NOT FOR DISTRIBUTION OR PUBLICATION

Communities and Spontaneous Urban Planning: A Toolkit for Urban Expansion

Project Summary

Prepared by Alvaro Espinoza and Ricardo Fort

May 2018

1. Project rationale

Most urbanization processes around developing countries are happening either by rural-urban migration, as it happened in Lima 25 years ago, or by high paced vegetative population growth among second and third-generation migrants, as it is happening now in Lima—and either form exerts pressure on relatively weak public institutions. State-sponsored urban planning is often absent, so new and old city dwellers settle with no guidance, habitually creating a chaotic urban layout that, besides creating unsustainable and violent environments, heightens the costs and lowers the feasibility for any subsequent efforts for urban consolidation—either by the state, utility companies or civil society organizations. As a result, this urban path dependency hinders migrant's future social and spatial integration to the city.

This kind of informal urbanization will continue all over the developing world for many decades to come, and even though the best solution to this problem would be for state-sponsored planning—or any other form of legal, binding planning—to catch up with such a dynamic process, it is pretty clear that that will not happen in many regions around the world, at least not as fast as it is required.

Nevertheless, the history of Lima seemed to show that there is a viable alternative to formal planning: from the 1960s through the 1980s the informal city expanded through regular urban grids, with lined up plots, proper roads and reserved areas for urban infrastructure and facilities, which greatly facilitated subsequent urban consolidation. This simple observation led us to hypothesize that there were a set of sociocultural elements—that Lima's first generation migrants somehow possessed, and newer generations have lost—that facilitate cooperation and organization which, in turn, make it possible to coordinate an orderly urban layout.

Lima: Informal settlements formed in the 1960s and 1970s

Henceforth, the project aimed at singling out the organizational elements and the minimum set of spatial criteria that promoted community mobilization for urban planning purposes. By learning from the past and present experience of Lima, where rural-urban migration peaked some 25 years ago but informal urban expansion continues, we would be able to draw lessons that fit the current realities of cities where land-squatting-based urbanization is under way. Thus, the stated main objective of the project was "*to foster better, more rational processes of urban expansion in developing countries, in a context of informal urbanization and absence of formal, state-sponsored or otherwise, urban planning.*" To do so, the project had two specific goals:

a) To understand the sociocultural elements and basic spatial notions that allow for informal occupations to follow rational, inclusive urban patterns.

b) To design and develop a toolkit composed of simple and cheap methodological cues and urbanization guidelines that can be applied and replicated in most fast-growing cities around the developing world.

The usefulness of this approach is straightforward: Instead of trying to 'fix' the state to allow for formal urban planning of expansion areas, we propose that the city could and should be 'fixed' at the very moment when their streets are drawn, by working with the people who does the actual occupation of the territory. Just allowing for a rational urban layout and reserving spaces for urban equipment would make a huge difference for these communities' prospects of future integration to the city and improved quality of life. Likewise, basic urban designs that facilitate community bonding and a sense of ownership of public spaces could help to create safer environments and prevent violent behavior. Therefore, we were confident that a rudimentary community organization with basic urban awareness could serve as a 'proxy' to state-sponsored planning wherever this is not being made. This had happened before, the lessons were there waiting to be drawn.

2. Methodology

The research project was organized in five components, which used a combination of methodological approaches:

(i) **Historical research:** A historical reconstruction of the ways and means of the urbanization model applied in Lima between 1960 and 1990. This should help to identify the sociocultural elements that allowed for it to be 'successful'. The activities included a literature review and characterization of urbanization patterns; mapping and territory survey for the selection of case studies (including the development of a 'urban layout quality index'); and fieldwork that included in depth-interviews and a survey of local government archives in Lima.

(ii) **Socio-political research:** An analysis of the current process of informal urbanization in Lima and Dar es Salaam, and of the socio-cultural environment percolating them. This included focus groups in both Lima and Dar es Salaam.

(iii) **Organizational and Urban planning Toolkit design and validation:** The research component of this project was supposed to allow to single out the organizational elements that promoted community mobilization for urban planning purposes: the social mechanisms that allowed for actual CBOs to be established, and the spatial basics that ensured regular and safer urban expansion. These findings would allow to develop a set of relevant materials and methodologies to facilitate 'informal urban planning' in new settlements at the time when they are being established.

These components included the toolkit design and production (including printed and audiovisual materials, mobile applications, and methodological guidelines), as well as validation fieldwork (including focus groups and workshops to test toolkit effectiveness, both in Lima and Dar es Salaam).

(iv) **Toolkit testing:** Field testing of the toolkit was implemented in urban expansion areas in both Lima and Dar es Salaam.

(v) **Impact evaluation:** Including a series of activities to verify whether the different pieces of the toolkit were effective or not.

3. Results

3.1. Research results

The first result of our research was that there is no evidence of successful 'spontaneous' urban planning in Lima's informal settlements (IS), a finding that deviated from one of the main assumptions of this project. On the contrary, we were able to find a clear pattern of limited but effective state intervention in all 'successful' IS cases, i.e. those that managed to get a well-functioning urban layout. Therefore, our hope for extracting lessons from past successful spontaneous urban planning turned out to be impossible to achieve.

This initial setback forced us to reassess the orientation of our research, so we decided to focus not on past experiences of Lima's informal urban expansion, but in current ones, in order to model the actual mechanics of such process both in Lima and Dar es Salaam. Fortunately, the findings produced by this new approach revealed key similarities between the intrinsic mechanics of IS formation in both cities, and helped us to evaluate the finding of our original historical research from a different point of view. In the end, by contrasting our models with our findings from Lima's history, we were able to produce what we now know is the right frame for the design of our projected toolkit. The stylized facts of this models can be summarized as follows:

In Lima, IS form through organized 'invasions' of public or private land—mostly barren land with very low intrinsic value. Potential squatters, recruited through word of mouth, convene around a self-appointed leader or 'promoter' who has previously identified the piece of land to be occupied.

The invasion of the plot occurs at a designated date, when each squatter of the group takes possession of a loosely defined lot. According to the law, the squatters cannot be evicted after 24 hours, so at that point a new IS is born, with its own name and its own territorial organization—complete with an elected leadership.[1]

Under these circumstances the squatters' main incentive to get organized is not to lower the risk of eviction, but to get: (i) monetary resources for basic physical conditioning of the plot of land (terrain levelling, road building), legal fees and the like, which are collected by means of mandatory contributions of all members of the IS, and; (ii) enough political clout to get a quasi-formal Certificate of Possession from the local government, which in turn allows for the IS to pressure state agencies in order to get public services and investments—first and foremost, water and electricity, and then paved roads as well as other urban infrastructure and public facilities.

[1] An significant number of informal settlements in Lima do not involve proper 'invasions', but cuasi-formal operations in which a group of families ('associations' or 'cooperatives') buy a plot of land from its legal owner (usually in agricultural land). However, these plots do not have any basic infrastructure or services, and so their process of urbanizations is as informal as invasions, and the institutional arrangements mimic the latter's, starting with the simultaneous occupation of the plot.

On the one hand, the requirements of money and political strength are incentives to create IS with more settlers. On the other hand, the high marginal cost (both monetary and political) of land conditioning in these barren areas, as well as topography itself (e.g. slope) and the difficulty of recruiting and organizing a large group of willing squatters impose limits to the maximum size of a IS. The typical solution to these tensions is to create IS that get as many people as possible in a plot of land that is as small as possible which, in turn, means that housing space is usually prioritized over public areas, including streets and open spaces. Ultimately, each leadership decides the final layout of its IS.

Conversely, in Dar es Salaam there are no such 'invasions'. IS arise from the continuing occupation of the city's surrounding farmlands, which are bought by new settlers, lot by lot, from their traditional owners. In that sense, there are neither squatters nor 'pre-invasion' organization such as those from Lima. The decision to turn existing farmland into new housing lots rests on the landlords only.

Once the decision to sell has been taken, potential settlers (buyers of land lots) are recruited by so-called 'middlemen' through word of mouth and advertisement. They negotiate the price and size of the lots individually with either the middlemen or the landlord, reach an agreement, pay the price and take possession of it.

Under these circumstances, the landlords have economic incentives to divide their plots of land in as many lots as possible. Since they are the ones who decide the final layout of the housing units located on their former farmland, they typically prioritize housing space over public areas, including streets and open spaces.

As we can see, even though these two realities and processes are quite different, the underlying problem for new IS remains the same: there are strong incentives in place to minimize the amount of land destined for common use and to maximize the amount of land destined for private use. Therefore, any proposed solution for this imbalance would have to focus on strengthening the incentives that favor the preservation of land for public uses.

In this sense, our research also shows that IS dwellers, both in Lima and Dar es Salaam, are fully aware of the function of public areas and of the negative impacts that its inadequacy has in their neighborhoods' and families' quality of life. Moreover, even though landlords in Dar es Salaam are the ones who decide how much area to allocate for public spaces, settlers in both cities actively acknowledge that they did not pay much attention to this issue when they first moved to the IS, because their absolute priority at that time was securing their own lot. After a while, when they started worrying about the spatial organization of the IS—including the size, shape and distribution of blocks, the street layout and the spaces reserved for parks and public facilities—the neighborhood was fully occupied and it was too late to modify its general layout. Other reasons mentioned as explanations for these flawed results are a lack of proper knowledge for designing a neighborhood and, when the settlers somehow managed to do it, their inability to prevent public spaces from being occupied by other settlers.

The striking similarities on the shared perceptions by IS dwellers in both Lima and Dar es Salaam regarding the importance of preserving public spaces for their neighborhoods, suggest that there is a straight way to strengthen the incentives to do so: to bolster the demand of public spaces among IS

dwellers. If settlers, who are the ones who ultimately finance the creation of new IS, incorporate the existence of adequate public spaces as a determinant for where they decide to settle, such spaces could be properly valued, the cost of opportunity of maintaining them could be fully appreciated by all the stakeholders—and finally, those costs could be clearly distributed among them.

Any intervention that aims at fulfilling all these goals, however, would have to comply with a few pretty straightforward conditions, such as:

- The increased demand for public spaces should be generated, at its latest, at the very moment when the plot of land is first occupied, so there is time to properly accommodate the settlers preserving public spaces before it becomes costly for them to relocate.

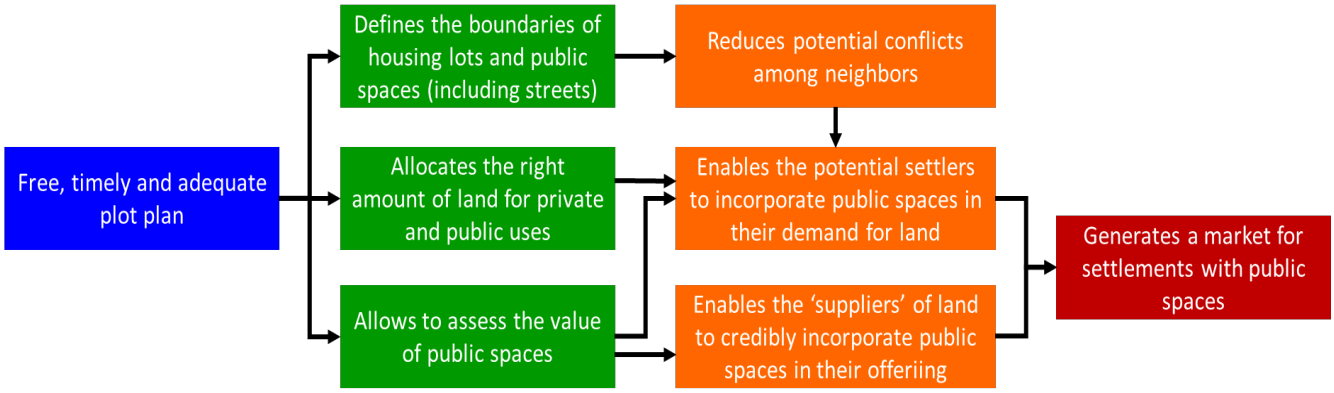
- There should be a cheap, easy and fast way to allocate housing and public land within the plot, so there are no additional costs associated with the accommodation/distribution process itself.

- There should be a clear way to explain to all stakeholders the precise distribution of housing lots and public spaces, so settlers would know what is at stake beyond their own private lots. Only when the complete layout of a plot becomes clear to all stakeholders, it becomes possible for everyone to respect it and make others respect it.

It is at this point when one of the findings of our historical research of Lima's IS calls our attention: the state policy that facilitated the creation of 'successful' IS between the 1960s and 1980s consisted on providing a simple tool for arranging the layout of new IS: a plot plan. A plot plan could comply with the three conditions stated above, as long as there is a cheap, fast and timely way to produce it. This reasoning became the framework that allowed us to design the toolkit that was produced and tested during the last few months.

Henceforth, **the plot plan became the centerpiece of our 'toolkit for urban expansion'**, aimed at facilitating the creation of rationally designed informal settlements. The idea is that if it were possible to create cheap and accurate plot plans at the very moment when new occupy a terrain (or before they do it), this would make it feasible to offer more public spaces (which could be properly demarcated and, if necessary, valued) and to, simultaneously, bolster the demand for them. The following figure illustrates this reasoning.

Figure 1: Potential impact of plot plans in IS



3.2. Tool development results

As explained above, the key tools in our toolkit are the ones that allows to generate free, timely and adequate plot plans. Therefore, we developed two complementary tools that do just that:

a) Plot planning manual. A booklet that explains, in very simple terms, the basic urban parameters that should be taken into account when designing the urban layout of a settlement, as well as step-by-step instructions for drawing a plot plan under different specifications. This manual, which was developed using the conclusions of a study specially prepared by a team of urbanists for this project can be used as a standalone piece, or as a complement to the Lotizer. The manual is available in both Spanish and Swahili versions.

b) The Lotizer. A mobile application (android) with three basic functionalities: (i) manual identification of terrains' perimeters on a satellite image; (ii) selection of parameters (lot size and main point of access to a specific terrain); (iii) automatic generation of plot plans that distributes housing lots, streets, pathways and public spaces according to standard urban parameters (in four alternative models); (iv) automatic generation of a printable plot plan that includes geodetic coordinates as well as streets and lots measurements. The Lotizer has built-in versions in Spanish, Swahili and English.

In order to trigger the causalities described in Figure 1, however, the sole existence of these technical tools is not enough: even so the plot planning tools are free of cost, it would be necessary for the supply side of IS formation (landlords, squatter leaders) to understand the full potential of a minimal urban planning, and for the demand side of IS formation (potential settlers) to be fully aware of the possibility of settling in a relatively orderly IS. After analyzing different options, we decided to produce two simple, short videos—and later a third one—that could be easily watched, shared, and downloaded by anyone with access to an internet connection. These awareness tools, all available in Spanish and Swahili versions, are complementary to our technical tools:

a) Awareness video for all stakeholders. An animated video aimed at all stakeholders involved in the creation of new urbanized land, designed to highlight the findings from the focus groups held in Lima and Dar es Salaam during the research phase of this project: a set of ideas that informal settlers from both cities share about the problems derived from the absence of minimal urban planning. The video introduces de idea of the plot plan as the right tool to prevent those problems from materializing in the future.

b) Awareness video for landlords and middlemen. An animated video designed to address the concerns of landlords regarding urban planning. Such concerns were identified through the focus groups sessions held during the validation phase of the project.

c) Lotizer promo video: A short video that introduces the main features of the Lotizer to the broad public.

All these tools can be found and downloaded at www.grade.edu.pe/lotizer

3.3. Field results

All the five tools described above were tested on the field in two rounds of activities: the tool validation focus groups (8 sessions in Lima, 10 sessions in Dar es Salaam), and the toolkit implementation workshops (5 sessions on site at Piura, 6 sessions on site and one centralized major seminar at Dar es Salaam). The results from these activities can be summarized as follows:

a) **Validation sessions.** These sessions were instrumental to assess the validity of the approach we had adopted for the toolkit's design. We presented and discussed in length the Awareness video for all stakeholders, the Lotizer promo video, the Plot planning manual and a demo version of the Lotizer (without a working algorithm). The sessions in Lima (March 2017) involved only settlers from relatively new IS in Lima, while the sessions in Dar es Salaam (April 2017) included a mix of settlers, landlords, middlemen and local leaders from IS that were formed after the year 2000.

Despite the differences in the composition of the focus groups, the overall reception of the toolkit was extremely encouraging in both cities, as it became clear that the majority of attendees could relate to the awareness video at a personal level, and that most of them already had some basic urban planning notions, as well as a positive attitude towards them. These responses were very encouraging and assured us that the inferences from our research phase were generally right.

Some other important, specific findings from these sessions were:

- As we expected, people over 40 are not quite familiar with the use of smartphones, although they are familiar with the concept of app (e.g. whatsapp, facebook and the like). This is obviously a problem for our technological approach, especially in Dar es Salaam, where the vast majority of landlords, who are the ultimate deciders regarding the distribution of lots within their lands, are older and have no experience with technology.

  Fortunately, the younger generations in Lima and Dar es Salaam, as well as the middlemen and local leaders in the latter, do have and use smartphones, and are familiar with

applications such as Google Maps, which is key to fully understand and operate the Lotizer. Since only one smartphone is required for generating all the plot plans needed in a neighborhood, the problems related to technological literacy could be easily solved. Indeed, many landlords mentioned that they would seek the help from their children to try the Lotizer, eventually.

- Despite the previous point, the procedural logic of the Lotizer was easily understood in Lima and Dar es Salaam, and most participants recognized that this tool would have been very useful for them when they first started populating their settlements. Attendees were aware that it was too late for them to use the Lotizer, and many of them asked us to develop a tool that could help them reorganize their neighborhoods.

- Another finding about the Lotizer was that in Dar es Salaam people expect to buy and sell individual lots of about 400 m^2, a huge difference with Lima, where informal settler aspire to get a lots between 90m^2 and 120m^2. This does not mean that people in Dar es Salaam actually get such big lots, but that is the expected standard. However, big individual lots are not a good long term solution for a growing city, which needs more population density than physical expansion. Therefore, we modified the Lotizer to allow for lots of 200m^2 to be created, which could be aggregated in order to create bigger lots, if necessary.

- The Lotizer promo video was not well understood in either city. Only young people realized instantly that the promo was about a mobile application. We used this feedback to redesign the video.

- Some landlords in Dar es Salaam were worried about the idea of reserving too much land for streets and parks, since that could mean less land available for sale. However, most landlords proposed that even minimal urban planning actually meant that they could get higher prices for their lots, which would offset the supposed loses. This feedback prompted us to produce a new video, specially designed to address the landlords concerns. It also made us aware of the existence of a 'market' for (however minimally) 'planned' IS in Dar es Salaam.

- The reception of the manual was generally underwhelming, until it became clear that it was a complement to the Lotizer (which was presented later in the sessions).

The overall attendance to these focus groups sessions, which in some cases became workshops, due to the high number of attendees, surpassed 100 people in Lima and 150 people in Dar es Salaam (around 50% of them were women).

b) **Implementation workshops.** These workshops were applied directly in areas where the process of IS formation is just starting (see question 2). In Dar es Salaam, the workshops were directed at landlords, middlemen and local leaders (June 2017), while in Piura the attendees were local authorities (mayors and public officials), *comunidad campesina's* leaders (landlords), and leaders of displaced population. The median attendance to this workshops in Dar es Salaam and Piura was around 10 people.

These activities had two objectives: First and foremost, we wanted to see the full toolkit at work, and to transfer these knowledge products to the people who could actually use it. Second, we wanted to evaluate the efficacy of different strategies for delivering the toolkit to potential users, which is why the workshops in Dar es Salaam and Piura had different designs: while the former where lengthy workshops where the toolkit was shown and discussed, the latter were meetings that lasted no more than 20 minutes—just enough to show the videos and explain how the Lotizer works. Evidently, the seminar at Dar es Salaam, which lasted three hours and had press coverage was yet another way of delivering the toolkit to the targeted stakeholders.

Fortunately, one of the advantages of relying on cellphone technology is that all the data generated by the Lotizer gets stored in a database. Such data allows us to objectively assess the two objectives stated above.

Regarding the actual use of the Lotizer, once we set aside the users created by members of the Lima and Dar es Salaam teams, we know that 248 users were created since mid-June 2017 from a total of 223 cellphones.[2] We also know that a total of 234 queries (plot plan request to the algorithm) have been generated since then: 141 in Tanzania, 85 in Peru (31 in Lima and 54 in Piura), and 8 elsewhere (Monterrey, Mexico and Calgary, Canada). The distribution of the origin of the queries can be seen in Figure 2.

Figure 2: Location from where Lotizer's queries have been generated

[2] Unfortunately, we cannot know where all those users were created, because many of them did not accept the Lotizer's request to share their location at that moment.

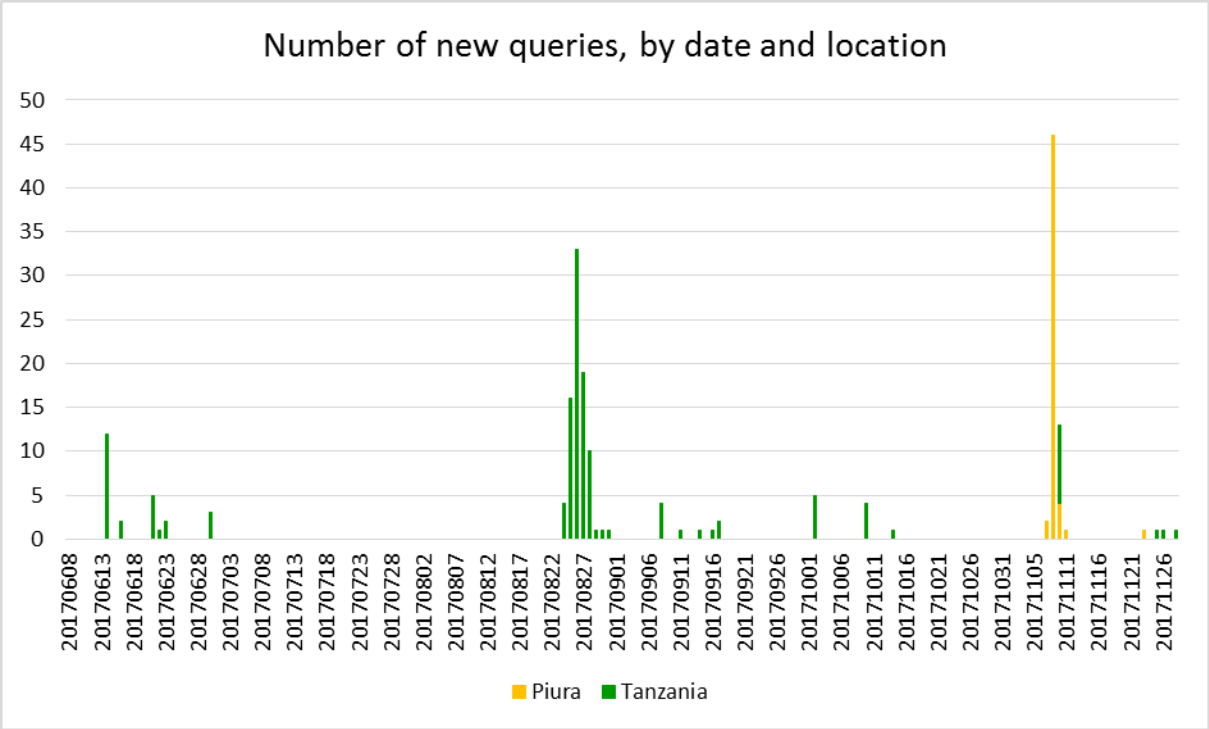
It is worth to note that while the Lotizer's use in Peru has been concentrated in Lima and Piura, its use in Tanzania has spread across the territory (Figure 3). Analyzing the data, we can be certain that all the queries generated outside Dar es Salaam were done after the August 24th seminar. Therefore, the spread of the Lotizer's use could be attributed to the press coverage it received after the seminar.

Figure 3: Geographical distribution of the Lotizer's use

Focusing our analysis in the areas where we actually implemented the toolkit (Piura and Tanzania as a whole),[3] we can find a few more interesting facts. As we can see in Figure 4, queries peaked in three distinct moments: during the implementation of on-site workshops in Dar es Salaam, in mid-June; right after the seminar in Dar es Salaam, on August 24th; and during the Piura workshops, in early November. However, it is clear that the first round of workshops in Dar es Salaam did not produce the sustained use of the Lotizer, while the seminar did generate an uneven, low-intensity, but somewhat sustained use of the app. In the case of Piura, it is noteworthy the high amount of queries produced in the days after the workshops, even though these events were very short meetings in rural areas with no press coverage at all (it is too soon to tell whether the use of the Lotizer in Piura will be sustained or not).

[3] Since there has not been any implementation workshop in Lima, we can assume that all the queries generated in the city were done by people who learned about the Lotizer through members of the project's team.

Figure 4



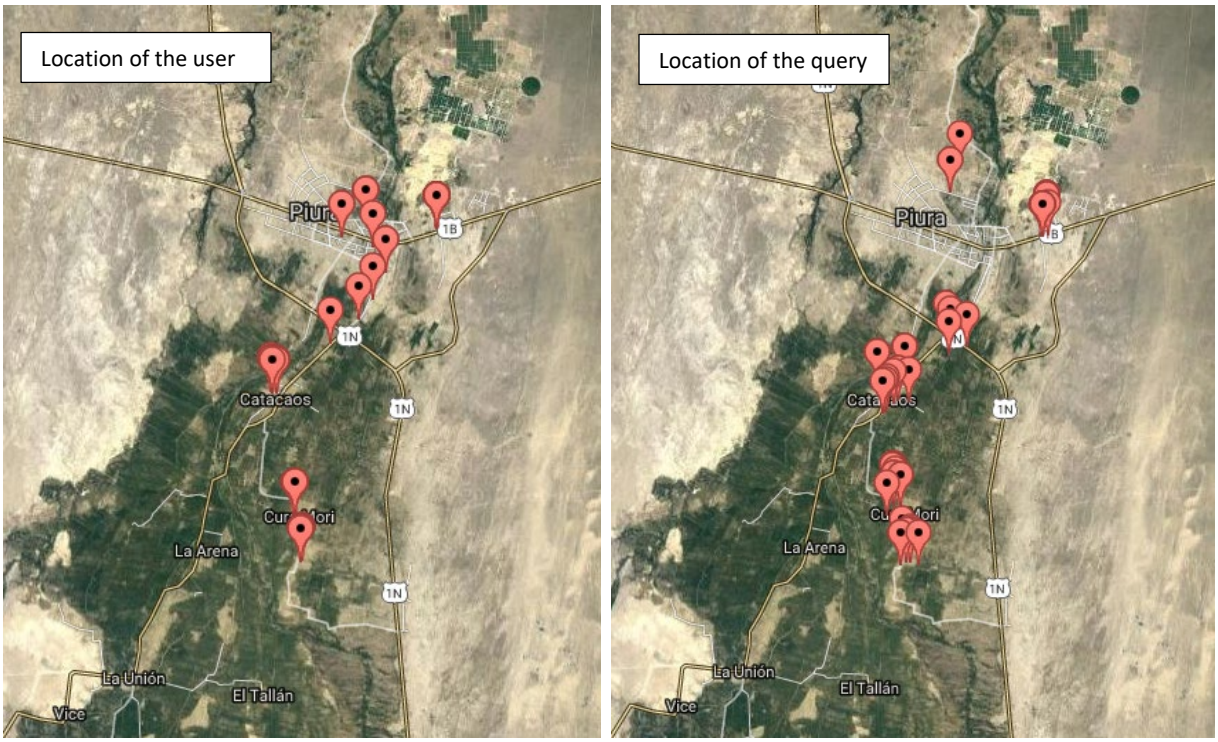
What are the implications of this differences between the two methods for delivering the toolkit? It is just too soon to tell, since we have no evidence that the plot plans are actually being used to guide the occupation of empty plots of land. However, since the Lotizer's database has a registry of each plot plan it has generated, including exact coordinates, and since satellite imagery is already available not only for the present but for past dates, it will be possible to verify in the next few months or years whether any of those plot plans became a reality somewhere or not. In any case, what we do know is that both broad publicity and very focused, blitz-like interventions had a sizeable, if differentiated, impact in the dissemination of the Lotizer.

Another observation that could be telling about the differences in the kind of adoption of the Lotizer that different strategies of dissemination create is the fact that users in Piura seem to be more likely to generate plot plans in terrains that are away from where they are physically located, while the user in Dar es Salaam tends to generate queries in plots that are physically close to them. This can be verified by finding the average difference among coordinates, but can be also illustrated on a map, as shown in Figures 6 and 7. Again, the implications (and confirmation) of these differences would need more time and case studies in order to arrive to a solid conclusion.

Finally, one thing becomes apparent after analyzing the available data: the Lotizer is not a 'viral' application. The median number of queries per user (discounting those accounts who never generated a query) is 2, and only 20% of users made 5 or more queries. There are a number of

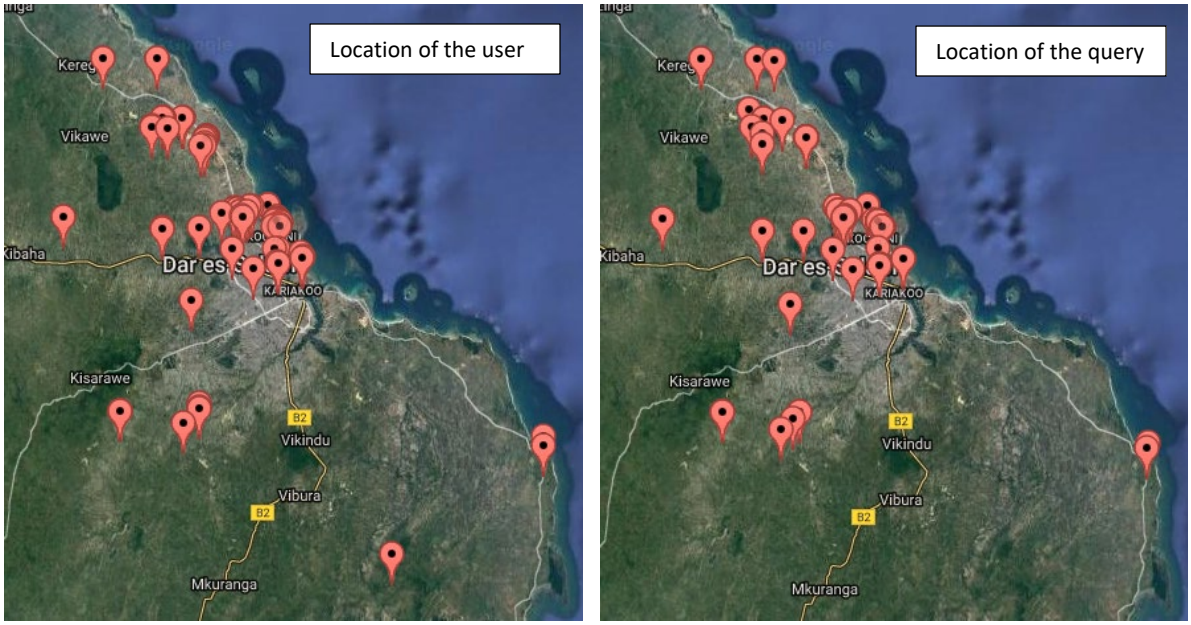
reasons that explain this situation:[4] users are interested at most in one specific plot of land, so once they have generated their plot plan, they have no more use for the Lotizer; the shortcomings of the application (its lack of topographical information, the difficulties of translating a plan into the actual plot of land, etc.) diminishes its utility for users; the technological requirements for using the application are not understood by the majority of stakeholders. However, there are a few users who have clearly dedicated many hours over many weeks and even months to 'play' with the Lotizer. They might be helping others to plan their plots freely of for a fee, or they might be just curious, but it is clear that they might be the best medium to disseminate and apply the Lotizer—some kind of social entrepreneurs that see the potential in creating a market for planned IS.

Figure 5: Location of user and query, Piura



[4] As reported by our partners in Dar es Salaam, who conducted a round of post-hoc interviews with people that had been exposed to the toolkit.

Figure 6: Location of user and query, Dar es Salaam



4. Policy recommendations: tools for the development of a market for planned informal settlements

An optimal policy of urban expansion (e.g. massive popular housing programs) would end informal or unplanned occupation of the territory. But if the state does not have the economic or political conditions to guide or regulate the expansion of cities, at least it is necessary to mitigate the negative consequences of disorderly informal urbanization.

One issue that has profound effects on the future of informal settlements-and one that is relatively easy to improve-is the initial design of the urban layout of these neighborhoods. As we have shown in these pages, the conditions are given to promote the creation of a market for 'planned' informal settlements. The state can help develop this market with some simple actions:

- Offer subsidized plot plans to anyone who wants to urbanize in the periphery of cities-the social costs of not having a timely plot plan are infinitely greater than the cost of drawing up a plan. An alternative would be to develop and fine-tune tools such as the Lotizer, accessible to all and that fulfill the aforementioned function.
- Establish incentives for private planning of new neighborhoods, e.g. put as a condition to access basic services that these urbanizations have an urban layout that meets minimum urbanistic parameters and that public spaces are respected.
- Develop awareness campaigns for the supply and demand of informal settlements, explaining the benefits of a well-distributed neighborhood, and offering tools to carry out a minimum planning.
- Evidently, none of the above can be directed directly to illegal land invasions. However, if the 'legal' informal occupations begin to 'plan', it is to be expected that the invasions will also do so-for a simple matter of competition.

- Finally, it would be convenient to quantify the social costs of urban expansion in the long term, which could help to justify the implementation of optimal policies to gradually reduce the informal occupation of the territory.

If this market emerged, a new equilibrium could be reached in which the city could continue to expand without direct state intervention, but with a better order and better possibilities for future consolidation.

5. Next steps

Regarding the outcomes of this project, we are currently preparing a follow-up proposal for continuing the development and implementation of the toolkit. We think the potential of these tools, especially the Lotizer, is too big to end at this proof-of-concept stage.

The follow-up proposal includes two types of activities:

a) Technical development: further sophistication of the Lotizer's code and data sources, to include topographic information, risk and vulnerability data, environmental protection information, and the like. The urban parameters of the app would have to be redesigned in order to take into account all this new data.

   The application's functionalities should be also upgraded to include virtual reality (which would help to trace the plot plan on the actual terrain), imagery recognition (to automatically recognize the urban patterns surrounding the plot of land in order optimize their links), and algorithm upgrades form more complex urban designs as the plot of land increases in size.

b) Adaptation and dissemination: through a combination of intensive seminar-like activities and extensive short, on-site workshops, we think we can spread the use of the Lotizer wherever it is more necessary. We think that the short workshops, modelled after our experience in Piura, could be a low-cost, effective way to promote urban planning in urban expansion areas. Eventually, there should be a critical mass of people acquainted with the toolkit that will make the dissemination process more organic.

   In order to disseminate the use of the toolkit in different countries and regions, a minimal work of adaptation will be needed for each specific context. We think the this adaptation work as well as the dissemination activities should be conducted by local institutions, which could build a network that helps to bring the *planning of informal urban expansion* to the center of the urbanization process in the global south.