

## 2 THEORETICAL BACKGROUND

### 2.1 MIGRATION

#### 2.2.1 MIGRATION CLASSIFIED

There are two main types of migration; internal migration (within a country) and international migration. This research deals with internal migration only, as this contribute most to the migration towards Latin American cities.

Concerning internal migration, four types of migration are generally distinguished, based on the distinction between rural and urban areas. These are rural-urban, rural-rural, urban-urban and urban-rural migration. Since the 1950s, the focus in the existing research on Latin America has been on rural-urban and to lesser extent on rural-rural migration. More recently, several authors plead for new typologies that include either a more gradual distinction between different areas or typologies showing more than just one dimension (Champion and Hugo, 2004). Other scholars argue that more attention on the specific role of small cities in the process of urbanisation is necessary to understand the interdependence between rural and urban areas (Lindert and Verkoren, 1997).

Other types of migration often distinguished include return migration, seasonal migration, circular migration and sequential migration. These types of migration are based on different characteristics, such as the work pattern of employees, or their pattern of migration over their life. They provide necessary additional information for the understanding of migration patterns, but are often more difficult to research, as these require specifically collected survey data rather than census data.

So far, the term migration has been used without further specification. In general terms, it refers to the longer term movements of people from one place of living to another. It includes four dimensions; space, residence, time and activity changes. These dimensions can be interpreted differently, so that the use of term migration can be a source of ambiguity (Standing, 1984). Nonetheless, the term migration has become the dominant concept used when dealing with the long term processes of mobility of people, and the use of different terms would increase complexity and ambiguity even more, since no standards have been developed in the use of them. As different sources and data sets are used, caution in comparing them is required. Thus understanding the specific definitions and variables used is required to interpret the information.

#### 2.2.2 THEORIES ON MIGRATION

An early attempt to systematically generate laws for rural-urban migration was made by Ravenstein, in the year 1885. His work presented at the Royal Statistical Society can be summarized in the following laws; most migrants move over a short distance, and the number of migrations decreases proportionally with distance (i), migrants moving long distances generally move to large centres of industry and commerce, there is a step-by-step migratory process whose influence emanates from the largest cities (ii), each migration stream produces a compensating counter-stream (iii), natives of towns and cities are less migratory compared to rural natives (iv), females predominate amongst short-distance migrants (v), technological development stimulates migration

(vi), and the desire to 'better oneself' is more influential on migration than the flows created by laws, taxation, climate, social surrounding, etc (vii). As Butterworth and Chance notice, publications till the 1950s often see migration as a force independent of people, since they hardly address the reasons for migration (Butterworth and Chance, 1981, pp. 33-40).

The approach of push and pull factors provides an easy understandable framework for an analysis of the causes of migration. This was initially developed by Lee in 1966, and was based on the above described Ravenstein's Laws (Oberai and Bilborrow, 1984). Certain advantages and disadvantages are assumed to be related to one's location. Being constantly exposed to this wide variety of pushing and pulling forces has an impact on the decision of individuals and groups to stay or migrate. Of course, these forces are relevant via the perception of those staying or moving towards the city ('bright light syndrome'). The information depends thus on perception, rather than a complete analysis in which all information is available and rationally analysed. Thus, the push and pull factors are weighed and perceived differently from person to person. Nonetheless, rural-urban migration has shown to be a result of a number of re-appearing elements.

The above indicates that an analysis of a wide variety of aspects is necessary to understand and explain migration flows. Such an integrated approach is contrasted by contributions from economist, who claim and to some extent have shown that labour and income are at least amongst most important variables. Before continuing on the various characteristics of migrants, it is useful to get a grasp of the models used by influential migration economists.

#### **2.2.4 ECONOMICS OF MIGRATION**

Throughout the last decades, economists have been dealing with causes and impact of migration. Though the purely economical approach may not be sufficient to explain the whole process, they did contribute to the debate by introducing models which can be verified in the real world. In this section the two most influential models, as developed by Lewis (1954) and Todaro (1969), are discussed, and followed by more recent findings on economic aspects of migration.

In his essay '*Economic development with unlimited supplies of labour*' (Lewis, 1954), Lewis presents a classical model with a dual economy and unlimited supply of labour at subsistence level. The dual economy consists of a modern exchange sector (industrializing urban areas), and an indigenous subsistence sector (rural areas). The unlimited supply of labour is caused by large population growth combined with diminishing returns on labour in agriculture. Therefore, labour comes available and will partly be absorbed by the industrial sector at wages above the subsistence wage. If capitalists reinvest their surplus, then capital formation takes place and the marginal product curve will shift upwards. This leads to higher outputs at the same wages, and is considered the essence of the development process. Since there is a relation between the earnings in industrial and subsistence sector, capitalists have an interest in keeping down productivity in the subsistence sector. (Thirlwall, 2003)

This model of interaction in a two-sector economy is specifically interesting, as it provides us with background on the behaviour of industry and individuals in the case of unlimited supply of labour. Also, he elaborates on the circumstances under which the tendency towards diminishing returns and zero marginal product<sup>1</sup> is not always the case. In an open economy, this can be due to; a rise in the productivity larger than the population growth (i), technical progress in the agricultural sector

increasing the labour's marginal product (ii) and via capital accumulation leading either directly to productivity growth or via technical progress (iii) (Lewis, 1954). Hence, technical progress plays an important role not only as an engine for increased employment in the industrial sector, but also as a reason for change in the supply of labour. Thereby, the levels of technology used influence the migration flows from the subsistence to the industrial sector.

After Lewis, important contributions to the economics of migration come from Sjaastad and Todaro. The Sjaastad model treats the decision to migrate as an investment involving an individual's expected costs and returns over time. (Oberai and Bilsborrow, 1984) The work of Sjaastad has been followed by works of Harris and Todaro. The Todaro model is an extension of the idea of cost and investment returns, and leads to various important conclusions. This model on rural-urban migration explains how an increase in urban employment may lead to a higher level of urban unemployment, under certain circumstances. The basic model by Todaro was first published in 1969, and later adjusted by many different scholars. Here it is useful to discuss the basic model, rather than all the extended versions.

In the Todaro-model, the decision to migrate depends on two principal variables; the urban-rural real income differential (i) and the probability of obtaining an urban job (ii). The urban-rural income differential has an impact as can be expected, with increase in rural income leading to a decline in the rural-urban migration, and vice versa. More interesting is the model's derivation concerning the probability of obtaining an urban job; paradoxically, the net rate of job creation is positively related to the level of unemployment. Thus; policies intending to create employment in the urban areas will result in increased rural-urban migration and more urban unemployment. Finally, Todaro mentions that a high difference in income between rural and urban areas might lead to large migration flows. Eventually reduced migration will take place, as a new income equilibrium is established. By then, many migrants will have ended up in slums. (Todaro, 1969)

The Harris-Todaro model has some serious theoretical oversimplifications, among which the overestimation of the link between migration and urban unemployment. Importantly, the model leaves out some important aspects of the heterogeneity of the migrants, such as risk aversion and differing situations in the rural areas. Also, the subsistence sector has not explicitly been modelled, the job hiring model is not realistic and the wages are assumed to be fixed. Finally, and most important for this study, is the notion that expected income differentials are assumed overly important, and other aspects of migration decisions overlooked. Combined, this leads to the conclusion that the link between migration and urban unemployment has not been clearly established. (Lall, Selod and Shalizi, 2006)

On a more general note; it is important to notice that there are some problematic aspects to migration studies. Concerning econometric studies, nominal wages are insufficient as a measure of income. Wage differentials and personal characteristics do not provide sufficient information for modelling of the migration decision process. (Lall, Selod and Shalizi, 2006, pp. 53-55) This is illustrated by a study on the costs of living. Here, the prices of land and services matter, as the non-food component of the cost of living has increased heavily in the 1970s. The nominal wage gap between urban and rural areas increased over time due to land scarcity in the city. This suggests that policies towards the urban settlements and social overhead are important in the migration decision of individuals (Williamson, 1988)

The household survival theory is a model that includes risk at the household level to explain migration. Instead of focussing on the individual decision, this theory sees migration as a way to maximize the chances of survival of the whole household by diversification of sources of income. This strategy is particularly used in case of an uncertain environment, when risks of crop failure, illness and external events are likely. The consequence on migration is that the migrants retain close ties with the household, and continue to send remittances. (Bilsborrow, 1998, pp. 17-22) Also, this indicates that migrants that move later are influenced by other household members. This link should be visible in sequential migration, where location and support from family members that have moved earlier can be expected.

Finally, there are some stylized facts as recognized by Pessino that show the shortcomings of the human capital models on decision making, as well as the other models described above. First, individuals act sequentially when choosing an optimal location. Next, there is a large correlation between in- and out-migration rates (where the case of Peru is used as statistical proof). Also, regions that are located close to each other can have a large wage differential over a longer period of time, without convergence of wages occurring. The models as well as the theories explaining and predicting migration have not been able to explain migration sufficiently. These notions show the importance of considering sequential migration when concerning migration. (Pessino, 1991) More recently, the focus of economists has shifted away from standardized models, and focuses on factors that influence migration. More complex decision making models, various decisive variables, and an integrated economic model (instead of a dual-economy) are common. There is no clear established theory that stands as the most popular ones today as was the case with earlier developed models. There is consensus that factors should be used that go beyond the human capital models; and individual and household decisions should be considered in the context of communal and regional developments (Zhu, 1998, pp. 161-163).

### **2.2.5 MIGRANTS CHARACTERIZED**

The characteristics of migrants as described in the literature on internal migration mainly deal with rural-urban migration. On most other forms of migration, this author finds the information scattered and the conclusions very case dependent. Considering contemporary rural-urban migration as described in most literature on Latin American migration, some main features can be identified. These are described below.

The push and pull factors have often been used to characterize what drives migrants. UN Habitat, for example, refers to these factors often, though a strict classification is no longer used in the research done by this agency. In the rural areas, important push factors consist of environmental degradation and declining productivity, low income from agriculture, lack of lands, move to export rather than subsistence farming and limited off-farm employment. Pull factors from the urban areas are the relatively higher incomes, greater employment opportunities, economic safety nets, availability of social services, education and health care, improved water supply and other environmental and infrastructure services. Finally, political factors (i.e. instability, civil war and repression) can be both push and pull factors. (UN-Habitat, 2003b)

As is often pointed out, there are clear differences between rural and urban inhabitants. However, they can easily be exaggerated, mainly due to perceptions based on stereotypes (see Table 2.1). Though rural areas are distinct from non-rural areas, areas show much more heterogeneity than is

regularly assumed. (Champion and Hugo, 2004) This is relevant especially for the analysis of the urban area, but also pleads to focus on the specific case of the Peru rather than the worldwide situation concerning rural-urban migrants.

Table 2.1: Widely accepted stereotypical differences between urban and rural populations

Dimension	Urban	Rural
Migration Levels	High and generally net in migration	Low and generally net out migration
Demography	Low fertility and mortality	High fertility and mortality
Accessibility to services	High	Low
Economy	Dominated by secondary and tertiary activities	Predominantly primary industry and activities supporting it
Occupational structure	Manufacturing, construction, administration and service activities	Agriculture and other primary industry occupations
Education levels and provision	Higher than national averages	Lower than national averages
Accessibility to information	High	Low
Politics	Greater representation of liberal and radical elements	Conservative, resistance to change
Ethnicity	Varied	More homogeneous

Source:

Champion, T. and C. Hugo (eds.), 2004, *New forms of urbanisation; beyond the urban-rural dichotomy*, Ashgate Publishing Ltd., Aldershot.

In a number of thorough studies of Peruvian migration, Matos Mar and Manuel Mejía stress the importance of seasonal migrants. In the highlands of the Andes, seasonal agriculture is the only option, due to limited rainfall in some months. Large scale seasonal migration takes thereby places between coastal areas and the Andes (Matos Mar and Manuel Mejía, 1981). These seasonal workers all owned a small plot of land in the Andes, and were employed as casual workers in the coastal valleys during the dry period, until the rainy season began in their home communities or work in the coastal area became scarce. The wages paid to casual workers were below the rates paid to permanent farm workers. Amongst these migrants, three different groups were distinguished; migrants who were dependent primarily on earning of a wage because of the small quantity or poor quality of the land owned (i), migrants primarily dependent on farming their on plots of land (ii), and migrants from large estates where they were employed as serfs or semi-serfs (iii). (Matos Mar and Manuel Mejía, 1982)

Research has shown that the family and kinship networks play a crucial role in migrant adaptation to Latin American cities. It seems that few people undertake migration unless they have relatives there. Though in differing degrees, the extended family keeps playing an important role in settled migrants lives over a long period of time. Little agreement, however, seems to exist on the often suggested dominance of the mother/wife in decision making. Matrifocal families have been distinguished in research in the Caribbean area, whilst cases from Lima and Mexico City show a tendency towards male dominance in decision making. (Butterworth and Chance, 1981, pp. 91-98)

The migration towards the urban areas shows a relatively high share of women in the 1970s and 1980s. The female participation rates are highest in the large metropolitan areas, where demand for female labour was high in domestic services, personal services, commerce, and in the expanding ranks of office workers. Female participation in the labour market increased heavily in services, and declined in industry in some countries (e.g. Peru). From the late 1980s onwards, domestic servants became a significantly smaller portion of the female economically active population, and women became more often self-employed. (Oliveira and Roberts, 1996, pp. 275-279) The consequence of this recent change in decreased importance of domestic servants means that this share of the migrant population is likely to have declined.

In the specific case of Peru, the influence of the guerrilla organisation *El Sendero Luminoso* (Shining Path) on the migration towards Lima has been considerable. During the 1980s, there was a large flow of migrants seeking refuge in the capital as a means of escape from the mountainous areas close by. As the situation has improved in those areas, the flow of migration nowadays is only a fraction of what it was in the 1980s. In the research to be carried out by this author, it is relevant to consider the possible influence of these migrants and determine whether this specific group of people needs a more thorough examination.

## 2.2.6 MIGRATION POLICIES

The influence of different theories on the policies implemented has varied over time and place. However, it is safe to say that in the case of Latin America, the Todaro model and its derivatives have been the most influential concerning migration policies. As mentioned before, an important contribution the Todaro model was the link between migration and urban unemployment. From the Harris-Todaro model, it became clear that migration also caused unemployment; thereby governments implemented policies to reduce migration in almost any developing country. To what extent these were successful, as well as to what extent the Todaro models were actually adequate has not been proven sufficiently (Lall, Selod and Shalizi, 2006).

Over the last decades, policies to improve the rural situation to reduce migration towards the city have been implemented at a large scale. To what extent they were influential is hard to determine; the population living in the rural areas had been reduced to only a fraction of that of the 1970s and 1980s. Furthermore, statistics and research on secondary and tertiary cities is not sufficient to determine their role and importance as well as of the related programs implemented (e.g. Lall, Selod and Shalizi, 2006; Lindert and Verkoren, 1997). In the case of Peru, expectations on reducing the growth towards the coastal cities have not been met; as rural-urban migration was hardly limited by national policies and unemployment rates in cities remained high.

The agrarian reforms introduced in Peru in 1969 are one of the most influential policies concerning the rural areas. They were introduced with the intention to raise rural income and the living standards of the peasant population. This was to be reached via a transfer of land ownership, an output growth rate of 4.2% and the creation of more than 300,000 new jobs. The land ownership changed drastically, with 15,000 co-operative associations in which individual members represented investments and services. (Matos Mar and Manuel Mejía, 1982) By distribution of the existing cultivated land, the agrarian reform also was the first official attempt to define the city limits precisely (de Soto, 1990).

Closely linked to the migration policies were the urbanisation policies. These are described in section 2.3.3.

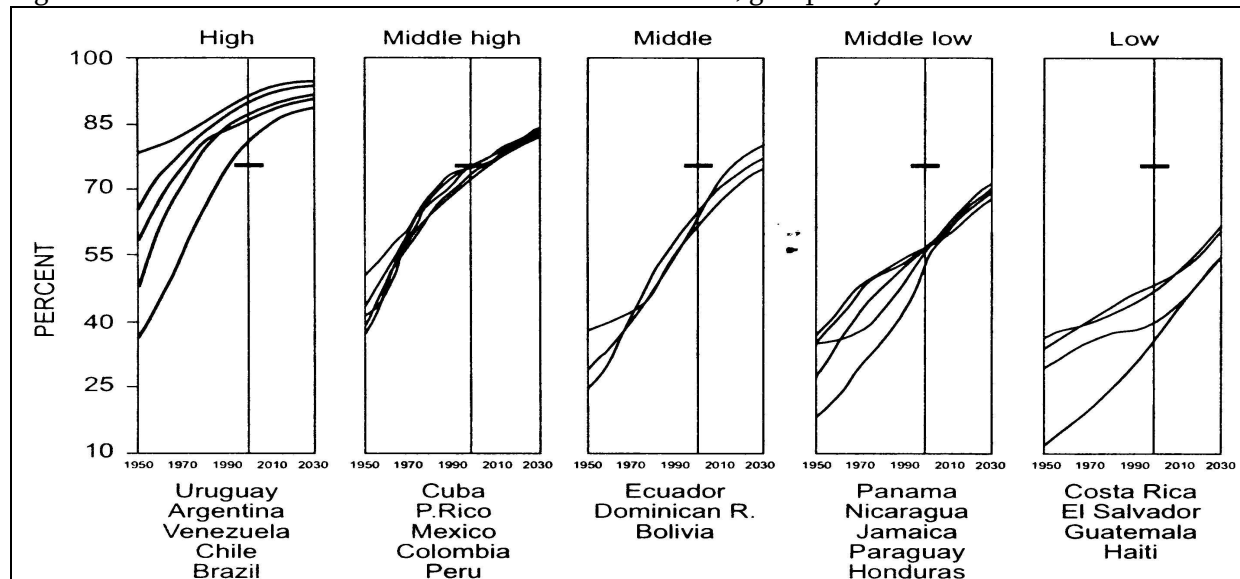
## 2.3 DEVELOPMENTS OF CITIES

### 2.3.1 LATIN AMERICAN URBANISATION

The urbanisation of Latin America has reached high levels; in 2005 about 77.8% of the total population was living in urban areas. Still, this figure is rising and by expected to reach 80.8% by the year 2015. There are, nonetheless, large differences in the level of urbanisation in Latin America and the Caribbean; they vary from about 40% to more than 90%. Peru has reached an urbanisation level of 71.9% in 2005, which is expected to grow to 73.3% by 2015 (ECLAC, 2006).

These statistics show that medium to high levels of urbanisation are reached by all Latin American countries. However, more than 80 percent of the total population and more than 85 percent of the urban population in 2000 were accounted for by 8 of the 22 countries. Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru and Venezuela show the highest rates of urbanisation, together with Uruguay, Puerto Rico and Cuba. When groups of countries are formed, based upon the level of urbanisation in 2000, they show remarkable similarity in levels of urbanisation over time<sup>2</sup> (see Figure 2.2). Figure 2.2 also shows that convergence in the level of urbanisation can be expected to continue. (Lattes, Rodríguez and Villa, 2004)

Figure 2.1: Urbanisation rates for Latin American countries, grouped by level of urbanisation



Source:

Lattes, A.E., J. Rodríguez and M. Villa, 2004, Population dynamics and urbanisation in Latin America; concepts and data limitations, in: T. Champion and C. Hugo (eds.), 2004, *New forms of urbanisation; beyond the Urban-Rural dichotomy*, Ashgate Publishing Ltd., Aldershot.

The level of urbanisation as a criterion is based on the difference between rural and urban areas (see section 2.1.3). This has become the basis for most, if not all, census data systems across the world, and quite often resulted in single-criterion definitions. (Champion and Hugo, 2004) The seemingly important characteristic of the level of urbanisation thereby tells a limited story. From this, two

aspects for the research are important. Firstly, statistics on urbanisation should be considered carefully, since country wide (as used in multi-country analysis) statistics are mainly derived from census data. They are thus directly based on the national definitions. Thereby, they depend on the criteria such as the political boundaries of an area, of the threshold to be classified as towns (100, 10,000 inhabitants, etc), on the presence of particular services, etc. (see Appendix B-1 for country differences). On the other hand, deriving the level of urbanisation from different thresholds for cities to be classified as urban (>2,000, >20,000 and >100,000) does not seem to have a large impact on the overall level of urbanisation. (Lattes, 2004) Secondly, the settlement system can be treated as a continuum, where an infinite number of categories could be distinguished. Such a range of categories could be based on multiple variables and categories. (Champion and Hugo, 2004) As a result, it is relevant to recognize the existence of different areas within the urban area. It goes beyond this research to develop a worldwide usable classification. Much rather should the research take into account the differences between urban areas, whereby specifically distinguishing characteristics of settlement areas of poor migrants and other urban poor is considered.

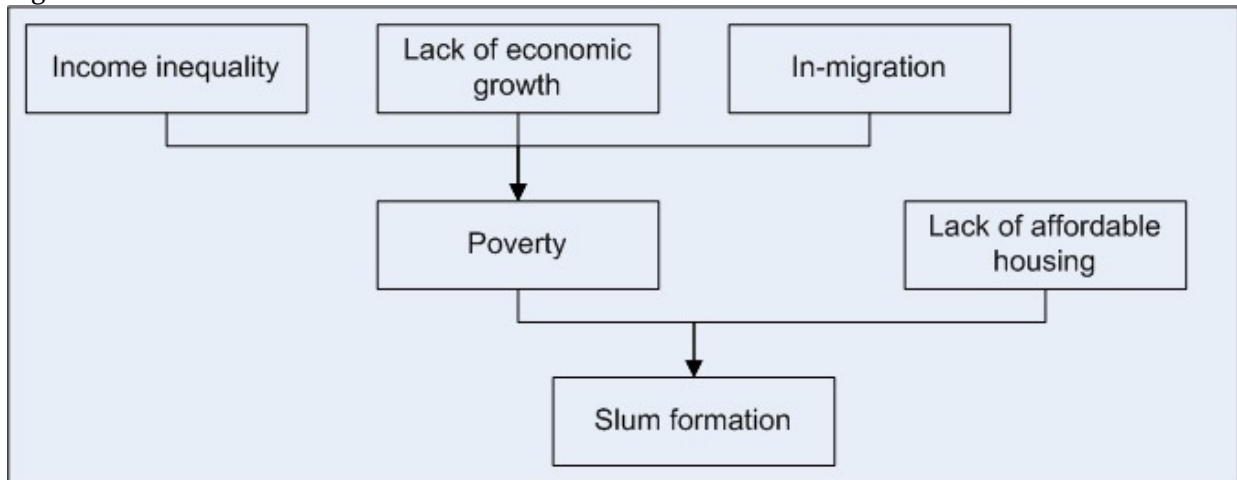
### **2.3.2 CITIES AND THE POOR**

The existence of slums is a widely known phenomenon in all developing countries nowadays. There are, however, large differences between their rates of occurrence amongst the developing countries. Focusing on the Latin American and Caribbean countries, it is apparent that the country averages differ widely (see figure 2.2). Many Latin American and Caribbean countries have less than 25% of the urban population living in slums (i.e. Chile, Mexico, and Colombia). Some of the larger countries have between 25% and 50% living in slums (i.e. Argentina, Brazil, Venezuela) and a few countries have more than 60% of their urban population living in slums (Guatemala, Bolivia, Belize, Peru, Nicaragua and Haiti). When considering the absolute numbers, Brazil (51 million), Mexico (14 million), Peru (13 million) and Argentina (11 million) have the largest numbers of slum dwellers. (UN Habitat, 2003a)

Slums appear in a variety of forms, but can be placed into two basic categories; declining areas and progressing settlements. Within the declining areas, 'old' city centre slums and 'new' slum estates can be distinguished. In the progressing areas, a distinction can be made between squatter settlements and semi-legal subdivisions. (UN-Habitat, 2003b) The variety of (metropolitan) cities in Latin America covers this whole range.

The formation of slums is a highly interactive process, where different characteristics are interdependently influencing each other over a longer period of time. It is useful to have a look at the different causes of slum formation as mentioned by UN Habitat; the major ones being income inequality, lack of economic growth, in-migration (all leading to poverty) and lack of affordable housing, as displayed in Figure 2.2. (UN-Habitat, 2003b) To this author, it seems that not only the lack of affordable housing lead to the formation of slums, but the lack of affordable infrastructure services as well. Furthermore, the reduced level of in-migration in many Latin American countries demands a more detailed approach towards the population movements in a country and city. Finally, the income inequality being extreme in Latin American countries, cities and neighbourhoods makes this an important variable to consider.

Figure 2.2: Causes of slum formation



Source:

UN-Habitat, 2003b, *The challenge of slums; global report on human settlements 2003*, London, Earthscan Publications Ltd.

The Latin American cities show a diversity of developments in the use of land. This diversity in land use patterns and prices of land cannot be explained by the interaction between market factors and benefit of central location. Over the period 1930-1990, cities have become more mixed, especially in larger ones. Traditionally, Latin American cities are organised around a central square, and distance from this centre meant a decline in social importance of the inhabitants. The elite in the centre was surrounded by a ring of craftspeople and business. The urban poor lived in the outskirts, thereby merging economically and socially with the rural areas. Several trends changed these patterns. Under urban growth, the poor population and migrants in need of land were willing to move to any piece of land available. This type of occupation was not spatially ordered, since it depended on political factors, the strength of popular organisation and the intentions of the owners of land. Furthermore, the quality of infrastructure services declined as density in the centres increased, leading to pressure on the city centre's infrastructure. The upper class generally moved to well protected green field projects, which were often located next to poor urban areas. Finally, the middle-income households settled in low-income neighbourhoods, and preferred to spend their money on services rather than a convenient location. This was seen as a better investment, as affordability of land was difficult in Latin America during times of economic decline. Combined, these developments have led to mixed cities, where the centre and periphery of the city are harder to define. (Oliveira and Roberts, 1996)

### 2.3.3 URBANISATION POLICIES

The urbanisation policies in Latin America show many similarities over time; the processes of economic development and industrialisation seem to be the major driving forces to encourage urbanisation. The exact years during which the policies were implemented, however, differ from country to country. Below, an overview of the Peruvian situation is given.

Peru's capital Lima has been dealing with an immense influx of poor migrants since the Second World War, and has thus shown different approaches towards dealing with them. The changes and causes of change in the formal structure concerning the issue of informal housing have been described by Hernando De Soto (1990). They cover about the whole last century, and provide

insights in the many different approaches and issues that can still be recognized in today's policies. It is therefore useful to describe the different stages here.

- *The birth of informality (1920s)*: Established businesses develop neighbourhoods for the middle and upper class, bypassing public authorities and laws;
- *Recognition by relocation (late 1920s- 1950s)*: Gradual invasions of migrants throughout and around the city, natural disasters leading to government intervention (relocation) instead of ignoring their existence;
- *Political recognition of invaders (>1940)*: Political groups competing for sympathies and support of informal settlement dwellers;
- *Legislative recognition (1961)*: Access to formal ownership provided by Promulgation Act 13517, combined with a ban on new settlement;
- *Confrontation with the government (1970s)*: Military tried to enforce the neighbourhood organisation-model, massive well-planned invasions by settlers as a reaction to this rigid system;
- *Emergence of associations and cooperatives (1970s)*: Reform of rural land to urban growth areas used by rural landholders to cooperate with associations of settlers;
- *Urban recognition (late 1970s)*: Due to failure of controlling invasions by the authorities, they recognized informal settlements as formal neighbourhoods without exceptional rules;
- *Recognition of private property and informal organisations (1980s)*: Relaxation of requirements from the Lima City Council, leading to granting of titles;
- *Towards a state modelled on the informal sector (1980s)*: Violent clashes between new and old settlers, legal system (in the form of planned invasions) conflicting with the extra-legal system of informal settlements;
- *The unsuccessful prosecution of associations and cooperatives (late 1980s)*: Recognition of illegal land sales as a means of access to property.

The focus of De Soto is on the issue of property rights. In his view, these are a bottleneck in the process of development for many inhabitants of developing countries (De Soto, 1990). Its use for this research, however, is also of a more general kind; these observations provide us with specific insights in the Peruvian housing situation and the behaviour of those dealing (living in, governing, etc) with informal settlements. Most interesting of these different stages is not so much their exact years of appearance, but much rather whether they can be recognized in the development of new settlements nowadays in other Peruvian cities as well.

The high level of urbanisation has had an impact on the policies towards migration. Since the 1970s, rural-urban migration has become a less important issue. Inter-urban, intra-urban and international movements have gained more attention in Latin America (Oliveira and Roberts, 1996).

## 2.4 INFRASTRUCTURE SERVICES

This section deals with various aspects of infrastructure services relevant for this research. It does not provide a complete overview of the literature on infrastructure, nor on the relation between the urban development and infrastructure. Much rather does it provide sufficient information to

develop an adequate and workable framework for research (see next chapter) on the relation between infrastructure services and migration.

### **2.4.1 TYPES OF INFRASTRUCTURE SERVICES**

This research considers the infrastructure services as provided in the urban areas. The delivery of these services is typically inadequate in the poorest neighbourhoods, and many different actors are involved in the provision of these infrastructure services.

A useful distinction between types of infrastructure is that between transportation infrastructure and public works vis-à-vis public utility services. This distinction is useful in the light of the privatization of public enterprises, and is in line with the distinction from micro-economic theory between public goods (non-rivalry and non-exclusive exhibited) and private goods (rivalry and exclusion allowed). Thus, transportation infrastructure and public works such as roads and bridges may not be established if no active government involvement or even provision takes place. On the other hand, public utility services (telecom, rail services, energy, water and sewerage) are often publicly-provided private goods; though incremental supply has a positive marginal cost, the cost of exclusion could be greater than the benefit. (Ordover and Uribe, 1999) According to this classification, this research will focus on public utility services, the transportation sector will not be covered.

In the field of public utility services, there seems to be general agreement on the classification of different sectors. It is apparent that the production and delivery of electricity, water, gas, sewage services, telecommunication services and public transport are not the same. They consist of and deal with different products (thus with different price-elasticities, mode of production, economies of scale, etc.) A common characteristic is that they all deliver products via a network-type of delivery system. In that sense the infrastructure services overlaps with the utility sector, but this research includes some other forms of delivery of the services as well (e.g. water sold via tricycles, sanitation via household latrines, etc.) that are normally not considered when the term utilities is used. Furthermore, the services with regard to solid waste disposal are considered infrastructure services. Nonetheless, much of the research on utilities in developing countries does not include waste disposal.

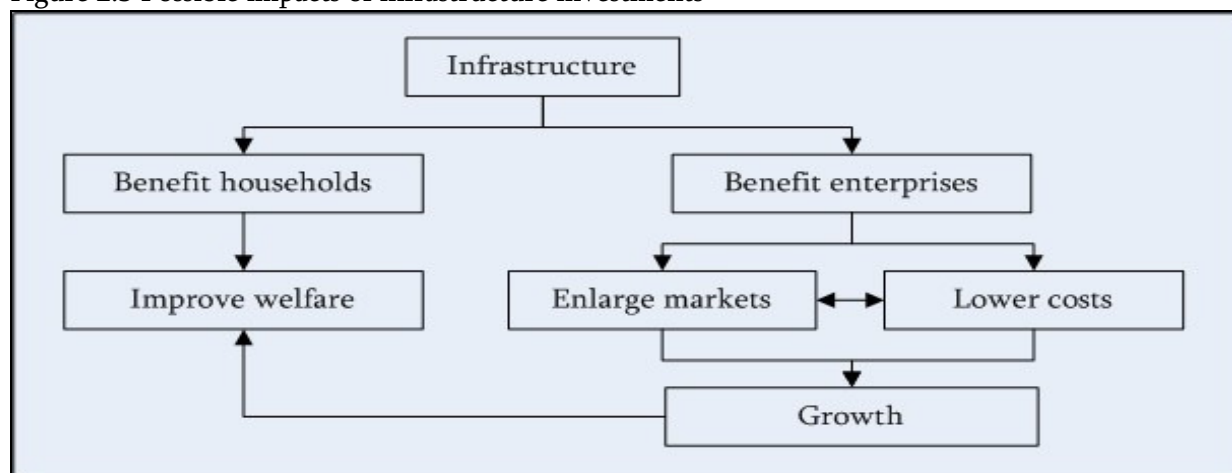
### **2.4.2 INFRASTRUCTURE AND DEVELOPMENT**

The relation between infrastructure and development is complex and works in many different ways. Different types of infrastructure and infrastructure services have a different impact on different levels of a society and groups of people and vary from context to context.

Infrastructure improvements can lead to improved welfare and overall economic development of a region or sector. The way infrastructure can lead to improvements in welfare is shown in figure 2.3. Infrastructure can be productive in the sense that it leads to an increase in household as well as enterprise benefits. The benefits for enterprises lead to enlargement of the market, which combined with lower costs leads to economic growth. Economic growth and household benefits lead to improved welfare. Thereby, infrastructure investments lead to direct and indirect improvements in welfare. (Prud'homme, 2004)

An example of a paradigm that promoting the delivery of infrastructure services to the poor is the basic needs approach. In this approach, it is assumed that meeting minimum level of services has a positive impact on the economy and society. Though this approach is influential and important in the decision making, it does not provide clear information on the services that are most important to be delivered in a specific situation.

Figure 2.3 Possible impacts of infrastructure investments



Source:

Prud'homme, 2004, *Infrastructure and development*, paper prepared for the Annual Bank Conference on Development Economics, University of Paris, Paris.

The relation between infrastructure, growth and welfare shows that universal access is generally desirable. Typically, three factors are influential on the policies that are implemented and directed towards universal access. First, externalities exist, making subsidising prices for low-income consumers economically efficient. Examples of this are the cases where improved water delivery increases the general health, sewage removal that prevents environmental pollution and telecommunication services that benefit from increased use of the network. Second, infrastructure services can be merit goods; goods and services that society believes everyone should have. Utilities are often seen as merit goods, and are thus more appreciated than other ways of obtaining these services. Such preference for goods is not based on economical aspects where it concerns the typical aspects of merit goods. Third, politics and regional development strategies are often in favour of infrastructure services. This is in line with the expected economic growth (see above), though politics and popularity issues can be drivers themselves too. (Irwin and Brook, 2003) These aspects show that the general tendency towards universal of infrastructure services needs to be understood in a complex of actor interaction, where more than purely economic aspects need to be considered.

### 2.4.3 PRIVATIZATION AND REGULARISATION

It is apparent that infrastructure can be seen as distinct from other sectors and industries. Especially in the light of privatization, several of these aspects have gained awareness and attention. A clear overview of these differences is provided by Ordober and Uribe (1999). Services are often regarded as essential for both the public and the functioning of the economy, and political considerations are often involved in the processes concerning delivery. The provision is characterized by economies of scale and scope; one network is more economical than two, and coordination is usually easier within one organisation. Furthermore, investments are often long-lived and involve high sunk costs. This, together with expertise acquired, can lead to the possibility of private investors

behaving opportunistically. They can use their market power to create monopolies and limit access for new providers further. This leads to a situation where consumers have little control and choice over the infrastructure service. (Baker and Tremolet, 2003) The high risks involved for investors (amongst which the fear of expropriation) can stimulate them to recoup the full value of investment rapidly. However, when overprotection takes place (justified by the providing investors some security of investment) then impediments for entry will exist. Market competition and appropriate legislation may lead to competitive pricing behaviour but will function inadequate especially when it concerns bottleneck facilities and natural monopolies. Finally, the change from a state-owned monopoly enterprise to a private company may be lead by political objectives rather than neutral public goals, resulting in inefficiencies (Ordober and Uribe, 1999).

One of the most obvious changes in infrastructure service delivery throughout Latin America is the increased private sector involvement in all sectors. According to these in favour, the state-led model has been exhausted, and a retreat of the government (compared to the 1980s and 1990s) is often stimulated by large organisations such as the International Monetary Fund (IMF) and the Inter American Development Bank (IADB). There are some important reasons for cutting back on public spending. Infrastructure cuts were viewed as a valid means to financial adjustments, necessary to overcome liquidity crises. Also, returns on infrastructure spending are assumed to flow back to society rather than the government. Furthermore, cutting on infrastructure spending eliminates those projects that do not have a high rate of return. Finally, the private sector is assumed to be able to take over many aspects of infrastructure provision (Easterly and Servén, 2003).

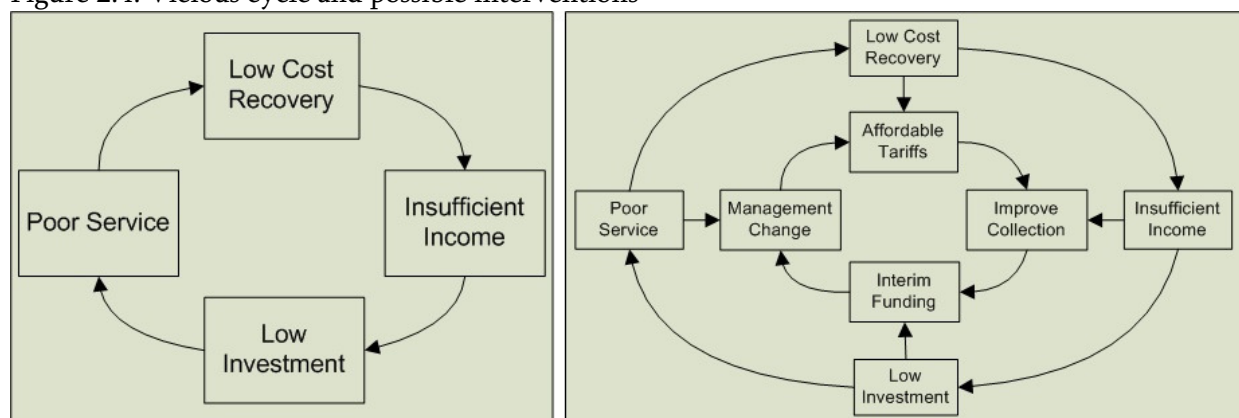
The public and private spending on infrastructure shows that public infrastructure spending indeed declined during the Latin American macroeconomic crises of the 1980s and 1990s. However, deficit reduction was not an important reason for cuts in public infrastructure spending. Data on a variety of infrastructure sectors and Latin American countries indicates that private infrastructure spending increased after opening up, though unevenly amongst sectors and countries. The levels of private spending were generally below that of pre-reform public spending, whilst public spending did not always fall. A limited analysis on the efficiency of infrastructure investment shows no clear evidence for the assumed increase in efficiency (translating spending into assets) due to public sector participation. However, the quality of infrastructure has gone up after privatization in many sectors.<sup>3</sup> (Calderón, Easterly and Servén, 2003)

The functioning of the utility market can be improved by introducing several reforms. Typically, these should include horizontal unbundling (competition in the sectors), vertical unbundling (ownership of utility sectors), private participation and free entry. In poor areas, small-scale and informal vendors should be allowed to provide services, even when they compete directly with the dominant provider. These alternative vendors can offer services that are of a lower quality and price. Many large providers use a high fixed price and low unit price. Small scale providers can offer a service at a lower fixed and higher unit price, which makes this service cheaper for those that have low usage. (Ehrhardt, 2003) Such alternative systems can include be found in all sectors of infrastructure services, and differentiation of quality of the service is very well possible.

Whether or not the private delivery of infrastructure services actually improves the current situation is debated heavily by many scholars, and results in Latin America differ considerably. An often indicated problem with the private delivery is that of the services not being profitable.

Thereby, a vicious cycle exists, which is displayed in Figure 2.4. This cycle shows that low cost recovery leads to insufficient income for the companies, which results in low investments, then to poor service and thereby only lower cost recovery. This undesirable sequence can be broken by various means of intervention at all part of the cycle, and a different positive cycle can start by doing so. Low levels of investment can be overcome by interim funding, insufficient income by improved collected, management can improve the quality of the service and better tariffs can increase cost recovery. (DFID, 2001) This cycle provides an interesting starting point interventions and thus policy recommendations.

Figure 2.4: Vicious cycle and possible interventions



Source:

DFID, 2001, *Addressing the water crisis; healthier and more productive lives for poor people*, Department for International Development (DFID), London.

From the analysis above, it is clear that different actors play an important role in the delivery of infrastructure services. Understanding of the relation between infrastructure services and the processes of migration can only be achieved when these actors are taken into account. As can be seen in the next chapter, they are included in this research and play a key role in this research.

#### 2.4.4 OBTAINING INFRASTRUCTURE SERVICES IN THE URBAN AREA

The poor living in the urban areas are dealing with inadequate provision of infrastructure services. In order to solve this discrepancy between their needs and the actual situation, they adopt certain strategies. Much research has been carried out on by anthropologists on how the poor manage to survive in the 'urban jungle'. However, the literature on how the urban poor obtain their infrastructure services is rather limited.

The livelihood approach provides a useful framework for analysis. This framework has been adopted and developed by the department for International Development of the UK government (DFID) as well as by different NGOs (see Appendix B-4 for an example). It aims at providing a holistic approach towards the issue of how to create a sustainable living; thereby many interactions between the various elements covered exist. The various livelihood approaches have in common that they give a key role to the different assets one has at his availability; expressed as natural, social, human, physical and financial capital. The different assets allow for certain strategies (i.e. coping, livelihood and adaptive strategies), which combined with the policy and institutional setting lead to livelihood certain outcomes. (Majala, 2004)

The strategies used by the poor urban population differ in longitude. Often, they are limited to coping and adaptive strategies. Coping strategies refer to temporary adjustments by individuals or households, to cope with the short term problems faced. Adaptive strategies are more long term, and involve clear desired change in the current situation. Finally, Livelihood strategies are the combination of resources and activities that are used, and do not necessarily involve change. (CFDO, 2004). These strategies are used to analyse the process of obtaining infrastructure service. It can be expected that there are differences between the types of service considered; on the short term drinking water is often more essential to live than having a cell phone.

The livelihood approach is limited in focus, and does not specify how much importance should be paid to the different aspects. These aspects can be analysed to more or lesser extent, and the application is thereby case specific. As can be seen in the next chapter, the application in this research focuses on migration, population growth, urban development and their infrastructure services. It does thus not use a holistic approach, but includes elements that are suggested by the livelihood approach.