

## **EAST Project**

### *Qingpu, Shanghai - China*



## **Report of the panel of experts by the ENTP**

*July 2013*

The panel of experts was organised in Qingpu from the 5<sup>th</sup> to the 7<sup>th</sup> of July, 2013. It was the second panel of experts held in the framework of the EAST project. This project aims at promoting an integrated urban approach to foster the sustainable development of New Towns as well as improving the capacities of the local teams (urban planners, architects, investors, local authorities) involved in the construction and management of cities.

## **Day 1: Industry and City as One**

**SHAO Huixiang**, Deputy Director General of the Shanghai Foreign Affairs Office, opened the panel with a welcoming speech. The Shanghai Foreign Affairs Office is part of the Shanghai municipal government, and it aims at establishing platforms and bridges for Shanghai towns and districts. For this reason, the Foreign Affairs Office has been involved with the EAST project since its launch. The office follows EAST project's progress, from the meeting in Brussels to the international workshop held in Naya Raipur. Mr Shao Huixiang mentioned that the office's capabilities were greatly enhanced thanks to income generated by the EAST project. As issues regarding New Towns around Shanghai are important, the experts' thoughts on this topic are welcome. In the next few years, urban development will be extended to suburban areas. As a consequence, the management and capacities of those New Towns will need to be improved and the environment further protected. China and India are on a fast track of economic development; those countries have to learn from their counterparts and share their experiences with Europe. The European Union is currently trying to reshape its urban landscape; according to Shao Huixiang, China and Europe are at very different stages of development, and have different demands on their cities, but he hopes that they can have a win-win collaboration towards a low carbon development.

**Pascaline Gaborit**, the director of ENTP and lead partner of the EAST project, mentioned that the cooperation between India, Europe and China started two years ago with the kick off meeting of the EAST project in Brussels. New Towns have to adapt to several challenges, in particular the lack of good transportation infrastructure, the need for

centrality, and the question of image and identity. "There is no magic recipe to build a New Town<sup>1</sup>" In Europe, we consider that there are not simple of ready-made solutions for the creation of green cities. Consequently, the EAST project proposed to create bridges between the participating cities starting with an analysis of urban problems. Naturally, creating New Towns are complex and challenging projects with a risk of failure.

Gaborit presented the activities and results of the EAST project up until the day of the panel. She introduced the experts introduced as well. Their biographies are available on the EAST website [www.pilotcities.eu](http://www.pilotcities.eu). The agenda of the panel covered different but interrelated topics: Day 1: Industry and the City as One; Day 2: Sustainable Urban Development; Day 3: Preservation of the Old City Inheritance. The panel presented different case studies from Europe and China.

**Wang Xunguo**, the Vice District Governor of Qingpu, attended the forum and delivered a keynote speech on the development of a modern Qingpu: towards low-carbon and eco-friendliness. The presentation focused a lot on heritage and the environment.

Qingpu is built as a modern neighbourhood of Shanghai, with a rich culture and environmental resources. It is well-located for industry since it has water resources and transport advantages. Qingpu District has two neighbouring provinces (Jiangsu Province and Zhejiang Province) and has very good transport connexions. The metro line 17 will soon link Qingpu to Shanghai. Qingpu district is located 15 km from Hongqiao Airport and 60km from Pudong International Airport. In the district,

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<sup>1</sup> Quoted from statements of Jean-Pierre Marchetti, Chief Executive of several French New Towns.

341km<sup>2</sup> are devoted to agriculture and 207 km<sup>2</sup> to building sites. The district has three sub-districts offices and 8 towns. The 2012 regional GDP is 66.52 billion RMB. Qingpu boasts 10 historical sites, making it the centre of 251658240

Shanghai history and culture. Qingpu is now focusing on the development of a livable city and accelerating the pace of growth while remaining eco-friendly.



The New Town created in the Qingpu District, called “Dianshan Lake New Town”, is 119 km<sup>2</sup> broad and is designed to welcome 700 000 people. There are 7 blocks and 5 centres in the fabric of the New Town. There are four parts: an east block with a large size community, a middle block for business trade, and a west block which is more ecological and residential to emphasize conservation, and a river side block for environmental highlights, supported by tourism development. The strategic layout is presented as "One city - two wings" with the east wing growth point relying on the Hongqiao Business District focusing on commerce, business and modern service and the west wing growth point taking advantages of the natural lake resources to develop a lake

economy. The west wing of Dianshan Lake area consists of 21 fresh water lakes. It will become an important ecological protection site.

The key construction works have been introduced as well. The rail traffic line number 17 will be 35km long, will comprise 13 stations

1、一城—淀山湖新城  
One City—Dianshan Lake New Town  
➢ 七片 Seven Blocks :



and will be completed use in 2017 (started 2013). A national ecological zone is being built and it should meet different requirements by 2016. In Dianshan Lake New Town, 40% of the total area is now developed. The developers want to complete the construction of the area around Dianshan Lake with hotels, leisure and accommodation. As water is the region's main resource, a flood control system has been set in Lake Dianshan to provide more space and higher quality water. Zhujiajiao New Town<sup>2</sup> has witnessed completion of all framework roads, Zhujiajiao Middle School, citizen centre and other public utilities since its development in 2002.

Professor **Ruan Yi San** gave a presentation about the importance of preserving historical towns in China.

According to professor Ruan, China often experienced a very basic modernisation: while the approach looks very simple, convenient and advanced, many aspects of it actually appear unreasonable.

In several riverside towns, for instance, you can see many shops and restaurants but the products they sell are all similar.

It is more difficult to regenerate old towns than it is to create new ones. One example of regeneration is the case of Xin Tian Di, a Shanghai historical site of houses to be removed because of an elevated road.

Originally the site of the first meeting of the Communist Party, Xin Tian Di is now a famous area of 2 hectares with a lot of shops and restaurants. The reality is that although it looks very Chinese, the site has not been well preserved.

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<sup>2</sup> The New Town of Dianshan Lake is being created in the territory of the Qingpu District, next to the historical town of Zhujiajiao. The name of "Zhujiajiao New Town" used to define the newly developed neighbourhoods of Zhujiajiao, while more often the whole new area is indicated with both names interchangeably.

Generally speaking, Shanghai has done very well in the preservation of old houses but even as recently as last week some old houses were removed.

Unfortunately, it is a common Chinese practice to demolish old towns. In this instance, an adjacent development zone was desired for people who were coming to visit the old town. The principle was to maintain the old style as it originally was and to preserve it how it looked during the Ming dynasty. This example should be followed in preserving old towns.

In 2003, six old towns to the south of the Yangtze River have become a landmark of urban development and preservation of cultural heritage. Professor Ruan said he visited the old towns together with Unesco officers, and even stamps were issued by post authorities, but the local government didn't apply for the status of world heritage.

It should be noted that when protecting old towns, some of the plans are not very well executed. For example, in Zhujiajiao, painters modified the old city temple and changed the structure of the bridge, which now can't be changed back.

According to Ruan Yi San, Chinese people can be too money driven; as a consequence a lot of scenery of old towns are gone and high rise buildings are built around. Professor Ruan said he had a deadly fight with the local developers of a town, as he was arguing that the garden views should be preserved! Finally the upper government issued a rule to preserve them.

When private developers control the town's operation rights, there are policy risks and social disputes. What are then the possible solutions? Multiple forms are very important. We should keep in mind that 60 to 80 natural villages disappear in China every year. Of course China needs economic development, but how can we at the same time preserve

these old towns? The Qingpu district is a good example of understanding the ecological spirit as well as the link between the urban consumer and operational or recreational areas (e.g. opera “Water town” and typical Chinese shows).

Preservation and repair should be guiding concepts. Yi San recounted a story of an artist who emigrated to the US, got an award, and was invited back to China but couldn't find his old house because it had been reconstructed. The cultural element is very important, like a selection of activities with local features. Zhongzhong for example is a unique case for gathering artists with a combination of modern and traditional art.

In China there is no dedicated legislation on the matter of preservation, while abroad it is different. In Japan, the civil society has participated in activities of preservation since the 1960s, for instance in opposition to the construction of highways, and there are now more than 124 preservation associations.

It has to be said however that wood is not an easy material to preserve for a long time, which could explain the different context in Europe (example of Bologna preservation).

In China there is no private force, only the government is managing preservation projects while in Bologna all actors work together. In China, owners don't have rights on the land; moreover there is only one private organisation participating in the renovation of old houses.

As in China, there is not much attention paid or money invested in house preservation. Instead, incentives to demolish old buildings were provided. But when preservation works have been conducted, this may imply the consequent disadvantage of mass tourism. The fact is that we don't have standardised guidelines for the preservation of old towns.

Yi San was called by local design authorities to help on some projects because often planners don't see the old town as an integral part of the city; the challenge is therefore how to integrate them into the rest of the city. Instead of having old towns isolated by high-rise buildings, they have to become the core part of the planning; for that, special purposes of land use should be taken into account. Another problematic factor is that governments are short-sighted as they are responsible for development only for some years ahead.

When we create new towns, we tend to abandon the historical values associated with the old cities. That's why the focus on culture is important. In addition to cultural purposes, we should highlight the importance of resource sharing. For instance, we should remind high level government about the importance of water sites.

Some recommendations would therefore be the following:

- Respect the [1987 Washington charter](#);
- Always take into account the urban planning mechanism of the entire city;
- Support the candidacy of historical cities for the Unesco World Heritage list. (Although local governments are not in favour, the UN would monitor and help in management in case they became world heritage sites.)

**Yang Guiqing:** Deputy Head of the Urban Planning Department, Tongji University, made a presentation about “industry and urban integration: status quo observation and future perspectives.” For the New Town of Dianshan Lake, it is time to think how to integrate the industrial park together with the rest of the city development. Thanks to a threefold analysis, Professor Guiqing introduced the

concept of industry and urban integration and gave food for thought for future perspective.

In the case of Qingpu, “industry” refers mainly to secondary sector which is an important one in developing cities. The urban area has mainly residential and commercial functions, but originally, it was supposed to be combined with industry. Actually, the functional areas are spatially segregated and not simultaneously planned. Now Qingpu faces the time for integration. There should be inherent relationships between urban residents and employment in the industry job opportunities. However, the professor mentioned that people commute and there is no relationship in the territory: why don't we use the employment in the industrial area for the city area? It is an important strategy to upgrade urban function and efficiency.

Then, the status quo refers to the location. The municipal government from Shanghai planned the area in this specific location to serve Shanghai. However, investments made there are global, requiring a high level of jobs, and these do not fit the inner city of Qingpu and explain the lack of integration. In 2009, a new master plan was produced to think about industry and the urban area as a whole. The development of the types of the industry is more and more high-tech driven, but will it fit the population? Actually, 57% of the workers come from the central part of Shanghai, and only 28% come from Qingpu, which results in traffic congestion on the highways because of commuters. 76% of the workers rent a room, while 24% stay in dorms.

If we look at the future perspective, we need to think about different scales. At a micro level, there is a lack of affordable housing in the industrial zone, and a lack of public facilities. How to mix the different uses? At a meso level, there is a need to enhance employment in relation to peripheral small towns to ensure

suitable distance for daily commuters. Then, at a macro level, the district needs closer relation with the Shanghai metropolis: efficient and affordable public transport, reduced dependence on highways and cars (low carbon development) and upgraded integrated functions for the Shanghai metropolitan area.

The first presentations led to further discussion. Edoardo Guglielmetti, from the ENTP, brought the European perspective on the topic of transportation. New Towns in Europe, even with a transportation system, were unable to keep the majority of their inhabitants working on their territory, most of them remaining commuters. Why not think about a choice of industry to match the skills of the people in this instance? Professor Guiqing answered that the industry located here is originally from the district of Shanghai. The high education and qualified workers cannot be found in the area. For the future, the district of Qingpu could think about having high education facilities on site to find the suitable job opportunities and to attract high level workers to settle. Medical care and good quality hospital are an on-going necessity as well.

Professor Rameshwar questioned the fact that these economical activities are relegated to a separate zone as well. In Bangalore, India, the software industry developed everywhere. In addition, if manufacturing activities attract migrant workers, who is responsible to provide housing? Regarding the type of industry and the Bangalore example, Professor Guiqing mentioned that manufacturing activities are for the moment the main kind of activities in the district, and the flexibility allowed by the software and knowledge-based services occurred mostly inside the bigger urban areas such as Shanghai. A mixed-use of the land is thus easier when dealing with light industry. In Qingpu, however, some warehouses will be transformed into light industry places.

## Bajendra Kumar, Chairman of Naya Raipur Development Authority

Chhattisgarh state was established in 2000 by separating its territory out of the Madhya Pradesh state.

The territory is composed of 27 districts, most of them covered by forest.

In general, the houses are made of locally-produced cement, while infrastructures are made of local steel.

When Raipur became the capital of the newly created state, a small centre became a capital, and problems of infrastructure arose. With the development of Naya Raipur, India is making a 21<sup>st</sup> century capital, following the experience of Chandigarh.

The first question that was tackled was how to select the area. A consultant then suggested the site, following a list of parameters, including a maximum of government land, least number of human settlements, and no forest land taken. Then the approach of an inclusive development was defined: we are developing a city for ourselves, based on the principle that cities are about relationships and human beings, so they must be liveable and green. So a vision was agreed upon for the new capital: a modern but green city, citizen friendly, preserving the landscape.

Land acquisition is based on negotiation with farmers and land owners at a mutually-agreed land price; it is planned that all the villages will have a redevelopment programme and modern infrastructures.

Figures for projected population are for two years later. The territory is divided in 3 layers

and 13 abadi<sup>3</sup> areas. Land use is proposed as follows:

- 26% residential
- 23% public and semi-public
- 26% recreational
- 12% transports
- 2.42% industry

As for the transportation policy, the guiding principles are around mobility for all that is affordable, equitable and safe. Mobility will rely on PMTS, BRTS, LRTS<sup>4</sup>, and railways. The infrastructure is achieving fast implementation, a point of pride: in India it typically takes 15-17 years to build a station, but permission was granted in one year.

The housing strategy is designed around a typical residential sector, including spaces for different uses and different standards of housing. We are already working on the main facilities and networks, like water supply, electricity, telecommunications (optical fibres), sewage, health facilities (cancer hospitals, nursing, polyclinics). Leisure has been taken into account, therefore the territory will host several recreation parks: a sports complex, lakes (more than 56), and other open spaces integrated in the image of a garden city. Indian cities in general, and Chhattisgarh cities in particular, are saturated with polluting industry: they are not wanted in Naya Raipur. In this spirit, a programme of tree plantation was launched, with an annual feature of thousands of trees.

To adjust the impact of the new city and make the plan and the community match better,

<sup>3</sup> Neighbourhood of an Indian village. <http://itihars-dictionary.blogspot.be/2010/04/abadi.html>

<sup>4</sup> Public Mass Transport System; Bus Rapid Transit System; Light Rail Transit System.

several measures has been taken targeting the social aspects:

- Training for upgrading the skills of labour force
- A training programme for people affected by the project under rehabilitation plan
- An exercise of participatory system with NGOs.

**Dawn French, Commissioning Director, Basildon Council, UK**

Local governments in the UK are traditionally providers of services, but with the current financial crisis, the model behind this provision has to be redesigned. Therefore the leadership function is to keep enabling the council to provide these services, now through partnership working and relationship management.

The economic context of Basildon is a strong presence of the manufacturing industry (Ford, Selec, New Holland), but there is a skill gap among the local community in order to keep them meeting the needs of the companies. The council has an overarching vision to enable local prosperity;

Basildon Council developed a programme of support for businesses:

- Business events: annual enterprises' events, free workshops, breakfast networking event, "Meet the buyers" events;
- Businesses advice: on planning requirements and new regulation frameworks, on funding, on training and apprenticeships, on taking forward innovation, and to improve

environmental credential ("Green Forum");

- Helping businesses search for spaces and staff.

On the "urban planning" side, Basildon has a significant regeneration programme for the town centre with BWB<sup>5</sup>, together with smaller schemes in the wards of Pitsea, Laindon and Wickford. The project includes a 100 million pounds investment on public owned houses and the development of 15000 new homes.

The vision of Basildon Council for its city and community development is also targeting international opportunities, including cooperation with India, notably by working with the Confederation of Indian Industries, as well as with China, for instance with a memorandum of understanding with Changzu.

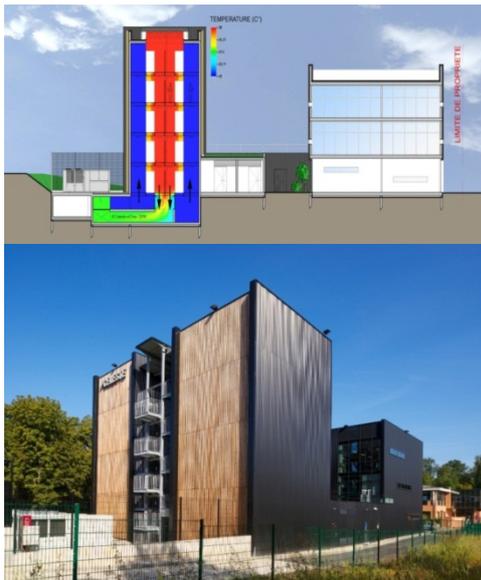
*Ms. French's presentation was followed by a message from Mr. Bala Mahendran, Basildon Council Chief Executive, apologizing for his absence and wishing good luck to the panellist.*

**Jean-Pierre Marchetti**, former chief executive of the inter municipality of Marne-la-Vallée/Val Maubuée, based his presentation on a case study to demonstrate that industry and the city can form a single entity. He added, in the continuation of Professor Guiqing's presentation, another scale to consider, the one of the buildings and its surroundings. The French new town of Marne-la-Vallée was created in the early 1970s in the eastern part of Paris. Today, the city has reached 350000 inhabitants. It is divided in four parts, from the west to the east. Part 2 is Marne la Vallée, a group of 6 municipalities. The master plan is polycentric, with good assets like the accessibility (motorway, metro), good quality of life (lakes, wood, cycling paths) but for this

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<sup>5</sup> Barratt Homes Wilson Bowden Developments

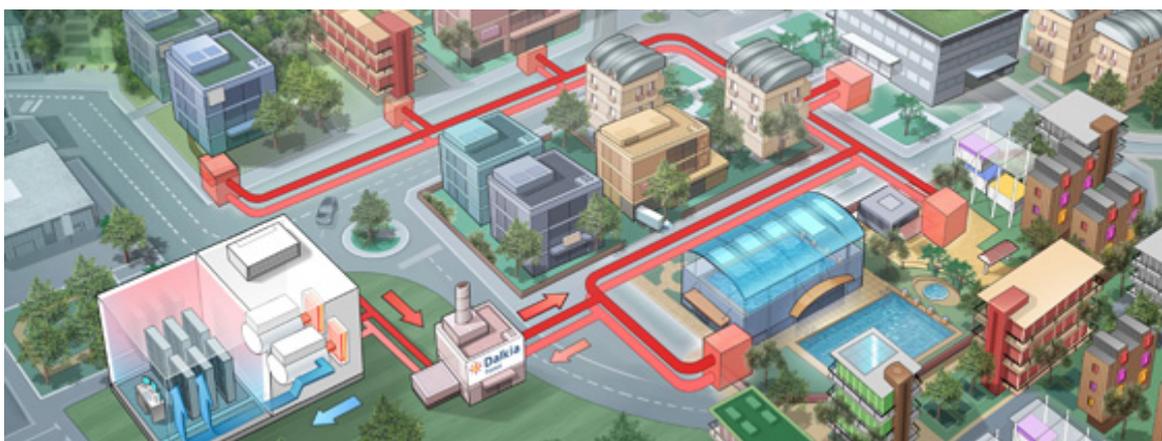
panel, the focus point was the scientific park called Cité Descartes, dedicated to sustainable development and planning. The park gathers 25000 students, 40000 researchers and teachers, with the school of civil engineering, a national institute of urban studies, architecture, and a scientific and technical centre for construction to test new materials.



When a new town is being developed, the target is to build a well-balanced city, thinking about all the functions needed for that purpose. Economic contexts changed over time, and since 2008, cities face a financial and economic crisis, increasing the unemployment rate. At the same time, environmental protection has to be reinforced (problems of air and water pollution, cost of energy, etc.). These assets have to be optimized, together with public and private input. To present an innovative case study, Jean-Pierre Marchetti introduced the Marilyn Datacenter which

produces energy as heat that gets reused for the benefit of everyone. The datacenter was built in 10 months and thanks to its shape and metal grids for air circulation, produces vertical air cooling. It is the first high density datacenter in France and one of the lowest energy consuming ones in the world. The building does not need cooling below 23° for computer, saving 25% of the energy and the heat is used to heat the offices and the surrounding buildings. This balances the growth of consumption coming from datacenter, consumption that rose from 56% between 2005 and 2010. Beyond the technology innovation, it is a real local project supported by the local authority from the beginning. The vertical building is suitable to urban areas since it occupies less land, and it can be easily linked to other companies. The inhabitants received information about this innovative building.

Another innovative datacenter located on the territory is the Dalkia datacenter. It collects the heat for a collective heat network. The project was developed with Euro Disney Company and the local authority. By integrating the building in the city fabric, the energy produced could be shared with the rest of the neighbourhood. This is why all the actors were part of the project, and as a first result, they could heat the swimming pool thanks to the heat generated by the servers. Public sector, private sector, inhabitants, local authority, all the actors succeeded in doing an integrated project.



**Honoré van Rijswijk**, urban design director of Frontwork<sup>6</sup>, addressed the issue of industrial activities within contemporary cities. There is a lot to learn from India and China from the successful use of electric bikes, greeneries along the roads, the mixed uses on Shanghai streets with the small shops on the ground floor and the housing behind or above. For Europe, it is sometimes difficult to find a new push towards sustainability. Thus, different questions become relevant: How can we accommodate industrial activities within the contemporary city? How do we mix the old and new industrial area? In the past, factory and community formed one entity. Then, a separation occurred between work place and housing, creating a lot of traffic and movement. This also resulted in mono-functional areas which are, overtime, difficult to regenerate. In London, the Olympic site was created on a brownfield, a successful transformation. But what can we do with industry? In Amsterdam, an old industrial building was turned into a ferry terminal, with a further development plan for housing and offices.

The objective nowadays is to integrate activities within the city, integrate the design of buildings within the urban fabric and rationalize their use to accommodate future growth in cities. One solution would be to stimulate the development of a flexible city. A flexible city encourages urban transformation through a framework that can change over time, thus integrating different kinds of land use. Mixed use strategies can be implemented at the level of the building itself, or at the block level. Along with mixed use, the flexible vertical industry appears to be a solution fitting the city, answering to a dense urban manufacturing process. Honoré van Rijswijk

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<sup>6</sup> London based studio specialised on urban research, strategy and design.

presented a list of design principles to the participants:

1. Design a flexible spatial framework to encourage and steer urban transformation
2. Incorporate public network and spaces and ensure they have a distinctive character and identity
3. Introduce a functional mix on different scales (buildings; blocks, areas) always having in mind that the use of the building will evolve
4. Encourage vertical stacking industry
5. Promote adaptable building typologies and introduce them in the master plan strategy
6. Control environmental pollution
7. Encourage built parking solutions
8. Optimize the transport networks
9. Control orientation and views
10. Promote excellent design

Jeffrey Raven, architect, raised the issue of definition and rating system. Indeed, what does low carbon development really mean? As there is obviously a question of performance linked with it, how do you implement a rating system to assess the success of a sustainable building? It is also to add that the spirit of a place is not only made from its history and buildings, it is a question of spirit made up of intangible and dynamic public space coming from relationship between the citizens. How does this sensitive understanding of a place inform the future of a city development? In Naya Raipur, India, the relationship between the people and the water has been highly taken into account when designing the new town.

**Baijendra Kumar**, Chairman of Naya Raipur Development Authority, questioned the regional approach of the example of Raipur and Naya Raipur. Are they considered one area or two? What kind of relationship will Qingpu and Shanghai have in the future? Dawn French, Commissioning Director for Communities of Basildon (UK), drew a parallel with the new town she is representing. Basildon has gone through an evolution, having to adapt to the changes over time and to reinvent itself. It is thus a good opportunity for a city to look for good practices elsewhere. To stress the role of local authority, Jean-Pierre Marchetti explained how important it is to help create an entrepreneurial class. The Cité Descartes in Marne-la-Vallée is an interesting example to judge about sustainability (laboratories, research centres, etc.). How can the new technologies help the planning and adaptability? Towns using data hubs can adapt the urban planning.

## **Day 2: Sustainable Urban Development**

*This second day has been moderated by Pascaline Gaborit ENTP (Belgium) and Jeffrey Raven Associate Professor (USA)*

### **Zheng Degao, Director of China Academy of Urban Planning**

At our Academy, we have been working on city planning for two decades. One of the first reflections we had is that although we built new cities, there were no differences from those of other countries. Also, the new cities are not different from the existing townships in China. A big problem concerning new townships is that we expected to introduce populations from downtown but this migration flow was not reached because of the separation of industries and cities. These are basically development zones. In China, there are no new cities where industry developed. As a consequence, there is not sufficient population in new cities. Their territory was not appropriate for human residence and there were not enough people from industrial parks (they are commuters from downtown). These new cities cover big land areas which are not easy to reach. Moreover, they don't have distinctive features so they all look similar. The mistake is that we didn't apply new concepts like "low carbon cities" or the separation of human and vehicular traffic.

New ideas should be implemented about the spatial structure of Beijing and Shanghai. We should think about a three-layer structure, i.e. 3 circles in the design of the spatial structure of metropolis:

1<sup>st</sup> layer: 0 to 10 km, core area of the downtown (0 to 5 radius)

2<sup>nd</sup> layer: 10 to 20 km

3<sup>rd</sup> layer: outskirts over 20 km radius from the centre.

In China, the 2<sup>nd</sup> and 3<sup>rd</sup> layers see the biggest growth of population, but not for new cities. In Shanghai, the inner ring is within 5 km radius from the central part and in this core of the city there are some service industries. Here population should not be increased too much, but rather lifestyle services.

Marginal new areas were not included in the national plan for new cities. A large population was introduced in this layer, but there was a blank area left. A lot of start-up and new companies established in this layer, for example, close to the airport.

Not much was planned in the 2<sup>nd</sup> layer although the population was very interested in that one; on the contrary, in the 3<sup>rd</sup> layer new cities were planned.

There are also some important axes and underground lines connecting important parts of the cities; another axis connects Qingpu to Lake Dianshan, the 2 airports.

The axis structure and the multiple layer structure connect the city into an organic complex.

Our focus in the future development is in terms of spatial structures, tackling the following points:

1. Solve the separation of towns and industries;
2. Lack of community in the new towns, circle of lives to be established;
3. Low carbon development;
4. Uniqueness of culture for each new town;
5. Attractiveness: in a new town, we have to attract more people to participate in various activities and make the place more vital.

### **Topic 1**

One of the first themes of reflection is that industries are related to the airport economy. It is also important to upgrade manufacturing industry and to match people's skills with local employment opportunities. Finally we should take care of the structures of buildings, and of the resources for the people living there.

For instance, Quang Zhou is a joint venture project between China and Singapore, a knowledge city with many universities. In Quang Zhou we wanted new ideas, and we also wanted to solve the problem of the separation of industry and residential area.

Another example is Lingang technological new town: a technological university was moved there

We also wanted to solve the problem of the separation of the city and industry, so we introduced a new type of service industry, not the traditional one.

In Lake Dianshan, we want to integrate industry and living area and not separate them in design. In the north part of Qingpu, where there are more industries, the manufacturing industries could be changed into services and in some small areas residential areas be introduced for a partial upgrade.

### **Topic 2**

In China some manufacturing industries must be maintained; but at the same time a community has to be developed around a new town. In the future we should put those places in relative small areas (hospitals and other facilities). The idea is to create a centre where all the facilities are, following a traditional principle: the cell will be expanded into a

community with more function. So the scheme would be the one of a small cell turning into an area with leisure, transports, commerce: this has to be considered in our design.

### **Topic 3**

Tianjin is an example of an eco-city where there is a community service centre including transports, entertainment, and businesses.

We have to respect natural conditions (water, mountains) when designing.

In the case of the eco-city of Zhoujow, the core of the project is built on the mountain slope so that the highest and lowest sites are reserved. This practice is in contrast to the past, when flat spaces were developed first. In another example, mountains resources were utilised since land resources are limited.

Our idea is that we have to pay attention to the basic ecological units: other places can be integrated very efficiently to the ecological centre. We should work around the matching between ecological units / community units / commercial units.

### **Topic 4**

In the past flood prevention was the focus, but now it is landscape.

Respecting the uniqueness of culture is another principle. An example of this is the New Town built in a Chow minority area. The design of the city based was based on this minority's characteristics. In some buildings, the attributes of this minority's building style were combined with new ones.

### **Topic 5**

The goal is to create more dynamic cities. We should foster daytime activities and tourism on sandy soil and waterfronts. For example, in the new town of Tianjin, we want to enlarge a narrow river to introduce dragon boat races for the people to come see the beauty of the area. In addition, we should have some forums, studies, learning activities (like the annual forum in Huahua province with 1.5 million visitors).

In conclusion, we consider that we can learn from those models if we want to improve liveability and prosperity characteristics in our new planned townships.

**Jeffrey Raven, RAVEN A+U / Director, Master of Arch. in Urban + Regional Design, New York Institute of Technology-Manhattan, Assoc. Professor (USA)**

Professor Raven gave a presentation about the notion of resilient communities.

Resilience could be defined as:

1. **The ability for cities to develop capacities for constant changes, as a part of a dynamic continuum of change** (cities in China are also considering this)
2. The need to meet low carbon standards
3. The need to address the impact of climate change
4. The need to sustain and attract population in more energy efficient settings by providing the amenities these people want.

To explain the concept of a resilient city we could present the example of New York. The emblem of New York has a beaver that you don't see very much nowadays. The reason is that New York was founded by the trade of beaver's skins. The skills set the people, so the number of beaver's skins traders increased, until the moment where beavers became extinct and the city had to reinvent itself. So New Yorkers invested into a canal system, and this helped the development of primary industry and manufacturing, and then the financial industry. New York is now rethinking itself once again as the city for the 21st century: the plan is to attract highly skilled workers, established businesses and the education system. The question is: how to welcome the expected 1 million more people? In a low carbon approach, one of the best practices is the use of bicycles. The adaptation affects not just socio-economic changes, but also climate changes (some communities were highly hit by last year's hurricane Sandy).

New York is preparing its vulnerable zones for this type of change. It is not a defensive posture, as we have to think of a dynamic reaction to this constant change, to think of how to take advantage of this change to thrive, for example in tackling the "urban heat island effect". When talking about sustainable cities, it is important to get out of our particular areas of specialisation (energy, water, and environment). Cities are complicated, involving multiple disciplines in a single building, so at a city level we are talking about governance and other dimensions including the 3Es (economy, environment and equity, while in China we talk about "the 5 into 1").

The consequent challenge is how to develop a strategy to go across all these spatial scales. The answer is a multiple one and could integrate legal barriers to address zoning as

well as training for expertise. The challenge includes accountability, measured for instance on performance indicators based on timeframes.

When talking about the scales or the timeframes, other problems arise: waste is sometimes a regional issue going beyond municipal competence, as is water management. Also the notion of long-term investment is challenged: often there is pressure to show results very quickly.

The successful ecotowns (Vauban, Freiburg, and Malmö) are the ones where there is a community more than a collection of buildings, there is a sense of compactness with nature integrated in the community, and where there are different ways of organising the built environment.

But for these ecotowns, what is the process of sustainable planning? Which kind of jobs exist? How is it different from traditional ways of planning?

The resilient approach relies firstly on an appropriate scale of intervention: building / site / neighbourhood / community / city / region / nation, defining which actors / skills are needed at each scale. First interventions are therefore at the building scale: storm-water capture on the roof, permeable façade for fresh air (natural ventilation), sustainable materials as well, embodied energy (example of Masdar), and a method for making decisions.

An important question is also which carbon goes into materials? (Airports are among the hottest areas because of surfaces of impermeable materials).

In fighting climate change at urban levels, it is fundamental to reinterpret traditional ventilation strategies, to plan the addition of shaded zones (an important factor for a project

in Calcutta), and to consider studies about reflectivity – prevailing winds – fresh air corridors.

A reference is for instance the study of Manchester University on climate change based on the three canopy coverage according to which they could mitigate the climate change and maintain the temperature.

We should not forget the choice of the rating system; for instance not only LEED, but also the Star, based on the 3Es (cf. example of high-tech performance indicators for Masdar, with inputs and outputs).

When presenting the case study of Masdar, we should point out that it is a market-driven project, recently slowed down by complications:

- Storage of energy from photovoltaic;
- How to eradicate the use of fossil fuelled automobiles in a very hot environment.

To conclude, a useful reference for resilient communities could be the “Organic decision making” model: central government providing infrastructure and letting the market forces act on which industries should locate there.

**Maximilian Rech**, PhD candidate at the Graduate School of Global Politics, Freie Universität Berlin and Renmin University Beijing, made a presentation about "EU-Asia cooperation on municipal solid waste management." Six strategies were listed as recommendations to municipal planners: 1. Improve source separation 2. Realise the potential of composting – energy from waste 3. Enhance efficiency of incineration – energy from waste 4. Reduce direct landfill disposal 5. Use financial incentives to reduce waste 6. Formalise scavenging activities.

A first step is to study the actual legislation at the state level to adapt it locally and see what municipalities can do, measuring the pros and the cons of the different kinds of municipal solid waste treatment. As the municipal actors are the target audience of the seminar, the presentation focused on household waste. The level of actors is numerous and distinct in Europe and China, and it is important not to forget the role of businesses and scavengers.

In Europe, the European Commission has a lot to say since it issues the main legislation implemented by the cities. China's legal basis is set in the 12<sup>th</sup> Five Year Plan, adopted in 2012. Contrary to China, the European legislation tries to reduce the consumption before waste is produced, as a prevention measure against waste production. The waste generation per capita is lower in China than in Europe, but it is expected to increase significantly in the future. As for the composition, China has a big proportion of biodegradable waste, and even if the composition will change with the changes of consumption, its proportion will remain a majority.

The collection of waste is made by the municipality in China. In high-rise apartments, as in Shanghai, there are garbage chutes. In the streets, there are scavengers who ring bells when they collect waste. Because of this informal business of scavenging, recycling is not effective at this moment. Shanghai does not yet separate organic waste and recyclables in garbage trucks. This process needs improvement. If the waste is homogenous, there is an opportunity to create energy with it.

Regarding waste management in China, there is less landfill today than in the past, but the capacity remains the same. While China invests in incineration, there is less composting

China	Europe
Central government	European Commission
Regional governments	National governments
Cities and municipalities	Regional governments
Businesses	Cities and municipalities
Scavengers	Businesses

happening without an explanation for the difference. To compare China with the Netherlands, there are no landfills in Holland.

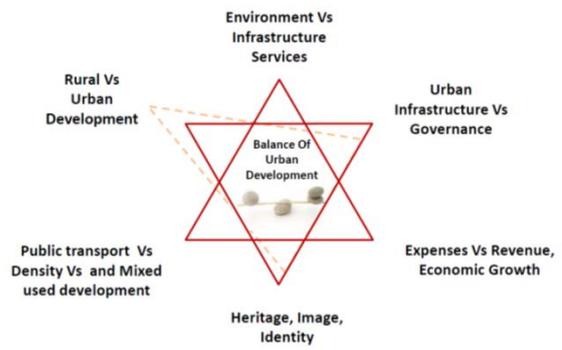
Incineration has two advantages; it reduces the mass of waste, and can produce energy. However, when there is a lack of source separation/sorting, it results with low calories values. The highly toxic sludge is landfilled that results from incineration. In Europe, there is an energy efficiency precondition; the caloric value has to be higher than 0.65 to be burned at an efficient rate. Regarding composting, the capacity is decreasing in China, whereas composting can create gas to be used as a source of energy (as it is the case in Berlin). Could a similar process be used to produce fuel for vehicles ? The left over material can also be used as fertilizer, especially in China since it has no strong variation between summer and winter. Last but not least, the sanitary landfill represents 81% of all the waste in China. This method results in problem of toxic waste water, and creates CO<sub>2</sub> emissions, also because it is located outside the city and thus needs transportation. This should become a secondary option.

In conclusion, some recommendations were shared concerning the improvement of source separation, the enhancement of incineration's efficiency, the introduction of financial incentives to reduce waste, etc. Jeffrey Raven added that covering landfills to collect methane would be a positive asset, to which Maximilian Rech agreed saying that gas capture already exists, but the problem of waste water remains if it is not a bio plant where the left over can be reused. Regarding

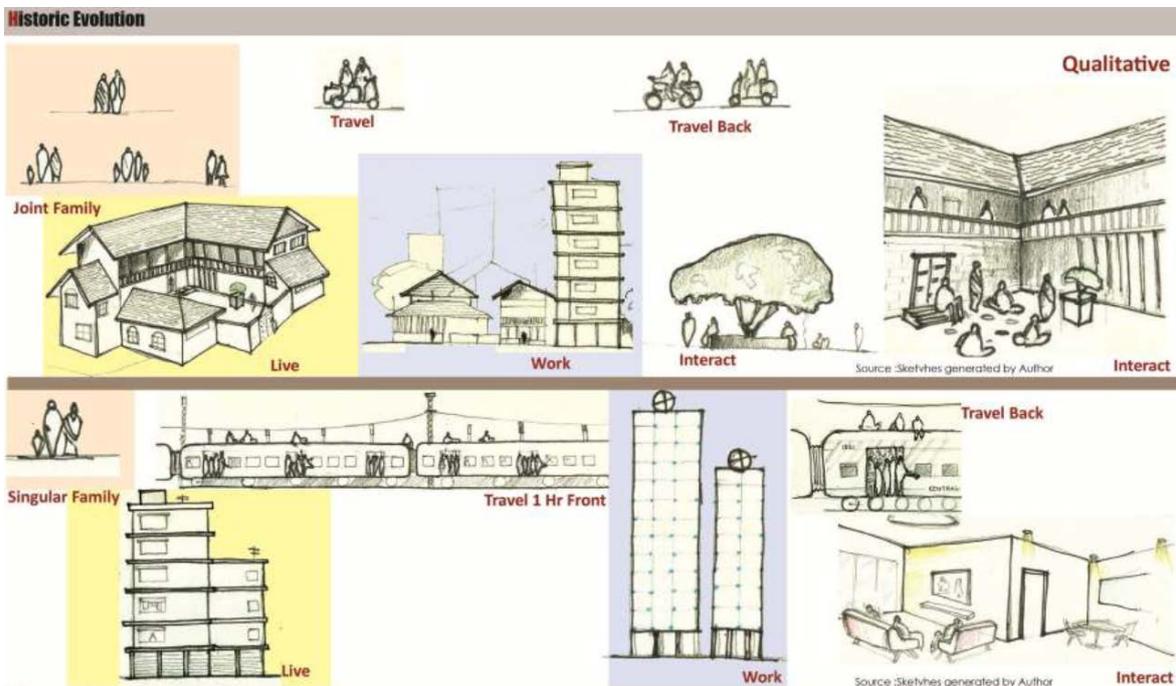
scavengers, a solution would be to integrate them, but the recycling methods need to be improved anyway. Scavengers have a precarious work environment; formalization may protect them.

**Yogesh Agashe**, Urban Planner (India), focused on sustainability in Indian cities with his presentation "Sustainable Urban Development, the equilibrium," addressing the question: in which spectrum do we need to address sustainable development in India? After having introduced the concept of new towns and the challenges they are facing, he summarized the "equilibrium" of a city into six points, as the pictures shows. When developing a city, these six points have to be taken into account. In India, there is a debate about who is the governing authority: elected representatives are empowered, and sometimes bureaucrats take the lead. Heritage is a strong asset for a city. When something new is brought, they try

**The challenge to maintain system in Equilibrium**



To illustrate his speech about sustainability of historic towns within new developments, Yogesh Agashe took the case study of Mumbai, where an agglomeration developed in the edge of metropolitan cities, expanded suburbanly and overflowed the small historic towns, sometimes losing its identity. In historic towns, there is a lot of pressure on land because of Mumbai suburbanization. It is important to understand how the social system works when a metropolitan area is growing. It becomes a mixed use of old and new living blocks,



to think about the past and bring diversity. However, the question remains opened: how to balance the new life style and preservation? There is a tradition in India to have mixed-use development in cities, which needs to be maintained in the New Towns.

transportation means, a mix of people (rural background, urban new life style, see picture below).

The junctions are used as public spaces, but with the suburbanization, there is less and less space, sometimes because the creation of building is not related to public space. To preserve heritage, different strategies exist: the conservative surgery, the acceptance of change in building use, urban design control, incentive when building, etc. A first step is to identify what needs to be conserved. In India, a tool has been developed to preserve the heritage of the building. It is called the TDR, which stands for “transfer of development rights.”

Applied to an historic building, this tool allows the owner to gain his share in return for conserving the building, whereas it could have been sold as a commercial space and extended. The owner of the old building is assigned development rights, and has the opportunity to sell these rights to developers to be used elsewhere. Thanks to this tool, conservation of restricted historical and low density areas does not penalize landowners who gain revenue out of the heritage building.

Talking about land use, Rémi Ferrand added that on the master plan and thus on the ground already, grids play a particular role which is not neutral. Indeed, grids engage the future and do not enable separate functions. He noted that the size of the grid in China is enormous, so that the first layer being put on the territory really matters.

Next was the presentation of the Yacht Club, a project supported by private investment. Sustainable principles have been integrated in the development of the infrastructures, like the use of rainwater, heat by solar energy, etc.

## Best practices, presentations

*In the framework of the EAST project, two guides of best practices are being developed: one about China, the other one about India. The best practices on sustainable urban development are illustrative to the other partners so that they can be replicated.*

**Harry den Hartog**, independent urban designer and researcher from Urban Language, together with Els Zheng, presented the best practices taken from the new towns located in China, mostly around Shanghai. Four themes guided Hartog’s research: competitiveness, the environment, the community and identity. For the first theme, Hartog presented the master plan of Qingpu which uses or reuses the existing structures to create the identity of the place. The old temples are integrated; there is a mix of old and new building. For example, in Zhujiyajiao, the water town absorbed into the Qingpu new town, a small-scale methodology which respects local identity has been used for the creation of Shang Duli Leisure Plaza. This pedestrian-oriented contemporary complex for shopping and services is in line with the historical context of the place and proves that another trend against massive projects is possible. In Luodian, the new town located in the Baoshan district, it was difficult to attract inhabitants and the houses are often used for speculation. As a consequence, the town organized different cultural and leisure activities to make the town livelier and more attractive. In the same district, for the theme of “environment,” a site of a steel factory which has been cleaned and transformed into a park was chosen as one of the best practices. Regarding community and identity, best practices about architectural policy, creation of parks, and renovation of buildings have been presented. The full report, with detailed information, can be downloaded on the EAST website.



### Day 3: New City Development and Old City Inheritance

*The third day was moderated by Edoardo Guglielmetti (ENTP) and Harry den Hartog, Urban language (Shanghai)*

**Lu Qianlin**, the director of Shanghai Lake Dianshan New Town Development Company, introduced the urban development of Zhujiajiao and the preservation of its heritage. The old town of Zhujiajiao has over 1700 years of history and is a well-known water town. Since 2002, three priorities have been chosen for the construction of the city: city planning, infrastructures, and people's benefit. The company has 200 hectares of land which are not yet developed. Thus, they selected the top design companies and developers. Shanghai Lake Dianshan New Town Development Company is in charge of both hard and soft projects in Zhujiajiao. To ensure a participative process, they organized seminars with citizens and experts to gather opinions and advice. Examples of renovation of buildings were presented, such as an old factory that had been turned into a club, renovation of former temples and buildings sometimes turned into

cultural places. As the architecture is under protection, they have adopted a prudent attitude and have set spatial regulations. To restore the layout of the town, the company had to adjust the commercial structure. The commodity market, for example, had to be relocated.

Culture and environmental protection have an important role to play in the development of the city. In 2003, the company invested 300 million RMB for a pipe network water treatment as the old town had no sewage treatment in the past. 100% of the water is now treated and 100% inhabitants have access to drinkable water. In 2005, they start using energy saving material solutions, and thought about innovative solutions to create a good environment for protection of birds.

**Rémi Ferrand** took the participants on a comparative journey through the Yangtze River

Delta & the USA to compare the models of development. This research is the results of two different projects funded by French enterprises. Rémi Ferrand's aims were to understand how the Chinese city is growing and swallowing the countryside, and to draw comparison with the United States.

For the Chinese journey, case studies around Shanghai were explored. Looking at the patterns of the houses, the question became obvious: where does this form come from? Ferrand had the feeling that the neighbourhood was inspired by American districts. He then visited many American cities facing a lot of different issues to start a study about the "model" in urbanism, trying to figure what inspired China. Wang Shu, a famous Chinese architect, said in Paris during a lecture that he had the feeling that China was walking in the footsteps of America. When a country or a city grows, there is often a model to guide its development. Speaking about the model, Rémi Ferrand said that a lot of models had been used in China, which is not surprising in our YES world led by a global economic model (YES for Yuan Euro and Dollar). By comparing a sample of examples found in those three worlds, he could establish links.

For example, the highway system came from California, and is found in all the three places. The CBDs<sup>7</sup>, especially the new one from the 1980's as well. Regarding individual housing, the single family house typology is dominant in the US, common in Europe, but rare in China. Tower housing, often social housing, is dominant in China, common in Europe, but it not an American model. Commercial car-oriented areas are for the moment only common to the US and Europe. As for the subways, Los Angeles was learning from the Chinese subway, ideas and innovation are crossing the frontiers. As for the urban

patterns, the idea of the grid is a global idea, but the grid is not a neutral tool. Development comes with mono-functional activities, resulting in urban sprawl and a car-oriented city. Theme parks are also shared examples. Fiction cities, coming from comics and movies, have their role to play in influencing the development of cities. Old dreams in the US and in Europe were brought to life in China thanks to innovation and research, with the maglev for example. To give some food for thought to the participants, Rémi Ferrand shared three different visions for Qingpu, embodied in three "what if" propositions.

What if Qingpu district was going to be bankrupt, like Detroit, which was once one of the richest city of America, but declined? The example may appear as extreme, but he wanted to show that mono-functional areas represent a danger. A city has to prepare for the worst and hope for the better. Diversification, re-use, flexibility are thus not to be forgotten.

What if Qingpu became the smartest district? The example would be taken from the history of the Silicon Valley which is now the smartest area of the world. It all started with Stanford University in the early 1900's. A faculty is not only about facilities but also about the way people interact to be creative. There, students created enterprises on the same area (Yahoo, Google, etc.) Creativity is a full time job and the place where knowledge is shared should be related to where economic value is created.

What if Qingpu was to be greener? Portland was taken as an example of a city whose spirit is totally different from the rest of American cities. Its leader wanted his state to be the opposite of California, so he made different laws like the green belt, an eco-friendly limit to the city. The city is now known for its 4Bs: Books, Bicycles, Bakeries and Beer. The inhabitants benefit from a well-implemented

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<sup>7</sup> Central Business Districts

green transport system, and the city encourages informality, like food trucks. Informality, adaptability, diversity and mix-use are key elements for a city.

Professor **PVK Rameshwar** took the floor with a well-illustrated presentation called “learning from the past to evolve the new towns”. Most of the New Towns in India have developed in reaction to an existing one, with the promise of a brighter future. Four examples were mentioned to illustrate the case. There is an alarmist view on urbanization in India for 2030: 590 million people will live in cities and 13 cities will have a population of 4 million inhabitants or more. This is the kind of context India is trying to address. The planning has to go beyond the archaic planning system. Cities evolve within a context of global model inspiration but are confronted with informal economy and poverty. Whereas future living places are often presented as a spectacle, looking like video games or comic books (city branding), there is a neglect of the real economy that underlies it and the actual

occupants of the land (reality versus image). Sustainability is now on everyone’s lips, a holistic approach is indeed needed to meet the different goals, whether it refers to social equity, economic efficiency or environmental sustainability. Although there are initiatives in this regard, it is becoming clear that there is no consensus on how to weigh these priorities, or on how best to ensure their realization. Professor Rameshwar presented issues happening in Indian cities, looking from a holistic approach and from Jaipur. Developing a new town is an act of settlement. In Jaipur, the landscape has been used to position the city, with means of food, security, business, etc. The grid was not a new system, Jaipur follow the 9 grids concept adapting to the topography, which constituted axes (the hill as an orientation landmark, the palace at the centre).

Buildings were already mixed-use, with shops in the front and private houses at the top. Public space was flexible. Showing many pictures and examples, it was clear that planners have to learn a lot from the past and from the current street life.



The Arcade System



A mixed use: shop on the ground floor, housing on the top and on the back.

## Conclusions

### ENTP Team / Pascaline Gaborit

The three days have brought very interesting conversations with in-depth presentations and exchanges on interrelated meetings. The presentations have proposed analysis on large scale projects like New Towns and smaller scale design oriented projects with ideas of more creative design for the conception of places. The discussion covered the different layers of sustainable urban development: industry, production and consumption, culture, energy, heritage, waste, employment, people and societies. Culture took a particular importance in this panel as the participants had the opportunity to attend two cultural events. The panel also emphasized the possible leading role of local authorities in these areas. Indeed, in the different countries, some towns and cities are more pioneers than others with real concrete actions for cities to be “liveable, harmonious, creative, advanced” etc. beyond the search of a “green image”. As some speakers suggested, there is a growing necessity to learn from past experiences about the resilience of territories...as strategies for urban sustainable development. Each period will also probably bring new mistakes as well as new solutions. The first day of the panel on industry in the city presented interesting ideas on the inclusion of local economy as priority in relation with the question of mobility (commuters), and social cohesion (need of qualified labour force). The presentations from the Indian partners and experts also brought a new perspective and vision. Finally this panel should be a milestone towards the next steps of the project: cooperation, one publication and the consolidation of a network of exchange.



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