

Expert Group Meeting on secure land tenure: 'new legal frameworks and tools'

November 10-12 2004, UN Gigiri in Nairobi, Kenya

Upgrading and Land Titling in Informal Settlements

Manica City

MANICA PROVINCE, CENTRAL REGION - MOZAMBIQUE

**the great importance of the PSM true color quickbird
satellite image as a cartographic document**

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intervention area

Ø *Josina Machel* neighbourhood ,
Manica City.

support

- Ø German Co-operation for Development (GTZ)
- Ø Municipality of Rome (Italian Cooperation)

technical assistance

- Ø Faculty of Architecture and Physical Planning
Eduardo Mondlane University (Maputo)



**main objectives of this
*participatory planning experience***

Ø **confirmation of land tenure rights to the inhabitants of informal settlements.**

Ø **regulate the land use and provide basic infrastructures.**

a background to this settlements

also known as *spontaneous, unauthorized, slums, illegal settlements, etc.*

Q almost 80% of urban inhabitants of Mozambique are living in the informal settlements of towns and cities.

Q individual residences with raw brick or cement block walls and thatch or zinc roofs.



the main problems

- Ø there is always lack of basic urban facilities such as roads, drainage or piped water.
- Ø the erosion: example of the consequence of uncontrolled urbanization that pose a threat to the existence of inhabitants due to the serious damages caused to the environment.



specific objectives

- Ø to issue any legal title of effective land tenure to inhabitants in order to give them great encourage improving their own dwellings.
- Ø assure, case by case, the minimum access requirement, by constructing either pedestrian ways or compacted soil roads, essential for vehicular traffic in case of emergency and to facilitate the future construction of other basic infrastructures.

the urban planning, in case of informal settlements, does not involve big development projects, but to improve living conditions in these settlements with minimum interventions. (Tribillon, 1993).

**Because of the doubts the Municipality could have
about the rights of land use
in those settlements, the Faculty of Architecture
and Physical Planning
of the Eduardo Mondlane University
was invited to elaborate a juridical report about the land
question in those settlements**

An approach to the Land Law “*Lei de Terras*” (Law 19/97 of 01/10/97)

General Principles

In Mozambique the land is a property of the Government and it can not be sold or, in any other way, acquired by the user, mortgaged or used as lien (Art: 3), but:

- q the Right of Land Use and Exploitation “*Direito de Uso e Aproveitamento*” (DUAT) can be transmitted by inheritance (N° 1, Art: 16);
- q the titular of DUAT can transmit the infrastructures, constructions and benefits, through public deed preceded by a Governmental Authorization. (N° 2, Art: 16);
- q In the case of urban buildings, with the transmission of the building, is also transmitted the DUAT (N° 4, Art: 16);

An approach to the Land Law “*Lei de Terras*” (Law 19/97 of 01/10/97)

one of the main DUAT acquisition ways

Ø *Occupation* by national single people who, with *good faith*, be using the land for at least ten years
(line b, Art: 12);

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The Request authorization process

- Ø **first phase** - where is emitted a provisory authorization “*autorização provisória*” with a maximum duration of five years for national people and two years for foreign people (Nº 1 and 2, Art: 25);
- Ø **second phase** - comprises a definite authorization and the emission of the title (Art: 26);

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The competence of the Municipality of Manica and the application of the Land Law Regulation “Regulamento da Lei de Terras” (Decree 66/98 of 08/12/98)

according this regulation:

Ø when necessary or requested, the areas that are comprised with the right of land use and exploitation *acquired by good faith occupation* can be identified and registered in the *National Land Cadastre “Cadastro Nacional de Terras”* (Nº3, Art: 10); it is understood that this process has to be conducted through the *Municipality Cadastre Service*;

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according this regulation:

Ø The *demarcation*, is a part process to the right acquired by good faith, where after being emitted the provisory authorization the Cadastre Services will notify the solicitant the necessity to make the demarcation (Nº 1 and 2, Art: 34, having also reference of Art: 30.)

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in this ambit:

- Ø the inhabitants have the conditions predisposed: *customary practices, occupation by good faith for at least ten years, provisory authorization with no immediate necessity of demarcation;*
- Ø there are minimum conditions for the attribution of DUAT, that would start since the emission of the provisory authorization, that in reality, it would be a form of confirmation “*comprovação*” (Article 15);
- Ø the residents have the right of land use independently of the type of authorization or recognition made by the Government.

another discussed hypothesis (main objectives)

- Ø The possibility to begin a dialogue between the Municipality and the residents recognizing it's existence, giving enough time to reflect on the most adequate form of titling;
- Ø communicate each of the occupiers through a letter, as the objective to value and confirm the survey and registration made, with data about: the name of the occupier, lot number, total surface, number of buildings, type of the construction material used for each building and also a note of prohibition referring to eventual new constructions, changes and/or enlargement, with no previous solicitation.

another discussed hypothesis (main advantages)

- Ø **The beginning of a dialogue between the Municipality and the residents, recognizing that they exist;**
- Ø **The implicit recognition of the occupation, obliging the Municipality to feel the necessity finding the solutions to the problem;**
- Ø **To give enough time to choose among the different possible alternatives for the titling.**

existent imagery

initially

ü aerial photograph
(1985)

subsequently

ü satellite Image

QuickBird Sub-meter
0.6m PSM true color
(March, 2003)

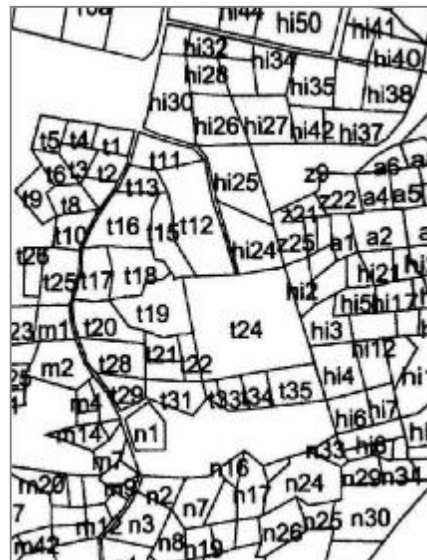
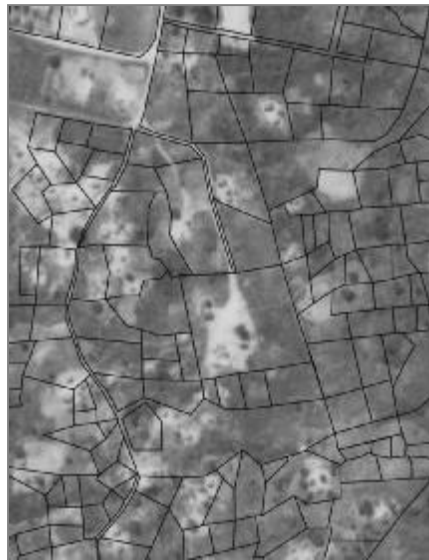


first mapping

- Ø a brief low-cost survey of the area carried out by the local technicians using an aerial photograph dated 1985 where the situation was evaluated, identified the priority actions and prepared an initial register of land tenure;
- Ø in this quick survey data of about 800 lots were collected;
- Ø the survey had the participation of 15 local volunteers.

first mapping results

- ∅ rustic mapping of plots (real estates limits);
- ∅ data processing results in GIS (geographic information system);
- ∅ compiling of data collected during the fieldwork, for each plot.



CODIGO	RESIDENTE	PROPRIETAR	PROPRIETAR
a1	Tomé Xavier	Dono	Dono
a10	Laurinda	Dono	Dono
a2	Z Vinhica	Dono	Dono
f7	António Bechane	Dono	Dono
f7	Armando Manejo	Dono	Dono
f8	Ernesto Chiganda	Dono	Dono
f9	Jaime Jafar	Dono	Dono
g1	Alexandre Chabulo	Dono	Dono
g2	Direcção Distrital da a	Dono	Dono
g3	Direcção Distrital da a	Dono	Dono
g4	Direcção Distrital da a	Ausente	Nao dono
h1	Anda	Anda	Nao dono
h2	Benjamin Njani	Banco BIM	Nao dono
h3	Piscina	Piscina	Nao dono
h4	Sem residente	Banco Austral	Nao dono
h49	Cecilia Maria	Domingos	Nao dono
h5	Chindegure	Chindegure	Nao dono
h50	Luis	Plas	Nao dono
h51	Paula moises	Paula	Nao dono
h6	Geologia e minas	Dono	Dono
h7	Mário de Deus	Dono	Dono
h8	David Elias Mati	Dono	Dono
hi1	Manjate	Sher	Dono
hi10	Noe Bingamo	Dono	Dono

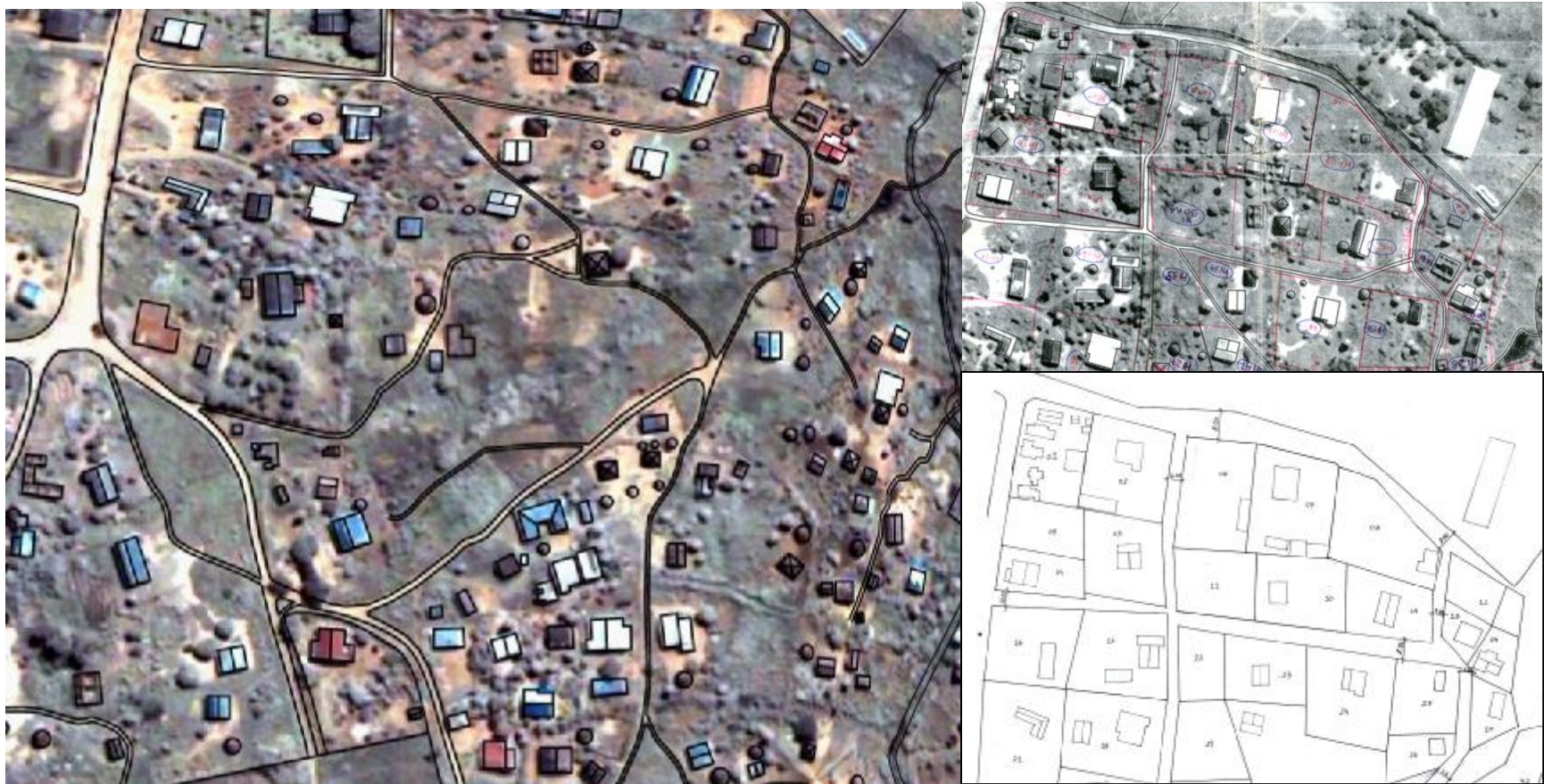
data Updating with Satellite Image

- **This image enabled us in a very short time and at limited costs, to get a credible cartographic base in order to prepare a simplified register of informal occupation.**
- **The image has been used without any geometric correction that would enable us to compare and correct the “rustic mapping” based on 1985 aerial photograph;**
- **Initially, the image was treated using basic software, such as **PhotoShop**, and later it was inserted in the software **AutodeskMAP**, with the purpose of producing an approximate cartographic restitution;**
- **The result was printed as a map, used to identify the priority actions and, when enlarged in adequate size (for example: 1:500), used for fieldwork.**

the results using the Satellite Image

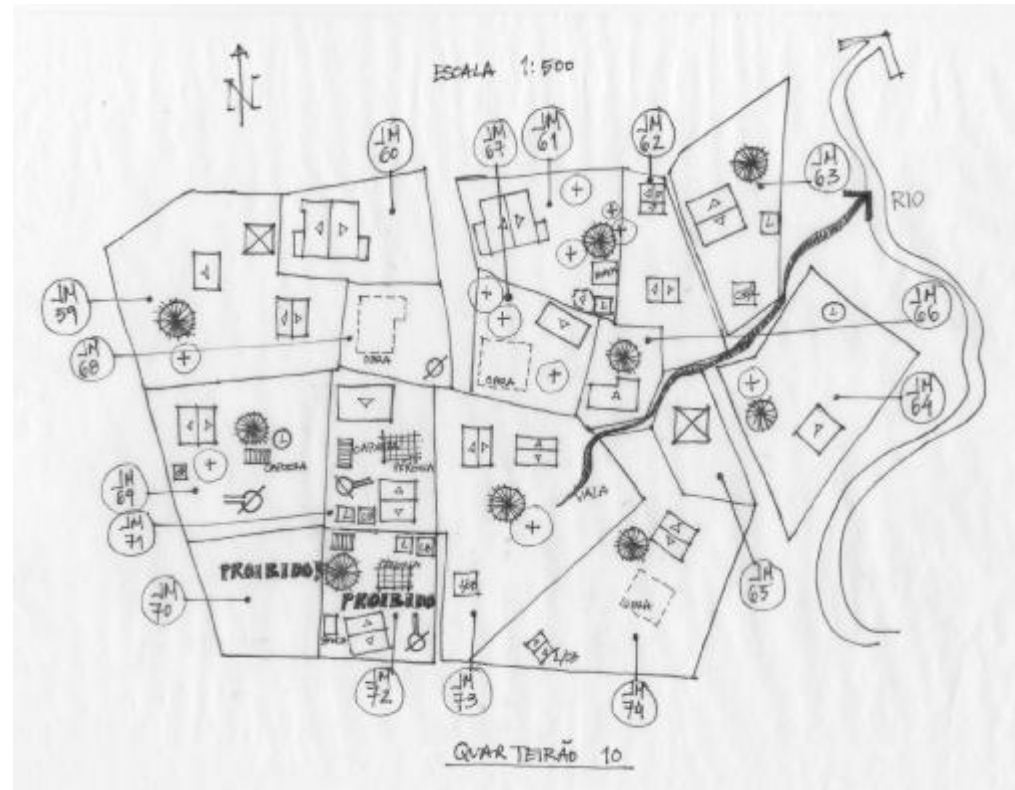
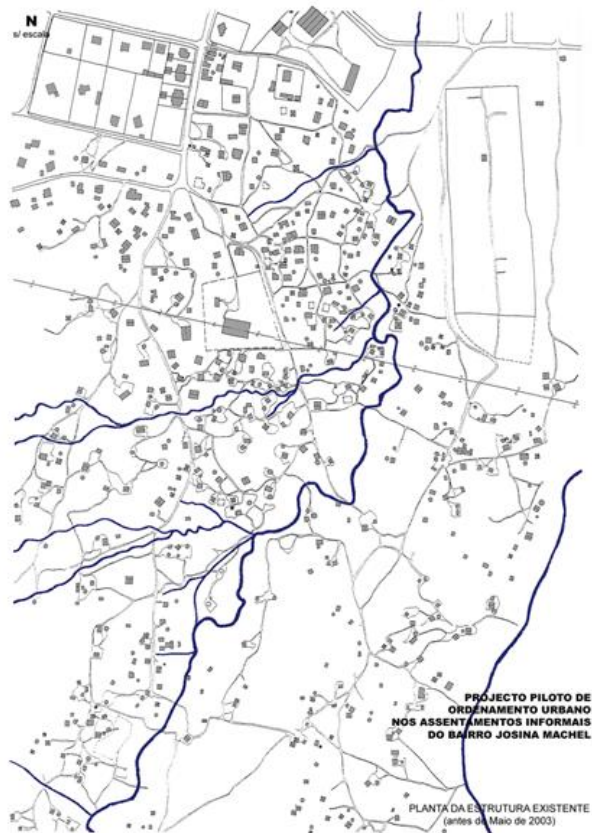
approximate restitution and delimitation of lots

(supported by the field work)

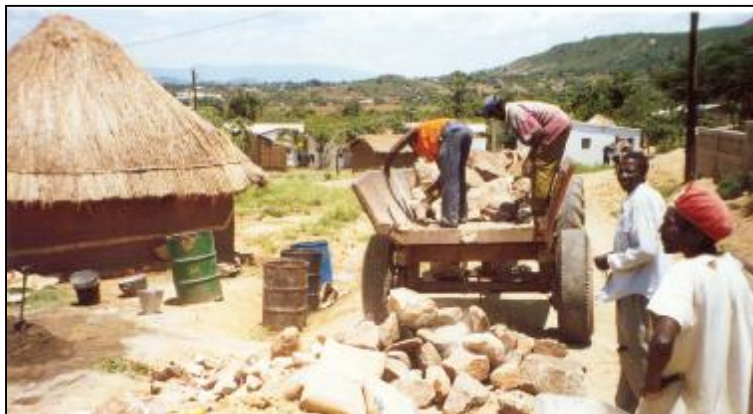


the results using the Satellite Image

the survey of existent constructions, mapping the blocks, adjusting the lots wherever it is necessary and improving the public streets.



the participation of the local community



the possible urban design (obtained results)

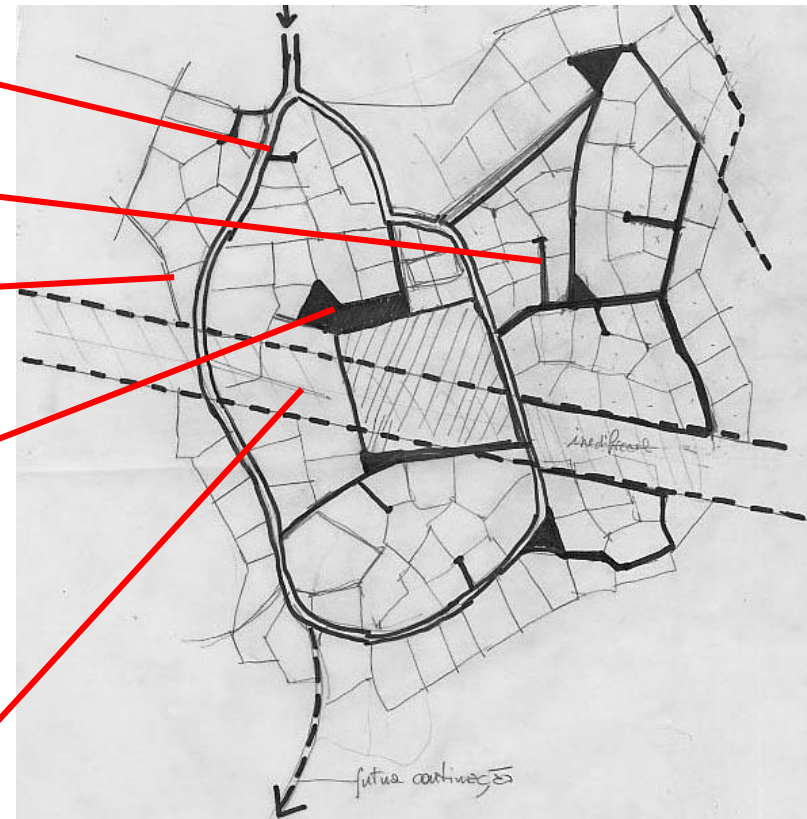
vehicular traffic

pedestrian ways

lots redesigned

areas to maintain for public
use previously identified

transferring houses located in
inappropriate places, such as
under the power line and in steep
slopes areas



conclusions

Ø the intervention would play the role of a pilot project;

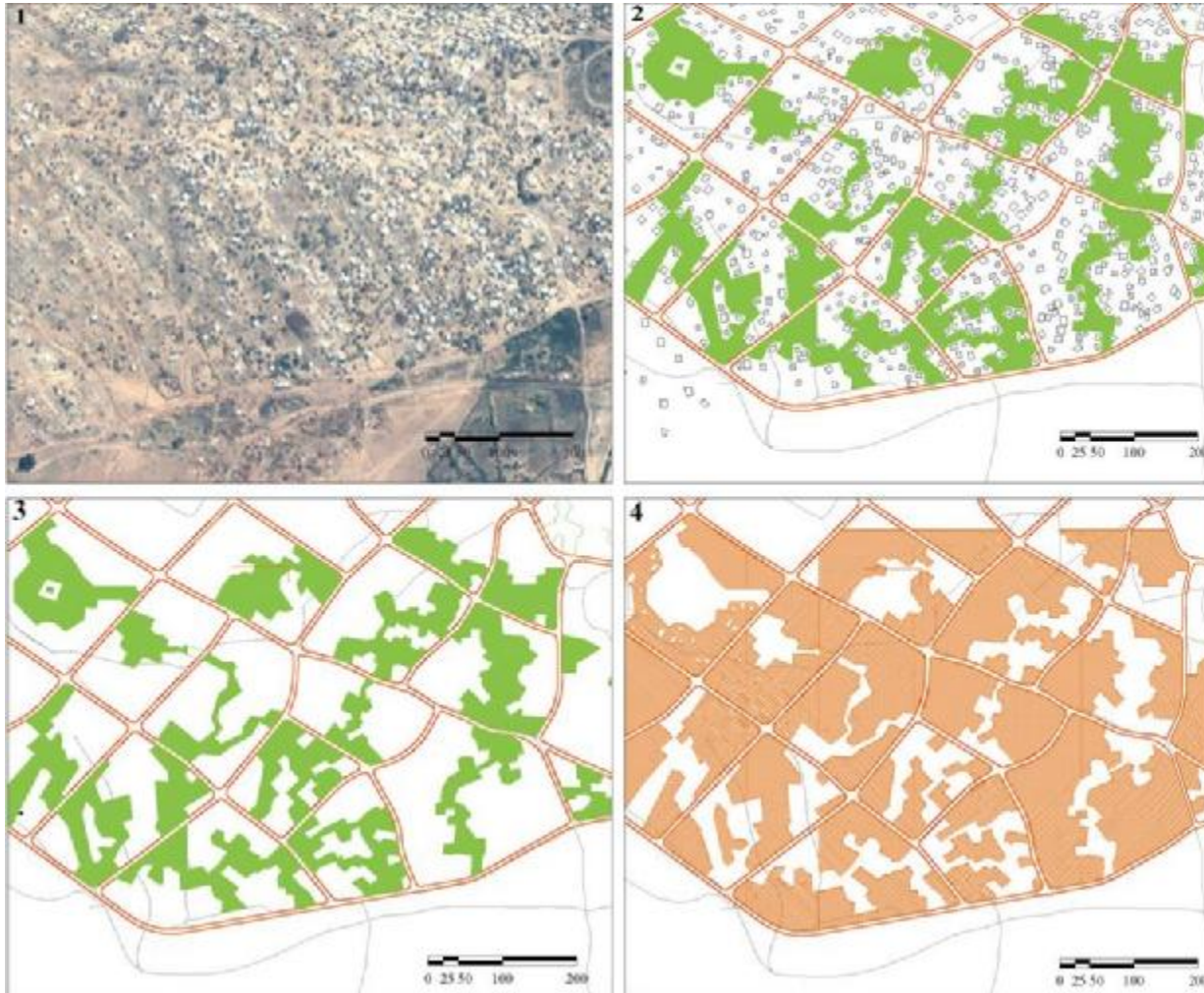
Ø the project would be easily replicated under the situations of many other Mozambican cities and towns, because it is manageable at the local level, and it has lower costs, if compared with those usually planned in analogous projects;

Ø if this planning exercise achieves at all its expected results the experience can be considered as an methodology for managing urban growth and transformation processes that will link the plan to its implementation.

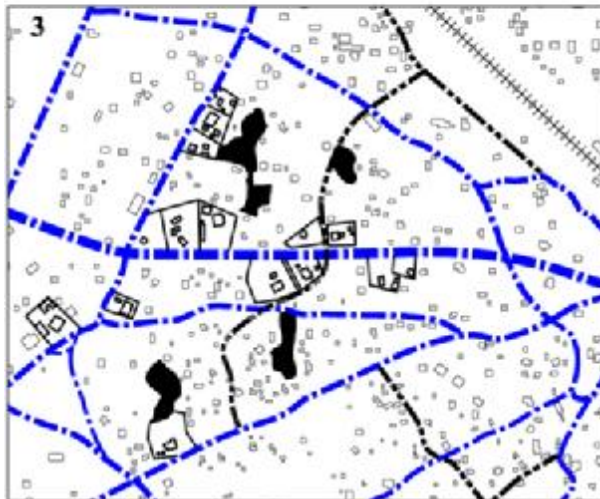
that's why...

**we are proposing to extend the methodology,
where is included also the use of satellite imagery
that can be ordered now orthorectified
(ikonos and quickbird)
and stereopairs for photogrammetry scope
(ikonos)**

**city of Tete, center of Mozambique
(UN-HABITAT “*cities alliance*”)
using IKONOS 2003 PSM true color 1,0m resolution**



city of Chókwe, south of Mozambique
(UN-HABITAT “*cities alliance*”)
using high resolution 2000 Ortophotos



city of Catandica, center of Mozambique
German Co-operation for Development (GTZ)
using QuickBird Sub-meter 2004 PSM true color 0.6m resolution



Kanimambo

Obrigado

Thank you