

URBAN EXPANSION PLAN LEÓN SOUTH EAST, NICARAGUA.

Sites-and-Services Scheme for 6,000 plots in León, Nicaragua (2000-2010)

Author: Jan Bredenoord, PhD.

Housing in the municipality of León: facilitating the construction of houses by private parties and housing projects within a developed municipal and organizational framework.

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Introduction

The construction of houses, by self-building as well as through projects, for many years influenced the municipal dynamics in the city of León. Urban poverty sometimes caused chaotic developments at the city's borders. The Municipality wanted to organize in a proper way the urban growth and make available lands to sell as cheap plots for house building, with property of the plots. The cooperation between León and Utrecht (The Netherlands) in the field of urban development gave way to the expansion plan León South East (LSE). Within this framework the municipal management in León is putting in practice a new planning system and is getting together inhabitants and other parties. The Plots Programme LSE made a good start with the expansion of León in the desired direction (south east). However, to realize an integral development of the LSE district as a whole they need its promotion through considerable economic and organizational investments.

A new planning system in León

A new planning system in León means that within the municipality was established a project organization to organize and coordinate the urban expansion. Plots with property titles were made available in an organized way, within the framework of good urban development plans within the design of the expansion area South East. The system is focused on fomenting the cooperation between the Municipality and the inhabitants and the external parties in order to produce 5000 plots for the (self-)building of houses. Training of inhabitants (in the area of self-building) and within the municipal organization (related to the development of management) form part of the new way of working.

1 Dynamics and housing in León

Some developments in León

The municipality of León is the second biggest city of Nicaragua and is situated at 92 kms. north of the capital Managua. The total population in the municipality is 181,000 (in the year 2001), of which about 150,000 live in the urban area. The population is young: more than a 54% of the inhabitants is younger as 20 years (*1). León is a city with an important function for the region in the fields of culture, education, services and commercial activities. There are universities and high schools, for example. The economic production is related to the agricultural functions of the vast agricultural area. The collapse of the cotton activities around 1970 had a big negative impact on the economic situation. However, the city remained growing and that was mainly due to the building of simple houses at the city's borders. Without a municipal steering that would have led to illegal land occupation and wild growth of slums. The Municipal Council decided in 1996, within the framework of the Master plan for the future of the municipality (*2, *3), that the urban expansion will take place at the south east side. This decision has led to the starting of the expansion plan León South East in 1998. In the urban area of León half of the population lives in traditional neighborhoods and the other half in new expansion areas. The economic situation is very difficult as 41% of the families monthly earn less than US\$85, 26% between US\$85 and US\$170 and 25% more than US\$170. About 8% states to have no income at all. The official unemployment figure is 23% (*5).

House building at formalized plots

The legalization of ground property is of utmost importance. On the other hand it is necessary that the plots (for the self-building of houses) are cheap, because the plots are for the people with low incomes. For years the concept of self-building forms part of the local policy. As a rule the Municipality sells plots to families; this is also the case within the framework of the LSE-project. If the family pays directly the price of the plot, the Municipality hands over the property title. If paying goes through the way of credit, the family will obtain the title after the last payment. After the legalization of the plot the families can invest in a sustainable way, which they will not do on illegal obtained plots where there is no legal security. With the municipal property title families can inscribe the plot in the National Register, which counts with an office in León. Unfortunately, many families omit this, due to lack of knowledge of administrative and legal matters. As a consequence of among others the LSE-project there are hardly any illegal land occupations. This is the greatest profit of the LSE plot programme.

Self-building of houses and help of NGO's

León's urbanization is mainly determined through the self-building of houses and through house building projects. During the last three decades several house building projects were established, mostly with help of other countries, national government or involvement of non-governmental organizations (NGO's). Formerly the Municipality sometimes donated lands to the lowest income-groups. In other cases plots were sold to low income-groups through credit arrangements. The municipality bought the lands and made the plots, based on a simple urban development plan but without any infrastructure. Families built the houses themselves, mostly with help of members of the family and friends. Some families were successful within a short time, other families needed more time to finish building their house, in some cases 5 - 10 years or longer. This happened since 1990 for example at the east side of the city, within the oriental neighborhoods like "Rubén Darío" (*11). The

cancellation of the municipal credit to buy the plot took about 8 to 10 years. The families had to put a lot of energy in obtaining services like drinking water and electricity. Waste water usually was being disposed of through latrines and rarely through a septic tank. This limited housing policy, aimed at plot property by families, was the policy of the Municipality of León for more than 15 years. A short time ago they got hardly any help from the side of the national government.

From 1999 on the introduction of the Plot Programme LSE made possible a more structured way of establishing plans and a higher level of quality. Through the introduction of the land exploitation by way of a revolving fund it was made possible to go on with the plot system in an independent way. This is a huge improvement, which makes it possible to focus attention more on supporting self-building. Since the year 2000 there is within the framework of LSE a cooperation with a number of professional NGO's, dedicated to the building of houses. In the meantime started to function in Nicaragua the Institute for Urban and Rural House building (INVUR, for its abbreviation in Spanish) – a governmental institute – through which it is possible to obtain subsidies for the building of houses. The NGO's that work in the urbanization of LSE use these possibilities to finance the building of houses within projects. The NGO's work for social target groups and build houses and sell these to the families. The families pay monthly a fixed amount and in that way they can obtain the property of the house, usually within a period of some years. The houses are relatively cheap (at the most US\$ 3.500,00) because the organizations work with external donations and volunteers. The more expensive houses may cost some US\$ 10.000,00 but these are out of reach to most of the social target groups. The fact that the NGO's buy land within LSE is positive because in that way the families are being helped directly with one concept (plot and house). Within LSE are active the following NGO's: Hábitat para la Humanidad (Habitat for Humanity), Fundapadele, Colmena, Cáritas and San Vicente de Paul.

2 Urban development in Leon since 1994

The urban development of Leon has been a central field of interest of the City Link with Utrecht since 1994. The two municipalities started shared activities and projects on many fields since 1985, especially within the framework of improving the environmental situation along the borders of the river “Río Chiquito” (*6) and the building of houses in the northern neighborhood “William Fonseca” (*7, *8). The experiences in “William Fonseca” lead to the conclusion that the direct involvement of local government in the building of houses is far too intensive (in an economical way). Moreover, the number of families that could be attended was very limited. Taking into account the demographic development it was not the most desirable solution to the housing problem. Afterwards the Municipality asked its counterparts/city links for help, especially in relation to the strategic tasks, for example on the field of urban planning.

From a plan for house building to urban vision and planning

As a consequence of the experience in “William Fonseca” working on the urban development took place in a planned way since 1994, aimed at the creation of good

urbanistic and organizational conditions for (self-)building of houses as well as by entrepreneurs and NGO's. Starting in 1994, a special project team of the Municipality set up a policy for the urban development. Advisors of the Municipality of Utrecht assessed them (with financing by the Dutch Ministry of International Cooperation). This led in 1996 to the Master Plan for the development of the city and the whole rural area. One of the consequences of this cooperation was that since then the Municipality of León counted with a highly qualified department for urban development, elaborating strategic plans and urban visions. Besides they developed a method for prioritization and definition of strategic plans.

Other plans at strategic (urban) level in Leon:

- Strategic Plan for Leon 1999 (*4). This plan is a more detailed vision for the future of the municipality and was brought about in a participative way (institutional base with social organizations).
- Municipal Development Plan Leon 2001 (*10), an umbrella to former strategic plans, establishing the geographic directions for the development within the next years with clear results, activities and indicators.
- Being developed are: a follow up to the Strategic Development Plan and a Plan for the Economic Development, 2003.

The Plan for the Expansion of LSE (*11)

The development of LSE started in 1998, a major plan expansion, and urban dynamics should have to take place during the next 20 years. The district South East will have to include in the future 15,000 to 20,000 houses, as well as the belonging services like infrastructure and industrial areas. In 20 years the number of inhabitants of the new district might reach 80,000. Although the economic dynamic of León has been very limited within the plan of development for the district there will be reserved space for future economic developments. At the beginning the idea grew to make a plan for the expansion based on the criterion of sustainability. Sustainability was being defined in a broad way: amongst others it had to do with spatial equipment in relation to water management and urban landscape. But also are at stake economic sustainability and a good project organization to make possible this sustainability.

The Plot Program for LSE (*9, *12)

Besides urban planning for a totally new district the LSE project also includes a ***plot programme*** which creates possibilities for self-building, involving self-sustainability of the residents and using the capacities of the NGO's. Therefore it is necessary to have a good physical structure and reservation of space for all of the urban functions. Local government makes available a spatial and financial framework for development and also is responsible for conducting the process. It brings together interested parties and takes care that the process can go on. Objectives are a balanced ground exploitation, a professional financial management and the legalization of the ground property. Besides the residents the parties are the NGO's, the city links, the national government and the (public) enterprises for services like drinking water and electricity. External cooperation between government and private development companies is not very common within the framework of LSE, but it could be within a short time.

The Plot Programme foresees producing about 5,000 plots for house building within the limits of LSE in the period 1999-2008. Through the land exploitation a self-sustainable urbanization process is being established. The idea behind the development was: "more

expensive plots bring in more money to make possible cheaper plots for social target groups". There is a huge demand for cheap plots when at the same time more expensive plots are possibly not very demanded; this is being investigated. This execution part of the LSE project looks a lot like a "sites and services approach". Leveling meant: the making of semi paved collector roads and streets without any pavement at all, all based on local topography (contour lines). It was thought that the (public) enterprises for services would install drinking water and electricity, but this was not the case initially. At the end this services will be installed, sooner or later, but only through complementary external financing. So the question now is how the LSE Plot Programme can go on, in spite of the risks, like raising costs for ground.

Finance model

From 1999 on the LSE expansion project received a yearly investment impulsion on behalf of three counterparts: the Municipality of León, the Municipality of Utrecht and the Dutch Association of Municipalities (VNG, for its abbreviation in Dutch). The sum of the investments up till now is US\$700.000,00 and the money was used for buying land, leveling it and making it accessible, making roads and selling plots. The costs of the project's office are paid out of the land exploitation. The income because of selling the land benefit the land exploitation and can only be used to buy more land and its leveling. The land is sold to private parties and NGO's, which build cheap houses with external financing and sell the houses together with the plot to families. In that way they founded a revolving fund, which in the end can maintain the supply of plots in order to keep on going with the building process.

Besides the direct investments there were complementary investments by donor organizations like the EU/UNDP, Kiwanis Utrecht/Cordaid, Basque Country for a total of at least US\$600.000,00. The NGO's invested in house building at least US\$1.000.000,00 and the residents more than US\$300.000,00. The Dutch part (Utrecht/VNG) in ground exploitation will gradually get smaller and will end in the year 2008. The ground exploitation does not include any principal infrastructure like big roads for opening up, roads for drinking water, sewer and electricity. With every new expansion a complementary plan for financing has to be elaborated to be presented to external financiers. Up till now this way of working has proved to be successful (in the "Area of the Poets"). For further development new plans were made for areas, but its opening up and principal infrastructure are not guaranteed yet. That is why there still is not a self sustaining urbanization process in LSE. This also is the greatest risk for the LSE programme. It has to be considered to give the Plot Programme a more independent role and to protect it against external risks.

3 Sustainable development at six sub-levels

The City Council of León determined in October 2000 a development plan for LSE as well as a complementary plan of execution for the production of plots for house building. At the start of the expansion project targets for sustainable development were determined, taking into account financial and socio-economic limitations. Hereafter the strategic targets are being sub-divided in the following 6 areas of results:

Urban design and plan making

During the elaboration of urban development plans criteria for sustainability are being applied. The elaboration of plans takes place at the level of zone, district and neighborhood (plots). Besides house building the interest in a good water management also influenced the urbanistic plan, as well as the transportation system (partly based on stimulating the possibilities for biking. The future urban landscape will have to offer sufficient possibilities for recreation within or near the neighborhoods, while the “green character” of Leon needs to be reinforced. The development of physical plans for LSE takes place at different levels and the following documents were produced:

- 1 The urban expansion plan for the city in the next 20 year (project LSE, *11)
- 2 The plan for execution and a ground exploitation, for the development of 5000 plots to make possible the self-building of houses in the period 1998-2008 in LSE (*12).
- 3 Partial plans (structural plans) for the districts I, II and III (*13, *14, *15)
- 4 Detailed plans for execution at the level of neighborhoods, in the first district to be developed (Poets District, *16, *17, *18)

The department for physical planning of Leon’s Municipality was used to elaborate the plans just mentioned. Through the years this department got a lot of experience in physical planning and in Nicaragua is being recognized as the best. Possible risks: developments on behalf of private parties which do not take into account the criteria for sustainable development determined by the Municipality and also: the lack of a legal frame work to stop undesired private developments and the lack of experience on physical planning in combination with wishes of private parties.

Exploitation, production and sell of plots (*19, *20)

On the basis of the contract for execution between León and Utrecht agreements were made on the production the number of plots that should be produced yearly (as an average). To make those agreements manageable in an economic sense, a system of balanced ground exploitation is being used. This exploitation model goes from the start of the project up to the year 2008. It is necessary to calculate every six months the actual situation. Risks in this all are: the percentage of families that fulfill their monthly obligations and the raising acquisition prices for ground. Once the initial price for the cheapest plot was US\$250,00; nowadays a family has to pay US\$425,00. So the problem exists that the social target groups cannot afford paying this price when it raises even more. From 1999 up till the middle of 2003 within the first LSE district (“Poet District”) were produced about 2000 plots for self-building of houses and a great part was sold. A main infrastructure was installed (roads to the district, infiltration zones, streets) and a community building was built. Due to the lack of funds in the exploitation for the installation of a red for drinking water and electricity, these were not installed in the beginning. Although the production and sell is giving good results up till now, one should ask if it is realistic to think of a production of 3000 extra plots till 2008. In the new area to be developed (in the zones I and II) must be realized, besides of the cheap plots, a vast number of more expensive plots, among other because of the expected higher leveling costs (technical infrastructure, outgoing roads). This demands bigger pre investment as in years before and a more active strategy to acquire ground. A positive factor was the selling of 300 plots to a NGO’s

interested in house-building for social target groups. The income because of this sell directly benefited the ground exploitation, which has a revolving fund character. It is not permitted to use its funds for other purposes.

Results (*20, *21)

Mid of 2003: 2000 plots produced: about 1500 plots sold and 50% of them with residents. This relatively low number of residents is partly due to the absence of a red for drinking water. With complementary help of PNUD and the EU a main red for drinking water is being installed in “Poet District” so this delay will not exist anymore.

Risks:

The economic situation of Nicaragua remains uncertain and one could wonder if will be possible to sell enough more expensive plots within the framework of the exploitation. The Municipality decided that as a principle the installation of the red for drinking water and electricity will be taken into account in the land exploitation and as a consequence most likely the prices for plots will rise. The percentage of reimbursements to the Municipality is about 90% of the plots which were bought at credit. A further downfall of this percentage would create an extra risk because it would influence negatively the spirit of the families which are paying. Other theoretical risks:

- Owners not willing to sell their grounds to the Municipality.
- Owners develop themselves, without consulting Municipality.
- Raising prices for grounds due to expectations and land speculation.

Reinforcing and fixing project organization

The project's success depends also on the effectiveness of the small project office, established within the Municipality's organization. It is clearly an office to conduct, assigning tasks in the municipal organization. A project office that is functioning apart from the Municipality could cause a lack of interest, when it is necessary that the whole of the municipal organization must do it utmost. Internal cooperation deserves to be attended, because there is a lack of procedures and working ways related to internal conductorship. So the introduction of a project-like culture of working will demand a lot of efforts, even a change of culture. On top of that it is necessary that at the same time in the municipal organization has to be developed a culture of external cooperation and participation of inhabitants. This is all about that all the parties involved work together. The preliminary result is a strong project organization through which experiences can be evaluated and made into labor agreements and procedures for project-like management. The Project Office LSE is taking more and more a role of conductor and internal and external taskmaster. The political conduction needs to be attended because exists the habit to change priorities in the course of time.

Administration/financial management

The financial administration related with the plot-selling and the administration of the credits (this works like a type of mortgage) is done by the project office which developed for this purpose a financial system. In the near future these tasks will be carried out by other municipal departments and the project office will focus more and more on main tasks and make itself an office for project management, coordination and assign tasks. The project

office might develop itself in the future as a sort of development company for LSE, having the following tasks:

- acquisition of land
- assignment of tasks for the elaboration of plans and its evaluation
- leveling the land for granting
- planning of infrastructure
- sell of plots
- maintenance of principle of revolving fund
- administration and making of policy

Cooperation with external parties will be under discussion. The financial management of the project remains a main task of the project office. The instrument of the balanced land exploitation makes clear all cash flow and the liquid assets. Hence, the elaboration and administration of the land exploitation(s) is an everlasting task. The project office will also stimulate the policy-making on housing and clarify: the sell of the different kinds of plots, the demand at the plot-market, the policy on social target groups, and so on (see also *9). Because up till now the project office itself has to carry out tasks that has to do with the execution, there was too little attention for tasks like the preparation of policy and communication. (the so called conductor role of the office). This might be changed once the administrative tasks related with the administration of plots are taken over by other departments. Nowadays the plot portfolio is being brought over to the Municipality's Department of Finance.

Additional investments and projects

As a consequence that for many years was worked on the development of plans for LSE, a number of complementary investments was done by other organizations and sub-projects were established. The families are building houses and 5 NGO's are bringing about housing projects benefiting social target groups. The number of "social houses" built within the framework of projects is about 300. Sub-projects, executed by external counterparts which joined in later, are amongst other:

- EU: financing for the installation of the red for drinking water through UNDP.
- KIWANIS Club Utrecht/Cordaid: financing for and building of the community building, also with help by the FUNF "Living and Working".
- Bask Country: the installation of sanitation services (septic tanks).

Up till July 2003 2000 plots have been produced and sold and the production is guaranteed till the end of 2004. A positive factor is the involvement of the already mentioned NGO's, which cause the constant sell of plots for house building through projects that also have external financing. The conclusion can only be that there were considerable additional investments by the aid organizations. The NGO's (which work on house building) have proved to be very important and invested about US\$1.000.000,00. Possibly, the activities can obtain a more structural character (in the fields of policy and execution) through the cooperation with the Municipality and among themselves.

Participation and organization of residents

The participation of the residents is necessary to structure the cooperation of the residents with local government, the NGO's and the (public) enterprises for services. The local policy

is focused on the maximum use of the self-activation of the residents, but this did not developed very well yet. The inhabitants of the already existing residential areas in the "Poet District" (nearby "Rubén Darío", a.o.) are already organized and have their chosen representatives. It was easy to involve them when the community center had to be built. However, the new inhabitants of LSE come from different places nearby and hardly have any social link. That is why the project office appointed a social worker to organize community building. In the community center all kind of reunions are organized. Community work began to develop, in existing as well as in new parts of the "Poet District", and in February 2003 all community organizations involved signed an agreement. It remains to be seen how residents can cooperate actively in the development and the management of the district in the future. Their common interest is mainly at neighborhood-level, the street and the services, while the houses are built by the families. People can organize themselves based on a row of houses or a street and get in contact with the Municipality or other parties. One could think of the joint maintenance of streets and public areas and appointing people who take care of the security in the neighborhood, under police surveillance. This has to be developed into a well defined plan; one of the matters of interest is the reward of the services of the inhabitants. Another matter is the participative development of new areas for living and working.

Within the framework of the self-building of houses the self-activation can be stimulated by establishing a bank for construction materials, focused on an area. To make this possible there need to be an external financial incentive. It has been investigated among the residents, for example where they came from and what is their socio-economic situation. Leon's Municipality wants to get to know better the situation of the inhabitants so they can base a further strategy for LSE on that kind of information. The Municipality also wants to get to know the economic situation of the residents and the market situation, related to the demand for the different types of plots. Participation in the execution of the building activities and the administration tasks in the district should be further elaborated by the Municipality. With regard to the self-building of houses, there should be available a sort of bank for construction materials (functioning like an institute where one can obtain a credit). The families which build their own houses often lack sufficient knowledge of construction. Training programmes should be established to help them build better houses.

4 Urban water management and landscape

The aspects "Water" and "Green" influenced strongly on the structure of the urbanistic design of different zones within LSE.

Rainwater

As an average in Leon falls annually about 1500 mm of rainwater. This huge quantity falls in two months in the wet season (winter, e.g. from May up till December). Actually this rainwater falls on agricultural land, which have a strong infiltrating capacity. In the future urban situation the rainwater will fall on solid grounds, so adequate measures have to be taken to facilitate its infiltration, storage (momentarily store the rainwater and afterwards let in infiltrate) or lead it to another place through outlets. The latter is necessary if the first

two possibilities prove to be insufficient to handle extreme quantities of rainwater. The soil is very quickly eroded and the subterranean water mostly goes to the Río Chiquito, which leaves a deep notch in the landscape.

Due to the foreseen urbanization of LSE both problems only will grow. Part of a good urbanistic design will certainly take into account the rainwater management. Initially was looked for those grounds with a slope less than 3-4%. On more steep slopes there is a greater risk of erosion. That is why the areas with slopes more than 3-4% can not be used as areas for houses or industrial activities but for recreation and parks where infiltration will take place in a natural way.

In the urban development plans for housing areas small differences in height are being used to direct rainwater so infiltration will take place in the neighborhood (where the rain hits the ground) and will be held temporarily to be led away when necessary. This makes the urban development plan very dependent of the topography:

- collector roads in the districts are equipped with a kind of paving and ditches and related to contour lines in a perpendicular mode;
- streets are equipped with cunettes and related parallel to contour lines;
- on lower spots storage and infiltration pools will be situated;
- studied are carried out for the drainage possibilities of the rainwater, in the case of extreme quantities and when there are no more possibilities for its storage and infiltration.

The possibilities for temporal storage within the new resident areas must satisfy safety and sanitation demands:

- infiltration zones within residential areas may drain once a year through an emergency drain, being this a safety measure to prevent floods;
- mosquito's (causing malaria) develop in stagnant waters within some days ; that is why it is necessary to empty temporal storages through infiltration and evaporation within 2 x 24 hours.

Waste water

This can be divided into two types:

- product of toilet use (containing bacteria).
- product of shower use.

Obvious solutions for waste water are latrines or septic tanks in each house. Installations like the septic tanks have to be emptied at least one time a year and in this way are an excellent solution. In the case of an urban development at large scale and high density a sewer system is more obvious, certainly if there is a lot of sewage water. So in the long run the installation of a sewer system has to be taken into account in urban growth as is the case in LSE and this demands space and external financing. Other possibilities are various ways of biological waste water treatment at large scale outside the district. For the moment there is no decision for the case of LSE whether there will be a sewage treatment plant or a way of biological treatment outside the district. There are no economic possibilities within the LSE ground exploitation. So at short-term and midlong-term individual installations like

latrines and septic tanks will be the solution. This makes plot prices relatively low, but the consequences of a more intensive urbanization are being transferred to the future.

Drinking water

Due to the ongoing urbanization there will be a strongly growing demand for drinking water. This will also be the case if employment will develop as desired. Within the northern part of the project area there is a water-collection area with existing facilities to collect water. Technically the expansion of the collection capacity is no problem but due to the extraction of the water in the end the level of the water in the ground will go down. This is not favorable and as a consequence the infiltration of rainwater has a high priority.

Although drinking water is available in the soil of the project area, its distribution by the privatized waterworks is not guaranteed as is usually the case in western countries. Through long and numerous reunions with the waterworks and external financing the problems were solved. In the future there are problems to be expected because the cooperation of the waterworks in an ongoing expanding urbanization is not very likely.

Green areas

Within environmental planning the existing structures and elements of the landscape are being taken into account, so a certain urban development quality was given to the district. The future district will have to offer a green environment to the inhabitants, among other because of the necessity of shadow in the streets. The green image of León will have to be developed further. The green area has to be functional and offer possibilities for play and recreation. Trees within the district guarantee less wind and dust and might produce fruits in the private gardens. In practice a combination was sought between green structures and infiltration areas, especially to favor an economic use of space.

Perspective

The lay-out for the urban development of the new housing and industrial areas depends among other of the topography and the starting points for sustainable water and green management. An investigation program will make clear what will be the effectiveness of the chosen solutions and its consequences for the water control. The lessons to be learned must be used afterwards to take the right decisions in the districts to be developed (I and II). In the future should also be given attention to the future value of the chosen solutions regarding the management of waste water. When at long-term the urbanization has turned out to be intensive, the density of the population and the consumption of water will be much higher. In the end the individual latrines and septic tanks will not be sufficient and other and big scale solutions will have to be taken into account. It is necessary to study this problem so the right decisions can be taken regarding the reservation of space for this solutions in the urban development plans.

5 LSE management model

The management model for the allotment in LSE has proved to be effective but it still is not possible to fully guaranty an independent continuation by the project office. The plot programme counts with an adequate financial instrument.

Due to the prices of land, that get higher and higher, it may be more difficult to produce cheap plots for the social target groups. For the time being they depend of external financing, being this a structural problem and making necessary the search for new financing to make possible the execution of the plot programme. It looks like that within LSE (the future districts I and II) only expensive land is available, meaning that for the plot programme another area (outside of LSE) has to be sought. Handling the selection of the locations with great flexibility the Municipality can keep ahead of rising ground prices and speculation. Other locations outside of LSE must be according criteria for quality.

Management aimed at cooperation

Management made a beginning with the cooperation with NGO's and groups of inhabitants. The Municipality buys the land, prepares the site and sells the plots, being this a traditional way of working. In the future the local government will have to permit private parties to collaborate in the urbanization process. So it is of great importance that municipal management gets prepared to work shoulder to shoulder with the private sector. In general we deal with the following situation:

- local government (still) gets little help of the central government;
- the city links are helping very well, but in the end this is not structural;
- the inhabitants, the NGO's, the ground owners and eventual private parties must work together under conduction of the Municipality to count with an socio-economic and environmental sustainable result.

A local government like the one in León, with little funds of its own, but with well prepared personal and with social aims will enforce its conduction function and must make realistic plans for execution. The market mechanism may lead to higher prices and the changing of programs for urban development and public housing. Taking into account that it is still not clear how complementary financing for the opening up of the new districts and its main infrastructure will be done, it is desirable that a complementary strategic project will be defined. This is about the opening up and the development of the infrastructure of the neighborhoods I and II within LSE. To get a better picture of the possibilities in the market of the different plot types a market investigation is being brought about.

The outlined management model can be improved on parts but has proven its value in practice. Within the actual situation it is necessary to improve the management model partially:

- the project team is functioning as a team for strategic planning;
- internal coordination and taskmaster within the Municipality (conductor role);
- elaborate agreements for cooperation with private parties;
- prepare strategic acquisition.

Involvement of NGO's for house building (i.e. *21, *22)

The LSE management model is based on good politics preparation, spatial planning, land exploitation and the development of management. The construction of houses is in the first place a matter of private initiative. The self-activation of the families and the small enterprises can be supported in a better way through training and education programs. Also can be thought of a joint policy for public housing by the Municipality and the NGO's. A large part of the families can start to build their house on a plot of their own, eventually in

cooperation with a ngo and a “bank for construction material”. However, this latest service still does not exist, but the concept is known in León.

Minimalizing external risks

The Municipality itself cannot invest independently in structural services like main opening up roads and main infrastructure for water, electricity and sewer. The Municipality has little financial possibilities. The central government only gives little financial support, but that might change through the years. It is to be expected that the remittances through the municipal funds will be raised slowly from 1,8% to 10% in 2010, under the condition that Nicaragua will count with a yearly economic growth of 1%. The City Council should invest also in a strategy to commit all utility companies in the structural development of the LSE area. The management model for the allotment in LSE cannot take forever the burden of the management of the large and necessary studies for factibility and infrastructure, the belonging activities and spatial reservations. All of these has to be done by a new team for strategic planning.

Due to the many efforts of León and Utrecht, and also to the possibilities for financing by Utrecht and the VNG the first phase of the Plot Programme for LSE (1998 – 2003) is a successful “sites and services program”. The plot programme can be continued in a independent way, when a number of conditions will be realized:

- it still is possible to buy cheap land for house building;
- the costs for the preparation of the sites must be little, although this means a low quality;
- the utility companies must pre-invest;
- the commitment of private enterprises will be conducted in a successful way;
- the program needs to be more flexible, e.g. look for other locations;

The plot program can not make a profit because plot prices need to be low due to the market situation and the very limited economic development. However, the plot programme can give a strong impulse to the development of the new area LSE. For the development of the total neighborhood considerable investments are needed, mainly for the installation of large scale and high quality infrastructure and for the buying of ground for these purposes and for the realization of an industrial area within LSE.

6 The perspective

One of the objectives of the LSE Programme was that from 2008 on the Municipality of León would have an independently working system through which should be possible an urban development without external financing.

Why the “Poet Neighborhood” was successful

Within the area of the “Poet Neighborhood” there already was urban development with an opening up road, living areas, schools, play grounds, drinking water, electricity and so on since 1990. The already existing living areas are: Salomon de la Selva, Ruben Dario and Hernando Cortez. The LSE project started in the same area in 1998 and took into account the already existing development. At the same time the already existing neighborhoods

(like Rubén Dario) could benefit from the services being developed within LSE. The advantages of this combined development are:

- better possibilities for public transport, through more demand;
- a developed cycling area from downtown to the neighborhood;
- pavement for the central opening up road (part of the road to Chacaraseca);
- greater support for existing marginal services like schools;
- building of a community building for new and existing neighborhoods.

This is not the case for the neighborhoods I and II which will be developed the next years because in these areas there are still very little municipal services, so this means that a totally new urban infrastructure needs to be built.

Going on with strong points of Plot Programme

The LSE plot programme is a strong element within the strategic policy of the León City Council, as well in the area of spatial development as in the area of public housing. The families that build their houses should be helped with credits to buy construction materials. Technical knowledge, needed to build better houses, should be offered. The self-activation of the people might eventually be useful in self management, maintenance, security, installation of green areas, maintenance of trees in streets. This could also mean employment for the people in the neighborhood but this needs to be organized (Curitiba model). The municipal management can be strengthened by training within the framework of an integrated municipal management, including the participation of the inhabitants and the acquisition of external funds. The cooperation between Leon, Utrecht and the VNG offers possibilities to go on till 2008 with the Plot Programme, which will be continued afterwards by León in an independent way.

The Plot Programme should be implicated in a flexible way and be discharged from the obligation to get started the whole development of LSE. The project management should get the possibility to acquire within LSE or elsewhere ground at an acceptable price for the people with low incomes. Within the framework of the plot program it is possible to think about a “bank for construction materials” and a more structural way to cooperate with ngo’s and organizations of inhabitants. Acquisition towards the Cities Alliance Programme (a World Bank programme to help develop public housing) and towards the national government is a task for the project’s office, together with the municipality’s Planning Bureau. This project’s office should be free to buy cheap ground elsewhere, taking into account quality criteria. The office also can take as one of its tasks the selling of plots fit for houses with an area for a small enterprise. Still the development of employment within the new neighborhoods is not getting started. This is due to the lack of market developments, market visions and market concepts. It is desirable to have available prepared sites for economic development. The execution of a strategic economic development plan should provide new employment. This, however, is not a principal task for the project office.

New strategic project Work-Infra-LSE is needed (*20)

Large investments are needed to make possible an integrated urban development of a new neighborhood, parts I and II. Such a project can be marked, besides the Plot Program, as a new strategic project. Parts of it are:

- a connection of the new neighborhood with the road to Managua;
- an urban opening up road, which will connect with the various new living and industrial areas;
- buying ground for infrastructure and various types of employment;
- according main infrastructure: electricity, drinking water, sewer;
- a strategy for economic development.

A fully new and integrated development of LSE in the areas I and II demands a complete new impulse for investments, apart from the plot program. It is necessary to establish a totally new strategic project in the designed area León South East so that employment can grow and urban poverty will be fought against. A possible name for such a strategic project may be: Work-Infra-León South East. A new team for strategical planning should make all the necessary preparations and studies. Due to the strategic economic objectives it is imperative to seek connection with the National Development Plan for Nicaragua – connected to the investments of the IMF and the World Bank. Such a strategic project could be the regional economic motor, taking into account León's position within the region and the location LSE (nearby the main road to Managua). It should be possible to develop various types of employment at this location of which the Municipality of León as well as the area between Managua and the Honduran border could benefit.

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