West-African workshops of urban planning of Porto-Novo
3rd session: from July 20th to August 11th, 2012

Ecosystem and urban Development

Preserving, Protecting, planning and valuing depressional areas of the city of Porto-Novo.

International workshop for students and young professionals from Africa and other continents.

Presentation of the workshop

Four international and cross-disciplinary teams make proposals to the territory’s actors.
Foreword

The History of Porto-Novo's workshop

Ever since 1982, Les Ateliers’ original method has grown and allows international students and young professionals to work within multi-skilled teams on an urban planning topic proposed by the local authorities.

In November 2005, a professional international workshop was organised within the frame of the decentralised cooperation with Cergy-Pontoise. The workshop's aim was to think about the city's urban project, its territory's development and promotion strategies.

In June 2009, Porto-Novo's new mayor Mr Oceni asked Les Ateliers to come back and put up an « express » workshop that came up with a guide plan for the banks' planning.

Since 2010 Porto Novo has developed its own cycle of International urban planning workshops for students and young professionals, with the support of Les Ateliers: This year, the goal is to confirm the West-African Urban Planning Workshops' sustainability. This third session will focus on the importance of the ecosystem for Porto-Novo's urban development.

Organisation of Porto-Novo's West African Urban Planning Workshop

3 weeks led by a joint team made of Les Ateliers and representatives of the City of Porto Nova.
4 mixed teams of 6 international participants, with 3 African members at least in each team.
Selection of the 24 participants based on applications. Young professionals or postgraduate students.
An international jury made of Porto Nova's mayor, representatives of the local authorities and urban planning experts.
Porto-Novos partners

The agglomeration of Cergy-Pontoise and Porto-Nov have been partners since 1995 within the frame of a decentralised cooperation convention focusing on strengthening the African city’s skills regarding urban development. The urban planning workshops led by Porto-Nov are a way to achieve this objective.

Here are the development agencies involved in the West-African workshops:

**AGETUR**: Urban Works’ Execution Agency
**SERHAU**: Regional Studies for Housing and urban Planning

The African universities take part in the scientific committee and suggest students and young professionals to the workshop:

**UI**: University of Ibadan, Nigeria
**EAMAU**: African School of Architecture and Urban Design of Lomé, Togo
**ESIAU**: Superior School of Engineering, Architecture and urban Design of Bamako, Mali.
**INAU**: National Planning and Urbanism Institute of Rabat, Morocco
**UAC**: Abomey-Calavi, Benin’s major university.
The Topic

Porto-Novo is characterised by an extension of its housing area which occupy all the urban territory. It is a 290,000 inhabitants urban fabric (2010 census) with a 2.6% growing rate, and a density of 5300 inhabitants/km². The urban landscape is intricate with several depressions that are invading the urban territory. These depressions are natural areas made of unconstructible wetlands which have resisted to the pressure from the intensive urbanisation: Zounvi, Donoukin and Boué.

They were once considered as lagoon branches on the continent and used to irrigate the city with water on a wide area. But the sitting-up, the accumulation of solid waste and the urban pressure have considerably reduced them.

Indeed, while it spreaded to the North and the East, Porto-Novo has reached the suburban areas like Louho and engulfed Zounvi, and is now threatening Boué which is located further away.

The demographic boom is linked to the soaring and agressive urbanisation and has reduced these natural wetlands to a draining activities (rainwater).

How to preserve, protect, plan and promote the different depressions (Zounvi, Donoukin and Boué) of Porto-Novo and create integrated ecological areas on the one hand, and on the other hand, create farming, tourism and leisure areas?
The workshop's objectives

- Renovating the functions (accumulation and retention of the water, refilling of the groundwater, water treatment, biodiversity reservation, absorption of the floods) and preserving the ecosystems (maintain the animal and vegetal population) of these depressions;
- Promoting these depressions with tourism areas (development of ecotourism), urban farming and fishing areas, leisure areas.
- Preserve these areas from the harms caused by urban pressure and waste.
- Proposing a green corridor in the city linking the existing areas (green areas and depressions)

The issues

Environmental issues

The Zounvi, Donoukin, Boué depressions and the lagoon as well are an ensemble of wetlands listed as RAMSAR Sites (International Ramsar Conference, Iran, 1971). Wetlands which are on that list gain a new national and international status and become important not only for the country which they are located on but for the whole world. The selection of the wetlands for the list is made upon their ecological and botanical international importance.

Nowadays, due to the lack of necessary equipments these areas' outskirts have become junkyards where the waste collecting carts come to dump their load. These junkyards are harmful to the environment and could damage the natural ecosystem and soil the groundwater. The water Hyacinths invasion in those sensitive areas is the proof of the water's hypertrophication.

Invasion of the water hyacinths

NGO in charge of the waste collection dumping their load in the Zounvi area.
Ecological and landscape issues

Zounvi and Donoukin surround Porto-Novo and are two major entities which play an important part, with the lagoon banks, in the landscape's identity. Beyond their obvious hydraulic utility (they drain the rain water), these areas constitute a fragile biotope and take part in the lagoon's very sensitive ecosystem.

Yet, the preservation of these wetlands is endangered by the actual soil occupation.

The lagoon's bank, the depressions and the vegetalisation of the streets form a three actions structure: climate, landscape and orientation. The green corridor project must allow the city's improvement and render it nicer for the population as well as for the tourists. By tightening the links between the city and its depressions, the green corridor should improve the population's conscience regarding the importance of the wetland's landscape and ecological heritage.

Social and economic issues

Generally, the depressions are not or poorly exploited in Porto-Novo. There are some farming exploitations: fish farming, tree nurseries, market gardening... The planning project for the depressions need to maintain these existing activities and develop other activities in order to create economic and social benefits.
The site

There are main wetlands in Porto-Novo: the Zounvi depressions in the West, Boué in the North-West and Donoukin in the East. Each of them ends its course in the Porto-Novo lagoon (35km): with the Ouémé valley and the Lake Nokoué (150 km), the whole area is Bénin's widest wetland (91,000 ha).

Porto-Novo's urban structure is particular: the two green depressions of Zounvi and Donoukin are surrounding the city center and further away, around about 7km from the center, is located the depression of Boué. Porto-Novo is now 52.2 km² wide and the wetlands are only 430 ha wide, only 8.3% of the current urban area. The Zounvi depression is a valley with relatively important slopes on its sides. Boué is a small, narrow valley with rather strong slopes, between 8% and 12%, on its sides.

50 000 m² of the area is covered by green and public areas. This figure only counts the areas which have been planned by the authorities. Indeed, the city's fabric contains many planned squares with green areas. But this number is rather unsufficient compared to the average number in Bénin, which is 2.5 m² of green area per person, which would be 75 ha for a city the size of Porto-Novo (according to the office in charge of planning and cleaning up).

Thus, green areas do not seem to be a main feature of Porto-Novo's development. Nor they seem to be important features of the new housing schemes that were built before the decentralisation.
<table>
<thead>
<tr>
<th>Ecosystem #1: Topping the valley and on the banks of lowland</th>
<th>Vegetal cover</th>
<th>Diversity of the fauna</th>
<th>Importance of fauna pops.</th>
<th>Anthropogenic actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herbaceous formation dominated by cyclosorus (invasive ferns)</td>
<td>Rodents, reptiles, insects and some mammals</td>
<td>Sizeable presence of rodents</td>
<td>Culture of thallia, illegal dumps, filling the valley floor, house construction</td>
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</tbody>
</table>

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<thead>
<tr>
<th>Ecosystem #2: in the bottom of the valley</th>
<th>Vegetal cover</th>
<th>Diversity of the fauna</th>
<th>Importance of fauna pops.</th>
<th>Anthropogenic actions</th>
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</thead>
<tbody>
<tr>
<td>Degradated swamp forest of raffia palm, palmyra, and aquatic plants</td>
<td>Fishes, reptiles, insects, mammals, birds</td>
<td>Low presence of animals</td>
<td>Culture of raffia palm</td>
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<tr>
<th>Ecosystem #3: Downstream - valley floor</th>
<th>Vegetal cover</th>
<th>Diversity of the fauna</th>
<th>Importance of fauna pops.</th>
<th>Anthropogenic actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swamp forest of raffia palm - fairly intact</td>
<td>Fishes, reptiles, insects, mammals, birds</td>
<td>Strong presence of animals (monkeys, wildlife, birds, monitor lizards and otters)</td>
<td>Very little culture</td>
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Current state of the depressions

Because of housing estate projects, many owners have been relocated along the banks and in areas which are not suitable according to the 7th February 1992 government decision n° 2 MEHU/DC/DUA. This decision states that a 100m area from the highest water limit is property of the state and is unconstructible.

Aware of the problems generated by these buildings and following the floods that occurred in September 2007, a decree was voted by the city (n° 2007/068 about the constructions in Zounvi and Donoukin and a decree forbidding to settle there) forbidding any construction in the depressions. The limits are materialised by the IGN landmarks.

On site, we can see that the landmarks are demarcating the water stream and, generally, the constructions are located just behind the landmarks and don't respect the 100m ban. Thus, the mayor's decree is not respected in this unconstructible area.
The Botanical and Nature Garden

The garden is a witness of the former kingdom of Porto Novo. It fulfils many needs for the population: regulating the air quality, resting area, provider of medicinal and culinary herbs as well as seeds that were introduced many years ago. It is a tremendous educational tool for the knowledge of the local ecosystem, for the awareness and the education to a better management of the environment. The JPN has an important wealth potential and its point of interests are almost unlimited for the city.

The location of the JPN in the administrative district of the city and the fact that its near some very important services (Governors Palace, Parliament, Secretary for Agriculture, Ouémé Hospital) prevents it from being threatened.

The Songhai Centre

The Songhai Centre is located in the Zounvi natural depression. It is a centre for training, production, research, development based on integrated farming. It is an experimental agri-organic centre which method is based on the exploitation of the cultivated areas' own resources. The Songhai experimentations started on one hectare of forsakened land, given by the government. Since then, the land has become the centre's headquarters and its first « farm-school ». It is 15 hectares wide and is one of the most productive farm of the region.
A road in Boué, after the RNIE 2 (towards the Ouando Market)

Principe d’équilibre entre trame verte et bâti

1. Allées arborées remarquables, perpendiculaires à la lagune
2. Embarkades pour les transports fluviaux
3. Promenade flottante «Promenade sur la lagune»
4. Bâtiment discontinu aligné avec quelques bâtiments hauts - repères
5. Berge non constructible de culture biologique
6. Boulevard le plus de arbres parenés
# Workshop's projected schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tr>
<td><strong>Friday 20th July</strong></td>
<td>Greeting the international participants. The participants settle in. Welcoming dinner with the leading committee.</td>
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<tr>
<td><strong>Saturday 21st July</strong></td>
<td>Morning: Presentation of the Porto-Novo workshop and its organisation. Presentation from the participants (1/3) Afternoon: Tour of the city</td>
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<tr>
<td><strong>Sunday 22nd July</strong></td>
<td>Morning: Free. Afternoon : 1st tour of the site (with the artists)</td>
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<tr>
<td><strong>Monday 23rd July</strong></td>
<td>Morning: Presentation from the participants (2/3). Afternoon: 2nd guided tour of the site</td>
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<tr>
<td><strong>Tuesday 24th July</strong></td>
<td>09h : Opening Ceremony and speeches from the authorities- Lectures(Porto-Novo). Evening: Creation of the teams and launching of the session.</td>
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<tr>
<td><strong>Wednesday 25th July</strong></td>
<td>Workshop</td>
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<tr>
<td><strong>Thursday 26th July</strong></td>
<td>Workshop</td>
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<tr>
<td><strong>Friday 27th July</strong></td>
<td>Workshop</td>
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<tr>
<td><strong>Saturday 28th July</strong></td>
<td>9h-12h : 1st forum. Workshop</td>
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<tr>
<td><strong>Sunday 29th July</strong></td>
<td>Day off. Tour.</td>
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<tr>
<td><strong>Monday 30th August</strong></td>
<td>Workshop</td>
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<tr>
<td><strong>Tuesday 31st August</strong></td>
<td>Workshop</td>
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<tr>
<td><strong>Wednesday 1st August</strong></td>
<td>Workshop</td>
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<tr>
<td><strong>Thursday 2nd August</strong></td>
<td>Workshop. 14h-17h : 2nd forum</td>
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<tr>
<td><strong>Friday 3rd August</strong></td>
<td>Workshop</td>
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<tr>
<td><strong>Saturday 4th August</strong></td>
<td>Day off</td>
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<tr>
<td><strong>Sunday 5th August</strong></td>
<td>Workshop</td>
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<tr>
<td><strong>Monday 6th August</strong></td>
<td>Workshop Greeting the members of the jury. Welcoming dinner.</td>
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<tr>
<td><strong>Tuesday 7th August</strong></td>
<td>Workshop. The teams hand-in the 8 A4 pages at 8pm. Jury : Introduction to the topic and to the site in the morning. Lectures from the members of the jury to Porto-Novo's local authorities.</td>
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<tr>
<td><strong>Wednesday 8th August</strong></td>
<td>The teams hand-in the A0 boards at 12pm. Presentation rehearsals. Jury : Tours, preparation for the jury in the afternoon.</td>
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<tr>
<td><strong>Thursday 9th August</strong></td>
<td>9h : International Jury. Teams presentations, debates, then deliberation. Closing ceremony, results and awards.</td>
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<tr>
<td><strong>Friday 10th August</strong></td>
<td>Collective trip to Ouidah, departures of the participants and the jury members.</td>
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<tr>
<td><strong>Saturday 11th August</strong></td>
<td>Departure of the participants and the jury members.</td>
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The workshop's organisation

The workshop will take place in Porto-Novo from the Saturday 20th of July to the Friday 11th of August. 24 participants will be working within 4 teams of 6, under the supervision of a mixed team made of local professionals and representatives of Les Ateliers (2 or 3 assistants and 1 or 2 experts).

Participants will stay in houses which have been refurbished by the city, in an institute or in a hotel. The workplace will be equipped with computers and all the necessary drawing material. Digital and paper documents will be available. Lunch will be provided everyday. Participants have to take care of their dinner.

The jury will be a privileged meeting place between authorities, local and international experts and the participants. The jury will rank the four teams.

How to Participate

This workshop is open to young professionals and students from every background related to urban planning: architects, geographers, landscape artists, engineers, economists, sociologists, artists.... Applicants should have studied for 3 years minimum.

Age: Between 22 and 30.

Application:
- 1 page CV. Name of the file: SURNAME_firstname_CV
- A research work about a similar topic about a different site (preferably in your home country) Analysis note + graphic elements preferably produced by the candidate. Format : 6 A4 pages or 3 A3 pages. Name of the file: SURNAME_firstname_RW
- Filled Application: Name of the file: SURNAME_firstname_ID

The complete application needs to be sent by email (up to 10Mo of attached file) to: portonovo2010@ateliers.org


Results will be announced end of May.

Finance

Participation Fees: 25 000 francs CFA for the African participants and 100 euros for the non-African participants. Participants are responsible for their transport, personal insurance and visa. Bursaries can be granted on a personal basis depending on the partnerships: Fundations, French Ministery...

Contact

For further information, please check our website: www.ateliers.org and the dedicated page on Porto-Novo's website: www.villedeportonovo.com or write to us at: portonovo@ateliers.org.

Porto-Novo: Joëlle AKODJENOU, in charge of Porto-Novo's workshop.
Les Ateliers: Antoine Plane, deputy director.