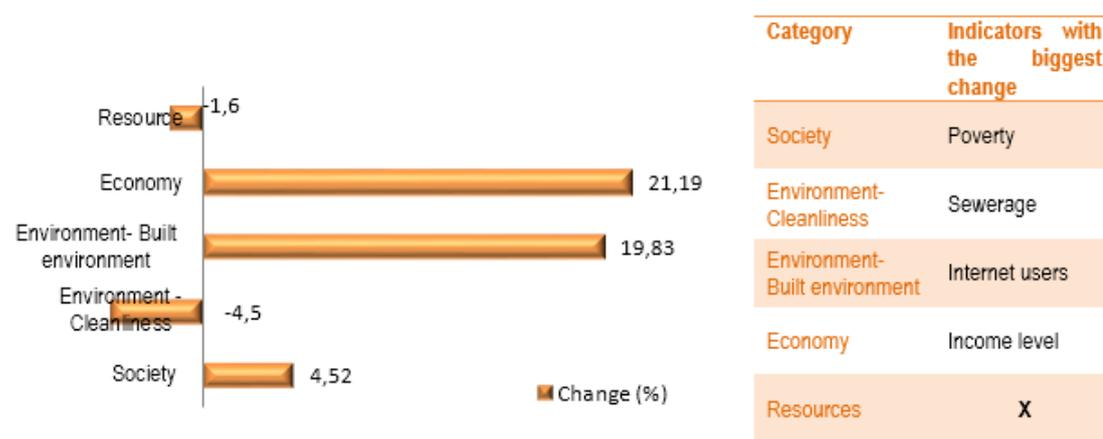


FIGURE 7- OVERALL SUSTAINABILITY CHANGE MAINLY COMES FROM SOCIETY, ECONOMY AND ENVIRONMENTAL RELATED INDICATORS

Source: Author based on data extracted from CEPAL, SEDLAC, World Bank.

But “environment- cleanliness” and “resource utilization” remain low; even negative what is connected with growth of emissions of greenhouse gases. USI indicates a weak strategy in improving capacity

investments and renewable energy supply. Furthermore, GDP fell by 0.3% between 2000 and 2013, as a result of the slowdown in the mining sector, the most important sector in the country. The indicators such as net enrolment rate- primary school, water supply and electricity coverage were high and today are even higher, close to 100%.

## 6. CONCLUSIONS

Chilean housing policy can be evaluated as successful in improvement of many conditions in lives of its urban population. Chilean government has achieved good results in reduction of population living in poor housing conditions. Thanks to the Chilean housing policy live less family members in a house and families own bigger houses. Share of poor dwellings has fallen, quality of materials has improved. The housing policy has also improved the living conditions of poor population. The water supply coverage was always high and nowadays it is comparable with the most developed countries. In other indicators, the changes are more significant in access to hygienic restrooms, sewerage and telephone. Improvement of income level, internet and phone coverage, net enrolment rate of secondary school, reduction of poverty have demonstrated the biggest improvements in sustainability in the country.

However, there are still weaknesses. The housing subsidies provided by government are distributed almost equally among different income segments in society. Thus the housing policy should more focus on two lowest and the most vulnerable groups in Chile. Other negative impacts are overcrowding, segregation of cities, deterioration of job opportunities and psychological problems when relocated families are far away from their friends, relatives, networks of solidarity and support. Thus they can feel lonely and underestimated by new neighbourhoods.

The USI indicates a weak strategy in reduction of emissions of greenhouse gases and in improvement of capital investment and renewable energy supply. Thus, Chilean government should also recognize a need to protect an urban environment, improve the environmental quality for poor communities living in vulnerable districts and strengthen socially and ecologically integrated approaches. Despite of above mentioned negative aspects; the Chilean housing policy belongs to the best in the region and Chile can also become a leader in sustainable development in Latin America.

Our findings suggest that this approach, the USI, could also be useful for comparison of countries in the region and worldwide. Continuing research on urbanization of poverty appears fully justified and more experiments and calculations, such as regression analysis and statistical correlation, will be needed to verify whether the high urbanization level means a threat and an obstacle for the sustainable development in Chile.

## REFERENCES

- Aguilera, C. (2015). Memories and silences of a segregated city: Monuments and political violence in Santiago, Chile, 1970–1991. *Memory Studies*, Vol. 8(1), 102–114.
- Atkinson et al. (1997). *Measuring Sustainable Development: Macroeconomics and the environment*. Edward Elgar Publishing Limited, UK.
- Barbosa, O. & Villagra, P. (2015). *Socio-Ecological Studies in Urban and Rural Ecosystems in Chile*. In: Rozzi R. et.al.: *Earth Stewardship*. Springer, 297-311.
- Borsdorf, A. & Hidalgo R. & Sánchez Rafael. (2007). A new model of urban development in Latin America: The gated communities and fences cities in the metropolitan areas of Santiago de Chile and Valparaíso. *Cities*, Vol. 24, No 5, 365-378.
- Borsdorf, A. & Hidalgo, R. (2008). New dimensions of social exclusion in Latin America: From gated communities to gated cities, the case of Santiago de Chile. *Land Use Policy* 25, 153-160.
- CEPAL (2016). *Estadísticas e indicadores. Comisión Económica para América Latina y el Caribe*. [http://estadisticas.cepal.org/cepalstat/WEB\\_CEPALSTAT/estadisticasIndicadores.asp](http://estadisticas.cepal.org/cepalstat/WEB_CEPALSTAT/estadisticasIndicadores.asp).
- Geng, X. & Lan X. & Woetzel, J. (2010). The Urban Sustainability Index: A new Tool To Measuring China's Cities. The Urban China Initiative.
- Greene, M. (2003). *Housing and community consolidation in informal settlements: A case of movement economy*. Pontificia Universidad Católica de Chile; [http://www.spacesyntax.net/symposia-archive/SSS4/fullpapers/38\\_Greene.pdf](http://www.spacesyntax.net/symposia-archive/SSS4/fullpapers/38_Greene.pdf).
- Jaitman, L. (2015). Urban infrastructure in latin America and the Caribbean: public policy priorities. *Latin American Economic Review*, Springer.
- Jirón, P. (2004). The beginning of the end of the Chilean housing model: Lessons to be learned from over 20 years of experience. International Conference: Adequate & Affordable Housing for All. Centre for Urban and Community Studies, University of Toronto.
- Jirón, P. (2010). Rethinking The Informal City: Critical Perspectives from Latin America: (Chapter 5) *The Evolution of Informal Settlements in Chile: Improving Housing Conditions in Cities*. Oxford
- Ministério de Vivienda y Urbanismo. (2014). Política Nacional de Desarrollo Urbano: Ciudades Sustentables y Calidad de Vida. (2014). ISBN 978-956-9432-05-7.
- OECD. (2013). *OECD Urban Policy Reviews, Chile 2013*, OECD Publishing. <http://dx.doi.org/10.1787/9789264191808-en>.
- Orellana, A. (2013). *Gobiernos metropolitanos para Chile: la necesidad versus la factibilidad*. Centro de Políticas Públicas UC- Instituto de Estudios Urbanos y Territoriales. (2013). <http://politicaspUBLICAS.uc.cl/wp-content/uploads/2015/02/serie-no-63-gobiernos-metropolitanos-para-chile-la-necesidad-versus-la-factibilidad.pdf>
- Rubio, R. (2003). *Housing Policy in Chile, the Evolution of dramatic Tensions*. [http://www.housingfinance.org/uploads/Publicationsmanager/SAmerica\\_HousingPolicyinChile0603.pdf](http://www.housingfinance.org/uploads/Publicationsmanager/SAmerica_HousingPolicyinChile0603.pdf).
- Salcedo, R. (2010). The Last Slum: Moving from Illegal Settlements to Subsidized Home Ownership in Chile. *Urban Affairs Review* 46 (1), 90-118.

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- SEDLAC. (2016). *Stats: Infrastructure. Socio-Economic Database for Latin America and the Caribbean*. <http://sedlac.econo.unlp.edu.ar/eng/statistics.php>.
- TECHO. (2016). *Monitor de campamientas: Cifras Nacionales. Techo, Chile*. <http://chile.techo.org/cis/monitor/#>.
- United Nations. (2014). *Population Division: Country Profile: Chile*. United Nations. <http://esa.un.org/unpd/wup/Country-Profiles/>.
- United Nations. (2014). *Population Facts: Our urbanizing world. United Nations*. [http://www.un.org/en/development/desa/population/publications/pdf/popfacts/PopFacts\\_2014-3.pdf](http://www.un.org/en/development/desa/population/publications/pdf/popfacts/PopFacts_2014-3.pdf).
- World Bank. (2015). *Rural population (% of total population)*. The World Bank Group. <http://data.worldbank.org/indicator/SP.RUR.TOTL.ZS>.
- World Bank. (2015). *Urban Population*. The World Bank Group. <http://data.worldbank.org/indicator/SP.URB.TOTL>.
- World Commission on Environment and Development. (1987). *Report of the World Commission on Environment and Development: Our Common Future*. <http://www.un-documents.net/our-common-future.pdf>.
- Xiaopeng L. et al. (2014). *The China Urban Sustainability Index 2013*. The Urban China Initiative. (2014).