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UCA

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Centro Argentino de Arquitectos Paisajistas

2014 STUDENT LANDSCAPE ARCHITECTURE DESIGN COMPETITION PRIZE WINNERS

FIRST PRIZE <i>IFLA Group Han Prize for Student Landscape Architecture</i>	TITLE AUTHOR(S) INSTITUTION	<i>Prospect Of Rebirth: The Ecological Restoration Project of Yuhua Colliery</i> Qi Li, Huishu Sun, Shuang Zheng and Chen Li College of Arts, Xi'an University of Architecture and Technology, Xi'an, China
SECOND PRIZE <i>IFLA Zvi Miller Prize</i>	TITLE AUTHOR(S) INSTITUTION	<i>The Great Wall</i> Yuan Xu, Hui Lyu and Simin Bian Department of Landscape Architecture, School of Architecture, Tsinghua University, Beijing, China
THIRD PRIZE <i>Bruns Nursery Award for Sustainability</i>	TITLE AUTHOR(S) INSTITUTION	<i>The commUNITY: A Self-Sustained Modular Landscape</i> Feng Lu, Sun Yimeng, Chen Ximing, Deng Jing School of Landscape Architecture, Beijing Forestry University, Beijing, China Graduate School of Architecture, Planning and Preservation, Columbia University, New York, USA
FOURTH PRIZE <i>CAAP Merit Award</i>	TITLE AUTHOR(S) INSTITUTION	<i>Cotton Bay: A Sustainable Landscape Approach of Optimizing the Cotton's Urban Flow</i> Dong Xuefei, Li Xiaoyi, Li Wanyi School of Landscape Architecture, Beijing Forestry University, Beijing, China
JURY AWARD	TITLE AUTHOR(S) INSTITUTION	<i>Cracking Growth: The Urban Landscape Transformation of Bahrain Gulf</i> Zhang Xinni, Xu Canghai, Chen Ling, Meng Runda School of Landscape Architecture, Beijing Forestry University, Beijing, China
JURY AWARD	TITLE AUTHOR(S) INSTITUTION	<i>Growing Root, Spreading Beach: Sustainable Recovery of Oil Explosion Spot in Jiaozhou Bay</i> Chang Hexing, Zhao Qing, Zhang luwei, Hu Qiyu Landscape Architecture Department, School of Architecture, Qingdao Technological University, Qingdao, China
JURY AWARD	TITLE AUTHOR(S) INSTITUTION	<i>Self-Sufficient Urban Fabric</i> Chihiro Hagiwara, Radomalala Ratsimanetrimanana, Ting Kwan Roberta Chu Department of Landscape, University of Sheffield, Sheffield, England, UK

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DESIGN OVERVIEW

The site is located in the northwest of China, which is in Tongchuan Xi'an province, named yuhua colliery.

The whole district combined with four parts, the stack area of coal gangue, the south pit, north pit, and landslide area. We use landscape design method and ecological remediation strategy together, aiming at coming into being a wonderful human settlement finally. In the coal gangue stack area mainly use exploded method, with the self-made landscape device degrade the coal gangue. Finally the south pit and coal gangue stack area have the same landscape result. The water in the north pit can be purified with coal ash. And arundinaceous also can improve the environment. In the landslide area, we use the net device and plant root to degrade the soil. We also have geological museum, this is also a comprehensive reconstruction and utilization.

In the sight of plan, our inspiration comes from leaf vein, the form of road also comes from leaf vein. On the basis of local culture, different region has different function. It divided into 3 parts such as agriculture planting region, recreational areas and herb planting region. The climate in tongchuan is belong to Warm temperate semi-arid continental monsoon climate zone, so we also need to consider more about local climate in order to make sure the combination of the special geological conditions. In this area the mainly trees are locust, ailanthus, Chinese pine, dryland willow and white birch. These trees have the stronger adaptation. Shrubs and cover are sea-buckthom, green bristlegrass and alfalfa.

Under this kind of zoological reconstruction method, we are sure that after several years, this area can be a flourishing landscape result. We achieve the target of the harmony for the human and nature.

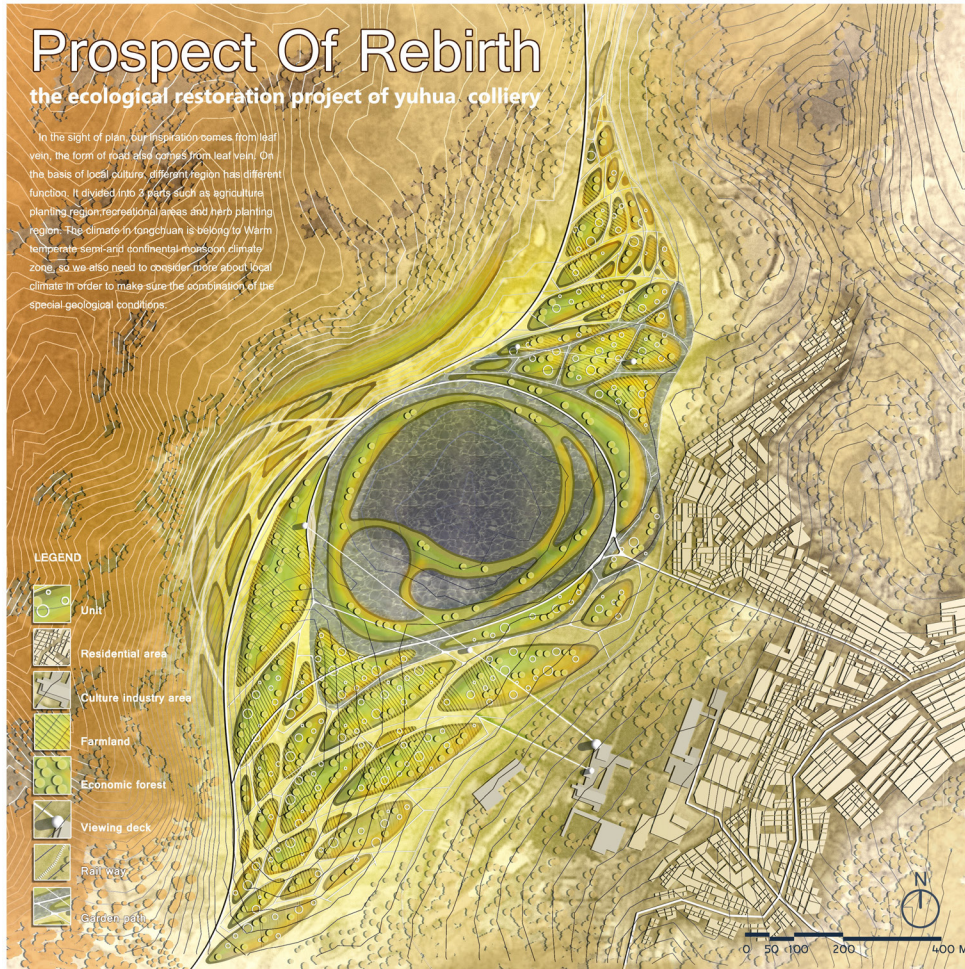
JURY NOTES

This is a project dealing with the rehabilitation of the Yuhuan colliery in Tongchuan Xi'an Province of China. The proposal is smart and rich in a sensitive way, and provocative, with clear graphics that communicate the thinking and action to be followed. There is continuity between analysis and design, exhibiting a step by step process and evolution of the design. There is consequently good coherence between the concept and the proposal. The result is a landscape project that is not only technically strong but also holistic. The project team integrates techniques, nature, ecology and water saving solutions for a very strong and convincing project.

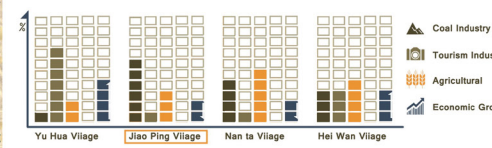
Prospect Of Rebirth

the ecological restoration project of yuhua colliery

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- LEGEND**
- Unit
 - Residential area
 - Culture industry area
 - Farmland
 - Economic forest
 - Viewing deck
 - Rail way
 - Green belt



location analysis
Jiaoping is located in the northwest of Tongchuan. It is 37km away from downtown. In this area it has two kinds of rail ways. One is for commodity the other is for passengers. And it also have two road transportations, one of them is 201 national road, the other one is high way to connected tongchuan to huangling.

Industry analysis
In this area it has four villages, Jiaoping is our site. Because of the Yuhua palace, the tourism there is relatively greater. Nantia and Hewan village have more in the agricultural. In Jiaoping the coal industry is the main economic support. These years the trend of the economic growth is different. Some of them are increasing the others are decreasing.

CRISIS VICIOUS CYCLE

Under this situation the environment has a bad recycle. The excessive mining lead the destroy of the environment. And this will make the quality of tourism worse and worse. The decreasing economy lead the excessive mining also.

GDP Economic Structure

- 1940s: Coal Industry 18%, Tourism 7%, Agriculture 75%
- 1960s: Coal Industry 26%, Tourism 19%, Agriculture 55%
- 1990s: Coal Industry 54%, Tourism 32%, Agriculture 14%
- 2010s: Coal Industry 65%, Tourism 27%, Agriculture 8%

WATER Pollution Situation

- 1940s: Total Slime Water 51, Produce 20, Waste water 2.80t per tons of coal
- 1960s: Total Slime Water 63, Produce 48, Waste water 2.60t per tons of coal
- 1990s: Total Slime Water 95, Produce 22, Waste water 2.20t per tons of coal
- 2010s: Total Slime Water 106, Produce 71, Waste water 1.30t per tons of coal

OFFSCM Coal Gangue & Cinder

- 1940s: 6000 m³, 155 Kt
- 1960s: 17000 m³, 445 Kt
- 1990s: 36000 m³, 940 Kt
- 2010s: 74000 m³, 1860 Kt

POPULATION Change & Structure

- 1940s: 1800 local people
- 1960s: 3200 local people
- 1990s: 5000 local people
- 2010s: 4600 local people

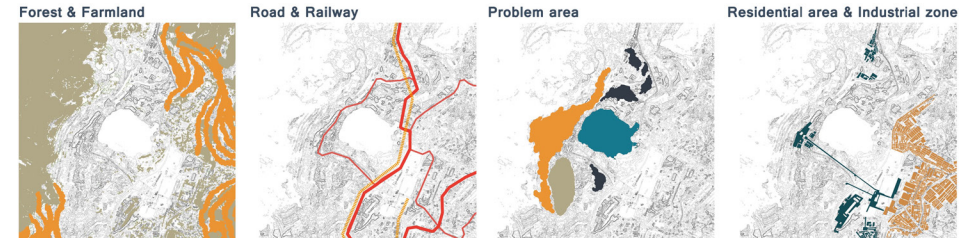
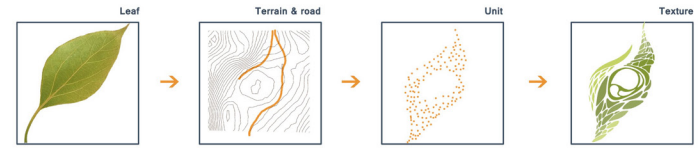
Questions and present situation
What kinds of problems are existing in the site?

1. Water pollution That presents an appearance of high mineralization rate or acidity even though it has radioactive element and oxide. The discharge of it polluted the water seriously.
2. Agricultural degradation The utilize of the water in pit lead the underground water dried-up.
3. Air pollution In Tongchuan city air pollution, the suspended particles, natural dustfall and so2 exceeds the quality standard of the state daily and pollute the quality of surface water
4. Laid-off worker Because of the derelict of pit, a lot of worker laid-off



DESIGN SOURCE

We get the inspiration from leaf vein, and we find some similarities about the site. We make use of the existing conditions to reshape the area-skin-texture by simple modification.



PROBLEM Transforming method

We want to make the environment more beautiful and sustainable. Under this situation, we get some method of self-made-device. Such as some degradable material in the soil and polluted water.

Landslide & Gully

Coal Gangue Heap & Pit

Industrial Heritage

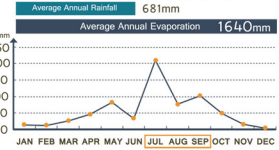
Water Pollution



DISTRICT 1

Rainfall analysis

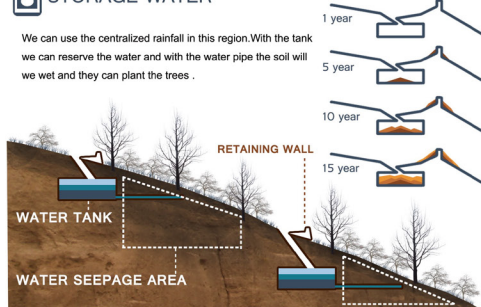
In this area, the rainfall is almost in July, August and September. We can make use of the rain of these days. And the evaporation capacity is very strong, this region is belong to the dryland climate.



Because of the landform of it, the gradient is very steep. The water is always floating away. That cannot be used for us. And also because of the heavy rain, the landform is becoming worse and worse.

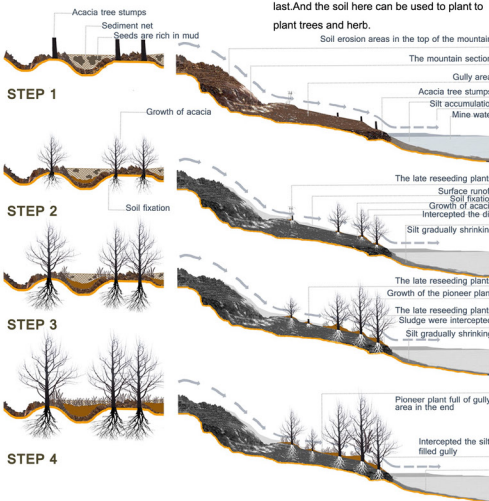
STORAGE WATER

We can use the centralized rainfall in this region. With the tank we can reserve the water and with the water pipe the soil will be wet and they can plant the trees.



FILL UP GULLY

Use the self-made device to deal with the gully. The device will be degraded at last. And the soil here can be used to plant trees and herb.

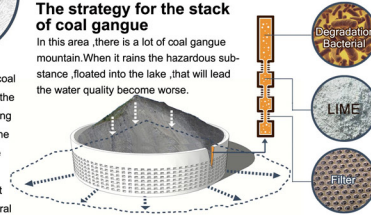


DISTRICT 2

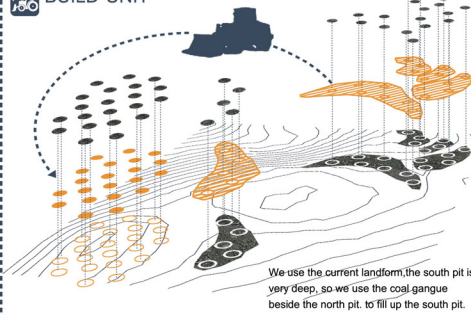
The strategy for the stack of coal gangue

In this area, there is a lot of coal gangue mountain. When it rains, the hazardous substance, floated into the lake, that will lead the water quality become worse.

With this device the coal gangue will overflow, the mountain will become smaller, and though the device the soil will be more nutritive. That means they can plant crops and trees several

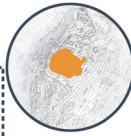
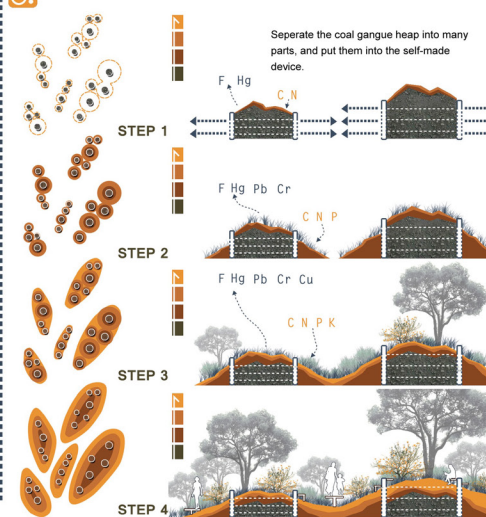


BUILD UNIT



We use the current landform, the south pit is very deep, so we use the coal gangue beside the north pit, to fill up the south pit.

DIFFUSION & PROGRESS

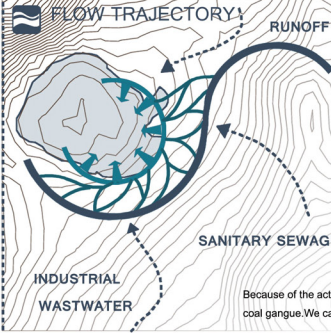


DISTRICT 3

The strategy of north pit

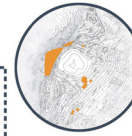
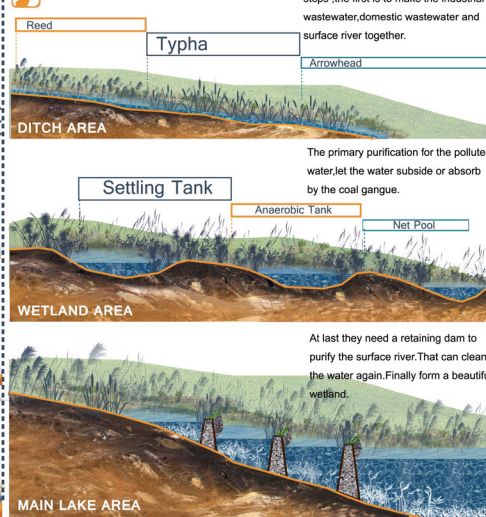
The surface mainly come from industry polluted water, domestic waste water and surface river. And they get together cannot be used effectively.

There is a lot of water in the north pit, they are mainly use to industry and fire protection. The water can be separated into two part one is clean underground water the other one is polluted surface river.



Because of the activated adsorption function of the coal gangue. We can use it to purify the water.

PURIFICATION MEASURE



DISTRICT 4

Landslide area analysis

There is a lot of natural resources and some resources which is left by industry. Such as the factory, waste steel and railway, we can make use of them to design our site.

We can transform the site with the current resources, use the landscape design method to build them as architect, service facilities, entertainment facilities etc.

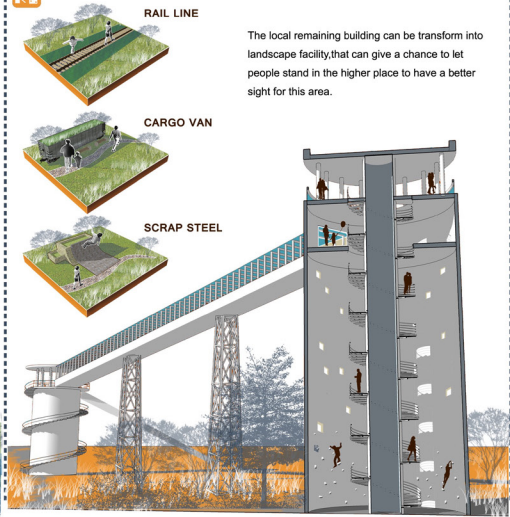


GEOLOGICAL MUSEUM

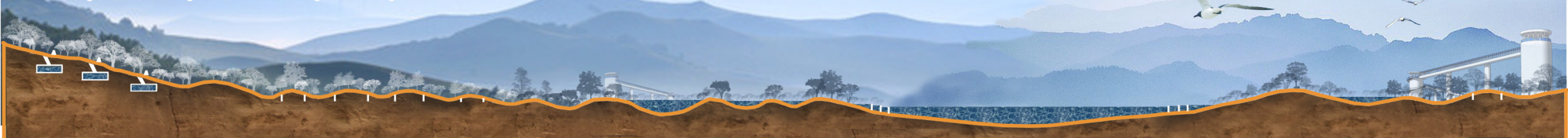
Using the special landform, we put the geological museum in it.



HERITAGE TRANSFORMATION



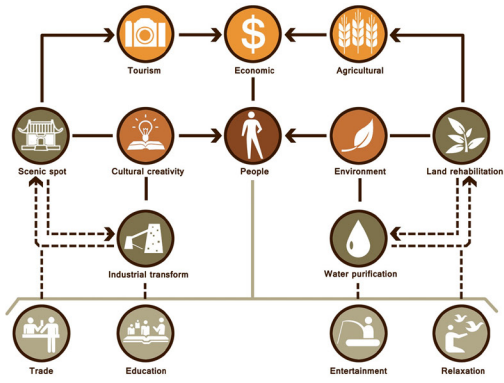
RESTORATION STRATEGY



EXPECTATION

VIRTUOUS CYCLE MODE

PROPOSED MODE



Cycle analysis

Human is the center of every activity. The activity produced by people's behavior will impact on the environment. In the colliery, the water pollution and soil pollution is very serious. On the contrary, all of the consequence will have the effect to human. The work we should do is to purify the water and rehabilitation the land, finally it will become a positive cycle.

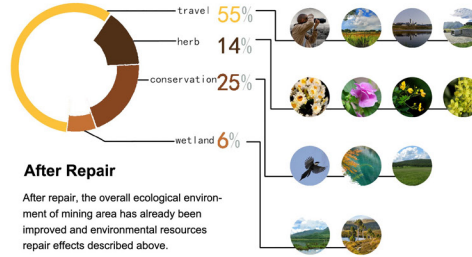
Plant analysis

Firstly, we should plant survival, herbaceous plants on the soil, which is full of harmful material absorption ability. Until soil texture has been improved, we continue to plant bush which has strong ability about soil fixation and absorb the soil heavy metal pollutants. With the passage of time, the harmful substance is absorbed from the soil, the soil are improved at all. At this moment, we have improved the soil after planting above economic tree species, such as apples and walnuts.

PHASED IMPLEMENTATION

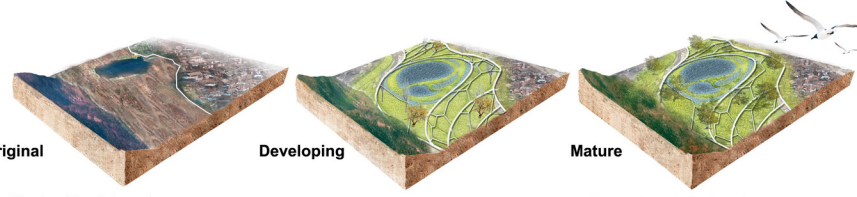
FROM 2014 TO 2050

2014 2020 2025 2030 2035 2040 2045 2050



After Repair

After repair, the overall ecological environment of mining area has already been improved and environmental resources repair effects described above.



Original

Developing

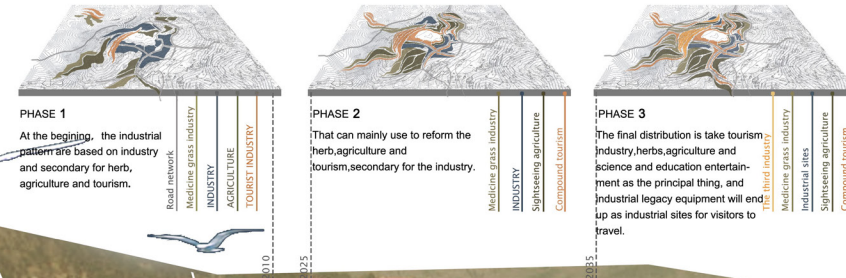
Mature

The edge of the soil slopes of YuHua coal mine was steeped and was washed out seriously, which lead to soil erosion.

Each year, we need to trim the landslide area, fill up gully and plant grass on it until the recover of the quality for the slope.

The vertical greening for the coal mine, covering bare soil surface on the factory site and to protect the surface, make the whole area landscape more harmonious and beautiful.

Industry analysis



PHASE 1

At the beginning, the industrial pattern are based on industry and secondary for herb, agriculture and tourism.

PHASE 2

That can mainly use to reform the herb, agriculture and tourism, secondary for the industry.

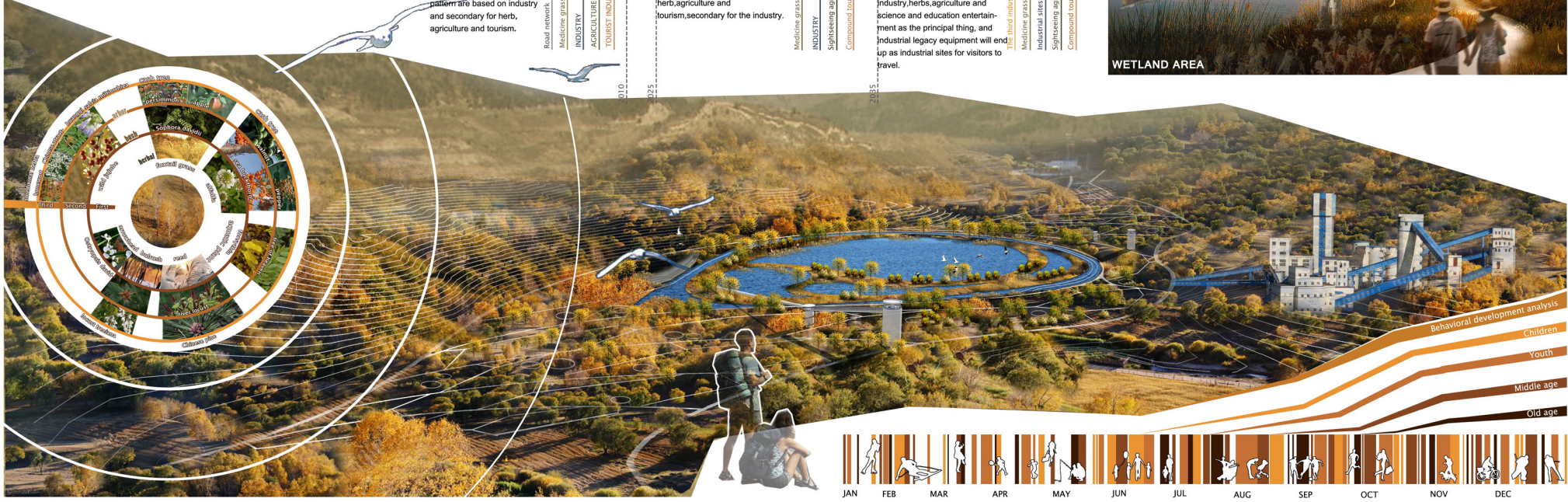
PHASE 3

The final distribution is take tourism industry, herbs, agriculture and science and education entertainment as the principal thing, and industrial legacy equipment will end up as industrial sites for visitors to travel.



PLANTING PHASE

PROPOSED MODE



SECOND PRIZE <i>IFLA Zvi Miller Prize</i>	TITLE AUTHOR(S) INSTITUTION	<i>The Great Wall</i> Yuan Xu, Hui Lyu and Simin Bian Department of Landscape Architecture, School of Architecture, Tsinghua University, Beijing, China
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DESIGN OVERVIEW

Gyana town is on the northeast of Tibetan Plateau at elevation of 3600-3700 meters above sea level. The starting point of the town is a marnyi stone discovered by Gyana living buhdda-l in 1715. In the town center lies the largest marnyi stone mound in the world.

Urbanization began from around 2000, doubling construction land and population in the last decade. The M7.1 Yushu earthquake exacerbated the existing conflicts between man and land. Ritual walk way to Gyana Living Buhdda-l Memorial Hall on the mountain is completely destroyed. Secondary disasters are happening now and then.

The Great Wall plan is proposed to guard the town against mud-rock flows and to reestablish the destroyed ritual walk way. The wall, which is built from ruins and construction wastes of abandoned temporary houses, stands between the debris flow fan and the town. Construction work will provide job opportunities for local citizens and, more importantly, provide knowledge and techniques to help rebuilding their own houses.

The ritual walk path on the top of the wall is heading towards the memorial hall. Worshippers pile up stones along the path. Piece by piece, marnyi stone reinforces the wall structure and strengthens citizens' faith in religion and life.

JURY NOTES

The Great Wall Plan is proposed to guard the town of Gyana in the north east part of the Tibetan plateau from mud-rock flows and to reestablish the destroyed ritual walk way. A strong project with a gentle solution. The project considered a diversity of emergencies: cultural emergency, landslide emergency and safety for the village, and solved these with a simple solution. The problem of the landslide is elegantly and simply proposed to itself be the solution; the problem ultimately became the solution. This project proposed an economical and sustainable solution and construction, and illustrated it clearly and without excessive detail, and the graphics were effective in showing the depth and extent of the emergency and the solution.

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DESIGN OVERVIEW

San Cristobal, as a special rural administrative unit of Medellin, is experiencing a rapid urbanization process and population growth. While the City of Medellin has gained a series of awards and reputations by showing its aggressive and innovative urban transformation, San Cristobal is confronted with problems of environmental degradation and social segregation brought by informal settlements and the growing urban density. Due to this background, combining the “thinking and action” aim of this competition, we believe that it is San Cristobal a perfect place to examine and practice our concepts of design as well as our thoughts to the society as a whole from not only a perspective of landscape, but also urbanism.

By identifying a site embodying typical problems of the region, the aim of the proposal is to respond to these problems through a new community model that is adaptable, sustainable and incremental, so that social capital can be reserved and urban fabrics segregated by the ever-growing informal settlements and those context-free high-rises can be remediated. Simultaneously, the components developed from simple unit provide paradigms dealing with specific issues respectively so that these methodologies can be applied and adapted to other sites with similar issues.

The approach is to configure scalar landscape and architectural units, in which of the process it involves government constructed infrastructure, allows self-built practices using local materials, and encourages social engagements improving quality of environment and local lifestyle. Therefore, passions and efforts from individuals are able to be combined with power from upscale organizations in an efficient way to capture the creative thinking and action of local residents.

JURY NOTES

San Cristobal, as a special rural administrative unit of Medellin, Colombia, is experiencing rapid urbanization and population growth, along with environmental degradation and social segregation. The project proposes a new community model that is adaptable, sustainable and incremental. This is a project that is easily implemented in an organic way. It identifies social, economic and environmental problems, and solves them in an integrated manner. The project takes what already exists but understands it in a new way for a truly sustainable solution.

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DESIGN OVERVIEW

EMERGENCY PROBLEMS

Mumbai in India is one of the world's largest cotton production and cotton fabric output cities. Nowadays, many farmers here choose to apply transgenic cotton in order to increase production and pesticides irrigation convenience to meet the market demands. As this kind of cotton consumes large quantities of pesticides, it ultimately leads to serious land and water pollution. Besides, cotton is a thirsty plant. It needs far more water to grow than many other plants.

In Mumbai, almost 72% of cotton products are discarded directly each year. This is a huge waste of water and severe pollution damage to River Ulhas.

DESIGN STRATEGY

We are planning to collect the abandoned cotton products and transform these to be non woven fabric. This material can be designed as the soil for a water farm, in which cotton can grow. Then we create various spaces with different forms and functions while adding the biodiversity of the river area. And finally, the water farm will be biodegrading in the water as an environmental way to end the lifetime of this material. Based on this, we propose a city green infrastructure and intend to make cotton resurgence possible.

JURY NOTES

Mumbai in India is one of the world's largest cotton production and cotton fabric output cities. This project had a deep and good understanding of the emergency. The problem that was identified (production of cotton) is very important since it requires a great deal of water for its production, produces a considerable amount of waste, and is therefore a problem worldwide. The team proposed what the jury believed to be a rigid solution needing more landscape architecture and less structure, however, the result is provocative and suggests the exploration of new alternative solutions, and has much potential for consideration.