新金带
MY NEW GOLD

Service System Design Research of Promoting Community-School Interaction in Periurban Area
-Take Jindai Elementary School for example

HUANG Shuting
2013.7

SHUTING HUANG

Master degree in Product Service System Design
Politecnico di Milano
School of Design
A.A. 2011-2013
780217

Thesis Tutor: Davide Fassi
shootinghuang@gmail.com

ABSTRACT

The New Jin Dai Primary School, the reconstruction project of the severe earthquake on May 12, 2008, is the first sustainable school project in China supported by China-US Center. The author used to take part in the design and construction process of the school. However, after two years of operation, the sustainable system in both tangible and intangible aspects has completely failed in reality due to the lack of financial support and education backed by appropriate technologies. Many a time the local community is totally separated from the school, which is far from the initial intends that the school is part of the community. The bond between culture and knowledge was cutted down since no interaction ever exists between the school and local community.

In this paper, the author present studies that provide preliminary solutions to these problems. The New Jin Dai Primary School has its common features that can be chosen as the representative of the periurban primary school in China. The author first investigated the resource of both sides at present to the measure supply and needs. This was followed by a research on possibility and feasibility , which is conducted by related case studies and analysis on past attempts. The author builds the service system based on the data above and develops the prototype, which might be consist of tangible and intangible platforms that activate the cooperation between the stakeholders in this system.PSSD helps to build a strong force contributed by local people, intruder and the community. Under this circumstance, the "My New Gold" PSSD system is brought out to make the ends need by both sides. The final outcome is a new business model that should be scalable and capable to bepromoted to all the rural elementary school in China.

ASTRATTO
Italiano

Il New Jin Dai Primary School, progetto di ricostruzione successivo al grave terremoto del 12 maggio 2008, è il primo progetto di scuola sostenibile in Cina, sostenuto dal China-USA Center. L'autore ha preso parte al processo di progettazione e di costruzione della scuola. Tuttavia, dopo due anni di attività, il sistema sostenibile è completamente fallito sia negli aspetti materiali che immateriali, a causa della mancanza di sostegno finanziario e di un' istruzione supportata da tecnologie appropriate. Troppo spesso la comunità locale è totalmente separata dalla scuola, il che è lontano dagli intenti iniziali di una scuola che sia parte della comunità stessa. Il legame tra cultura e conoscenza è stato abbattuto, poichè non esiste alcuna interazione tra la scuola e la comunità locale.

In questa tesi, l'autore presenta studi che forniscono soluzioni preliminari a questa problematica. La New Jin Dai Primary School ha le sue caratteristiche comuni che possono essere scelte come rappresentative delle scuole primarie periurbane in Cina. L'autore ha inizialmente indagato le risorse per la misura della domanda e dell'offerta. Questa indagine è stata seguita da una ricerca sulla possibilità e sulla fattibilità, che è stata condotta attraverso casi studio relativi e analisi di tentativi passati. L'autore costruisce il sistema di servizi sulla base dei dati di cui sopra e sviluppa il prototipo, che potrebbe essere costituito da piattaforme tangibili ed intangibili che attivino la cooperazione tra le parti interessate in questo sistema .PSSD aiuta a costruire un forte legame costituito dalla popolazione locale, dagli estranei e dalla comunità. In questa circostanza, il sistema PSSD "My New Gold" emerge per fare da estremità necessaria ad entrambe le parti. Il risultato finale è un nuovo business model che dovrebbe essere scalabile e in grado di essere promosso in tutte la scuole elementari rurali in Cina.

ACKNOWLEDGEMENT
ABSTRACT

CHAPTER   01
INTRODUCTION

1.1 PROJECT BACKGROUND "The New Jindai Elementary School"

This research is made on the base of the previous study on the elementary school in Lianping,Chongqing, co-funded by TekTao. Completed in 2011, to take the place of the old school destroyed in the earthquake in 2008,The New Jindai Elementary School was specially designed as a sustainable ecological school with an area of 22 Mu, and 5000m2 construction area.

-**Chongqing** is located in the east of Sichuan province,as a city directed by central Beijing Government,Chongqing has very distinct character.

-**Liangping county**, originally named Liangshan county, is located in the northeast of Chong qing.To its east is Wanzhou district, to its west is Dazhu county,to its south is Zhong county ,to its north is Dazhou city,Kaijiang county. It is about 2h drive from Chongqing city center.

-**Jindai** is located in the middle of Liangping county.To its east is Chennan county,to its south is Helin county,west is Renxian county,north is Liangshan county.It is only 15min drive from Liangping county to Jindai.

-**The New Jindai Elementary school** is located near Shuanggui temple.Nearby is residence and commercial building related to tourist industry.
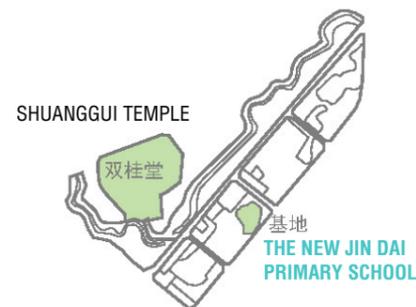
Image 1.1-1 Site Research
Reference Resource: Tektao

The school which can hold 12 classes with roughly 600 students, has been greatly evaluated for its high standards of being secure, economic, sustainable and scalable in its design and construction.
The creative ideas in the design of the project reflected in the followings :

A, protection of geomorphic enviroment;
B, adaptation to local environment
C, recycle of used materials
D, cost-effective energy-saving technology
E, ecological water system
F, confortable interior environment
G, local architecture
H, scalable building block design
I, safe building

Image 1.1-2 Jindai Primary School-lifting track and preserved farmland field in the center
Reference Resource: Tektao
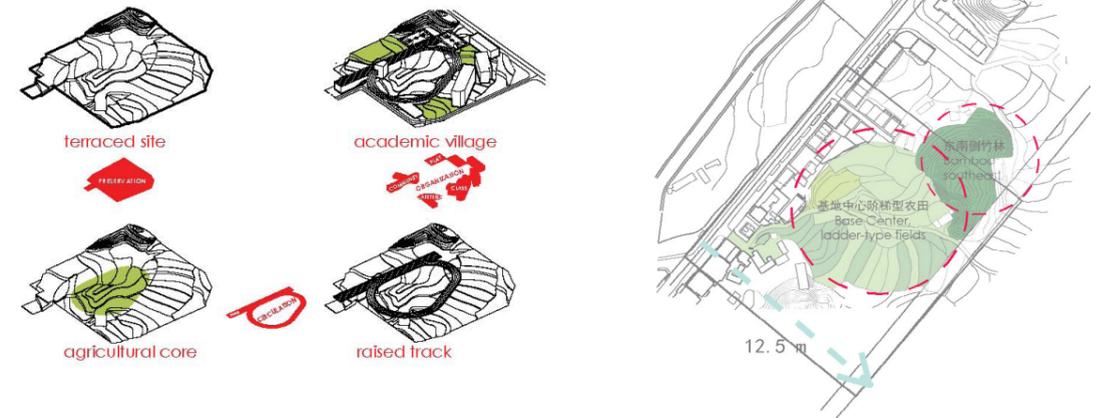
Besides the above ideas in its designing, Xinjindai Elementary School project focuses more on the popularization of sustainable experience.
The author took part in the design and construction process of the school while doing an intership at TekTao which serves as a sound foundation for this paper. So the content discussed in this paper is the sustainable experience mode of the community interaction between Xinjindai Elementary School and its surounding area.

MY NEW GOLD can be considered as a consist-project of the New Jindai primary school mainly focus on the "interaction with community" and "new business model", but aslo has a strong relationship with "ICT(Information Communication Technology)" and "Leisure" themes.
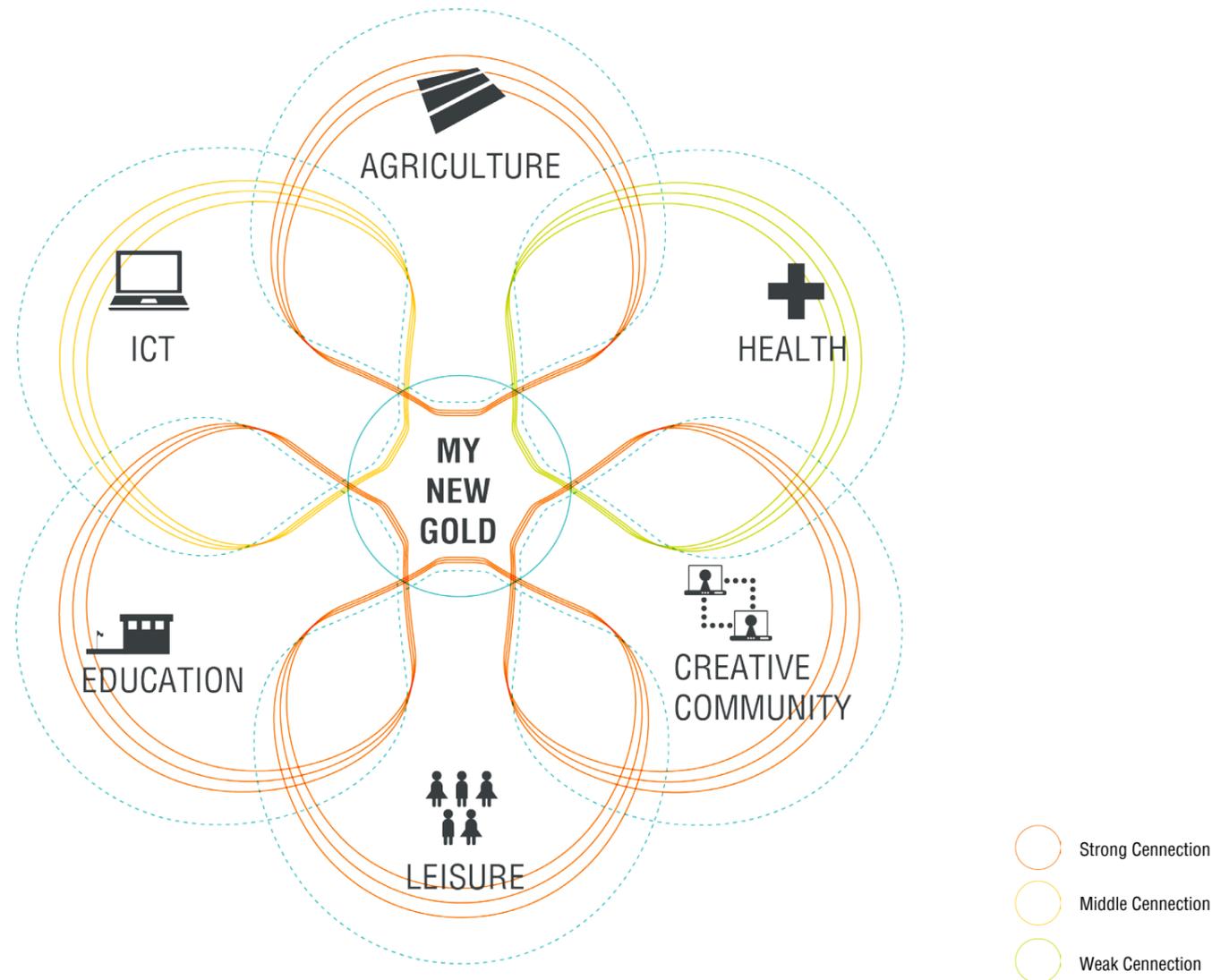
Image 1.2 MY NEW GOLD project related themes
Reference Resource: Author

Strong Cennection

Middle Cennection

Weak Cennection

The major research methods applied in the Dissertation are:

- During the preparation at the early stage:
(1) Literature research method. Based on the top of the community-school interaction in periurban China, the research is to thoroughly and accurately understand the research questions
from the materials by literature search. The literature research method is used to :
a. understand the project background and formation causes, understand the fundamental problems in the current community-school interaction in periurban China, helping to observe and interview;
b. obtain the attitudes and solutions seen in the current academic society; and look to establish the theoretical support for the community-school interaction in periurban China.
(2) Case analysis method: By the analysis of the successful cases across the world, it is aimed to conclude the methods and theories for the project to refer to. At the same time, the processing methods and solutions deserve the reference for the project.

- Survey period:
(1) User survey: Qualitative and quantitative analysis. By the quantitative analysis, it is aimed to further specify the understanding of the users, and explore the approximate range of
users' recognition and experience. By the qualitative analysis, it is aimed to analyze the research objects on the quality level, and use the methods such as induction and deduction, analysis and synthesis as well as abstract and generalization to obtain the materials further process from the surface to the center. The method is used to look for the demands and pain spots of the users and find a suitable cutting point for the project.
(2) Field research method: By the individual and collective interviews, records, chats and village stay, it is aimed to understand the demands and capabilities of potential stakeholders of the Jindai villiage. Through the measurement and literature search, it is aimed to obtain the information of available recources.

- Design period:
(1) Record of personage: By the summary and collection of the previous user surveys, it is aimed to obtain the typical record of personages. The method is used in the insertion of user scenario of concept design.
(2) Vision imagination method: Through the results of the survey and analysis, it is aimed to find the potential opportunities and assume the possible design visions.
(1) SWOT analysis model method: Through the analysis of the strength, weakness, opportunity and threat of the design visions, it is aimed to find out the breakthrough for the design.
(4) Prototype experiment method: It is aimed to prove the feasibility of the design process and

CHAPTER   02
BACKGROUND
ABOUT CHINA

Image 2.1: Periurban China
Reference Resource: Gettyimage

2.1 PERIURBAN AREA IN CHINA

2.1.1 COMMUNITY IN PERIURBAN AREA

With the progressive advancement of social transformation and the trend of urbanization failed in producing a specific definition that differs the urban area from the *periurban area* and led to a divergence concerning "what is called a *periurban area* "? Complexity and vague, the notion of the *periurban area* can be defined by valuing its economy, social, ecology and geography. Against the background of world unbanization, the present understanding of the *periurban area* would be replaced by the nature of *periurban area*, which means to judge the strength and weakness of the *periurban area* in a certain region (or contrarily speaking, the weakness and strength of an urban) that is made mainly based on the nonhomogeneity of *periurban area* in China. [1]

[1] Zhang xiaolin, Discrimination on the concept of periurban area ,1998

There almost appears some overlap in the connotation of periurban and rural area, since both refer to the area outside of a city with the concept of both the region and the space. The difference of them lies in that rural area is explained from the aspect of economic notion, which has a close relation with agriculture yet doesn't eaqual to the notion of agriculture indicating the production mode differs from that of urban area, periurban area is looked as a community focusing on the community relation and social order. Recent years have witnessed the great changes in the industrial structure in rural area where residents go about not only farming but also processing, trade and service industry. So take "Huaxi" known for "the industrial village" and "Anji" for "the tourist village" for instance, both are regarded as more of the example of a periurban than that of a rural area.
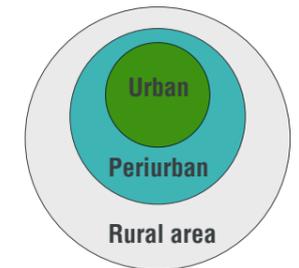
Image 2.1.1 Definition of Periurban
Reference Resource: Author

The word "community" is born of Latin and introduced into Chinese in the translated version "Community and Society"（Ferdinand Tenies）by Fei Xiaotong. Definition to the rural community is it is a regional area where inhabitants mainly live on farming,with few , scattered and comparatively fixed population,easy and simple economic activities and social structure,important role of the family ,very strong genetic relation, lifestyle and social custom greatly influnced by traditions. [2]

[2]Yuan fang, Encyclopedic Dictionary of Sociology, 1990, p19

  The thesis focuses its research on "periurban community" that is without striking distinction from "periurban area". Defined geographically ,"periurban community" is the geographic space of economy between the urban and its vast surounding rural area,the city outskirts.Defined by social formation, it is the inhabited form of the original locals. Described from ecological form, and differing from urban settlement, it is a seperate viewing area with small inhabitants and primitive country-style.

2.1 PERIURBAN AREA IN CHINA

2.1.2 SCHOOL IN PERIURBAN AREA

"Periurban school" studied in this paper is refering to the school in rural settlements. It is a geographical insertion in the periuran area. As a result of western civilization, school is definitely incompatible with the countryside. So "Periurban school"is regarded as both "a country in hamlets" and "a city in hamlets".

The rising of modern education is in fact the kind of state power that permeate the rural area. As a part of the state machinery, Periurban campus on one hand provide the residents in the area with opportunity to receive modern education and social assimilation. On the other hand, being an imported substance it involves itself into rural daily life. Nowdays periurban school appears more and more to be "a country in the countryside"[3] or "a city in the countryside"[4] in the perspective of the villagers. The design of urban-oriented schooling makes the periurban campus "an enclave" in the rural area where students receive a kind of distorted "fake urban experience". Schooling in the rural area also cultivates a"rootless" generation who seperate themselves from the country in spirit and being cut off the nourishment from the soil, could hardly secure a foothold in the urban area.

[3] Li shulei, A country in the countryside-rural school suffering from the culture shock, 1999

[4] Li hongting, Rootless community,seperated school in the countryside,2010

Periurban school current situation
:City in the countryside

Periurban school ideal situation
:integrated with community

Image 2.1.2-1 Current Problems with school in Periurban China
Reference Resource: Author

Community
School
State Authority

Image 2.1.2-2 relationship of Periurban school, community and state authority
Reference Resource: Author

2.2 SUSTAINABLE DESIGN TREND IN PERIURBAN CHINA

Ecological, sustainable design is the tide of thought in current design world, which gradually changes the rural area in China. The design of schools in rural area is the one impacted most. Many sustainable primary schools become the exemplary works for their idea of ecological design, and won the international and domestic prizes. Examples such as the Mao Temple ecological primary school in Gansu Province and the Xiashi Bridge primary school in Fujian Province are the typical ecological primary schools in remote rural are in China. The original design of ecological primary schools is to improve the undeveloped education conditions in China periurban area.

These sustainable projects have common design characteristics as follows:
a. Local condition based – fully use of local renewable natural materials. Part of the construction is consist of local materials;
b. Tradition based – fully respect local traditional construction process, project organization, and traditional construction technology.
c. Low investment based – cooperate with charity organizations to lower the project investment. Adapt natural ventilation and insulation systems to reduction energy system cost.

However, one misleading in sustainable design is to overestimate and abuse the so-called high-tech materials and advanced technologies, which will eventually increase the project investment and decrease the sustainability and local adaptability of the project. To prevent of this, in 70s year of 20 century, the western developed countries triggers a design thought of "Alternative" or "Appropriate", which put highlight on transforming existing technology system into a technology form that is more concern about sustainability and environmental protection and is much more flexible to local conditions.[5] This tide of thought gave birth to the ecological design theory of "Selective Architecture"[6]. It recommends that design works shall be based on local society, economy, culture, resources etc. and adaptive to local rational architectural design theory, to maximally lower the investment and greatest ecological sustainability feedback. This strategy is suitable for the most rural area in China, according to the existing economy, resource and technology standards.

[5]Adrian Smith, Alternative Technology Niches and Sustainable Development, ESRC Sustainable Technologies Programme Working Paper, Number 2003/2

[6]Dean Hawkes, The Selective Environment-Approach to Environmentally Responsive Architecture, Spon Press, 2002, p7
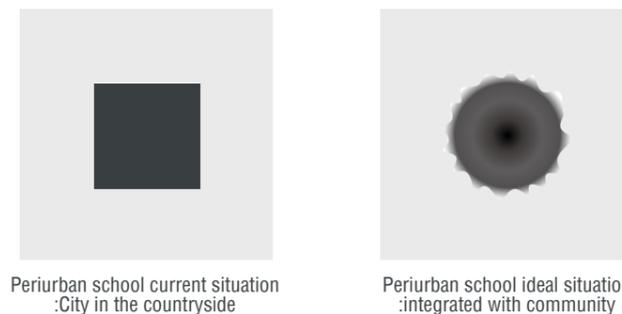
Image 2.2-1: Xiashi Bridge primary school, Fujian Province, China
Reference Resource: Internet

Image 2.2-2: Xiashi Bridge primary school, Fujian Province, China
Reference Resource: Internet

Image 2.2-3: Mao Temple ecological primary school, Gansu Province, China
Reference Resource: Internet

Image 2.2-4: Mao Temple ecological primary school, Construction
Reference Resource: Internet

Image 2.2-5: Mao Temple ecological primary school, Gansu Province, China
Reference Resource: Internet
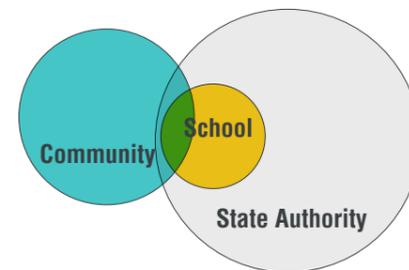
2.3 CURRENT PROBLEMS IN COMMUNITY -SCHOOL INTERACTION

The preliminary design stage of Jindai primary school, in order to have better communication with local community, the designer considered a Communication Center at the entrance of the school to share the school resource to the public. The center could be used for visiting or hold community activities and will not affect to the school normal operation. It is the window for exhibiting the sustainability.

a.Immature system, and non-portability
The Jindai primary school is the exemplary sustainable project as it was designed and constructed by 21 century Planning Center of Technology Department, Sino-US sustainable development Center and Tongji University. The Jindai primary school and the community are capable and qualified to become example project for the rural sustainable school.

b.Inexperienced staff
Some of the New Jindai primary school's sustainable design and study are far from success. At the very beginning of its completion, the designer initiated some workshop with local teaching staff and students to layout some sustainable exhibitions, set green fields in roof and terrace, and organize local community culture activities for Communication Center to give possibility to mature the Communication Center network. It was a good beginning and try but due to the inexperience of teach staff and limited operation practice, the Communication Center are barely being used reasonably, not mention to fulfill the sustainable design thoughts. Those green fields benefit students and the community little because of no expert input and effective directions. The original plan is to open the canteen during the summer vacation is also failed. The school current sustainable operation requires proper direction and training to local teaching staff, even arrange some sustainable related courses into school education plan. It is a continue input.

c.Operation problems caused by cash flow
Some worrying problems appeared after one year operation of New Jindai primary school from the opening ceremony in April, 2011. Those hidden problems exist during the school construction gradually exposed. Duo to the limited local resources and funds and to cut the investment, the school minimized the energy consume facilities and systems and even stop some of them. The worst is caused by non-use of the passive HVAC system. High moisture and system pipes mildewed are caused. The computer smells of mould due to the lack of use and no ventilation. Waterlogging and ponding are in the plastic track and playing field because of construction flaw and barely method and crude repair works were performed to this condition. The foundation of school landscape pond has non-uniform loads due to tight construction timeline and caused leaking soon after project completion. These flaws are acceptable and common for normal school projects but it is not reasonable for such a Sino-US Center invested sustainable school project. The maintenance for this project could be challenging.

Due to the lack of funds for the school operation, the follow-up work for verification of the sustainable school design and related research work are not carried by the original plan. The calculation for lights facilities' efficiency, wetland operation budget, energy investment, environmental improvement due the recycling materials are lack of actual project data support, and is limited to computer simulation. It is the obstacle for technology verification and generalization
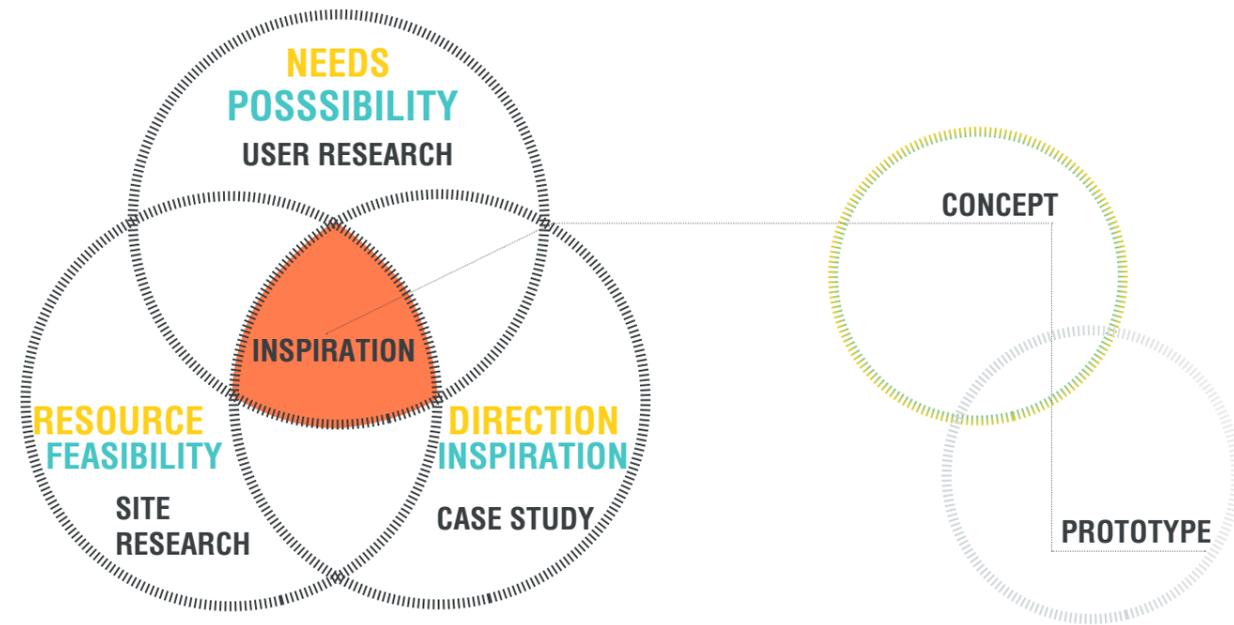
Image 3.1 Research Sturcture
Reference Resource: Author

Research will start from three parts:
- User research: needs,possibility
Which kinds of product do users like? Who will purchase green food? When and Where? User
research tries to understand consumers and drag out their potential needs.

- Jindai site research: resource,feasibility
Which kinds of resource we have now? What we can do with those resources? Site research tries
to define the possible range of the new concept.

- Case studies: direction,inspiration
Understand what is going on around the world related with this topic, what is the new trends.
It is saturated or still has gaps? Case study tries to understand the current green food market and ensure new project has a business sustainability.

After the three parts of research, data analyzing and synthesizing will be the next step.

3.2.1 RESEARCH FRAMEWORK

1.GOAL
- Try to understand majorities attitude towards green food
- Try to understand the trigger of people purchase green food
- Try to find out our target group
- Try to drag out users potential needs

2.METHODOLOGY
Opportunity Areas:Based on the result from field research, workshop and brainstorm,some opportunity areas are generated.

Focus Group: A number of extreme users who are involved in the opportunity areas participated in the research.10 community residents and 14 periurban school students and faculty.

Empathic research: User interview, 5mins to 30mins per person
-Open questionnaires and further interview on some specific points about the opportunity areas.
-Different from the traditional research interview that let people pick up a answer from several ready-made answers, the interview methodology used in this thesis is to encourage people to present different opinions. All topics are designed as open questions, in order to dig out interviewer's true thoughts.
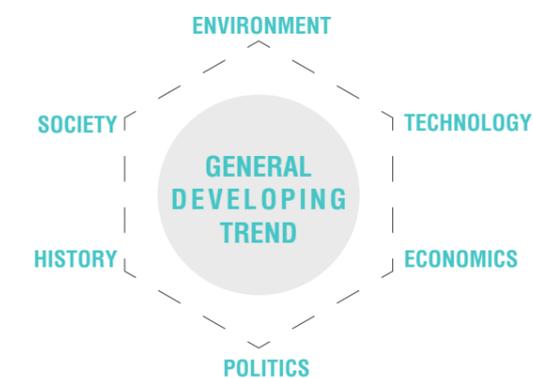

Image 3.2-1 Gerneral trends for digging opportunity area
Reference Resource: Author
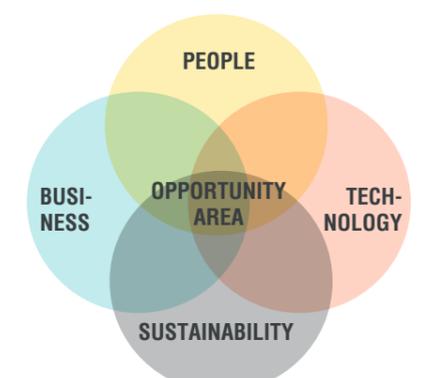
Image 3.2-2 How to dig opportunity area
Reference Resource: Author

3.RESEARCH SAMPLE

· COMMUNITY RESIDENTS
- 18-25 years old
People at this age range are mainly students or during the transaction from student to adult. Most of them do not have a high income.By the other side, since they are young they are easy to accept new things.
- 26-35 years old
Most people at this age range already get some work experience and have built up their own family. They need a solid income to make ends meet. Most of them may not live in Jindai any longer because moving to city means more opportunity. They would care about the future of their childs as well.
- 36-55 years old
Most people at this age range already have slayable career and cheerful family. As long as the age increasing, they care more about themselves and family. They would begin missing their hometown.
- Above 56
Most people at this age range have more or less health problem since getting older. They have a high demand towards health care. According to Chinese regulation, 55 for female and 60 for male are the retire ages, which means those people have a high demand of health care but may not have enough purchase power and finacial income,especially in countryside.

· JINDAI SCHOOL STUDENTS& FACULTY
- 6-12 years old
Kids in Jindai elementary school are free to talk but may not know how to express their feeling properly and exactly. They are the main population in the school
- 26-35 years old
Young teachers works in the New Jindai Primary school.Most of them are new to the school.They are the group of teachers who are most willing to accept the new ideas.
- 36-55 years old
Teacher at this age are from the old Jindai school after earthquake.Some of them are quite stubborn.Teacher at this age have built up their own family and maybe their child study in the New Jindai primary school.
- Above 56
None.

3.2.2 MAIN QUESTIONS

INTERVIEW PROCESS		
01 BASIC QUESTION	**age** Is there any difference between different age users' needs? Why? **income level** Is income level a influence factor when it comes to the will to communicate? If yes, what is the relationship between it?	**career** Is career a influence factor when it refers to the interaction? If yes, which kind of career can be the potential frequent users?	**family structure** Does family structure play a important role ? **education level** Is education a influence factor? If yes, what is the relationship between it?
02 RELATED QUESTION	**understand respondent' s daily habit** - What they do during the whole day? - Do they satisficed with their current situation? Why? - What's their opinion about the school/ community? - Do they feel like stay in Jindai? If yes, how do they deal with it?If no,why? Goal: What is the public general idea towards this interaction? Is it a strong demand or weak demand?		**understand respondents' opinion towards community-school interaction** - What do public know about this? - Can they realize the change the school have brought here?How?Why? - What is their opinion towards future? Goal: understand public's opinion towards it. In which situation will customer feel like participate/not participate in the interaction?and Why?
03 DETAILED QUESTION	Detail questions expanded by the question from first and second parts.		

- 15 -
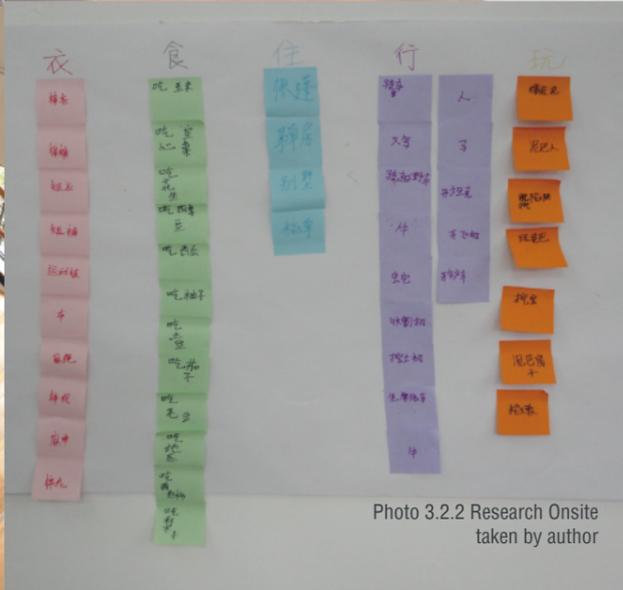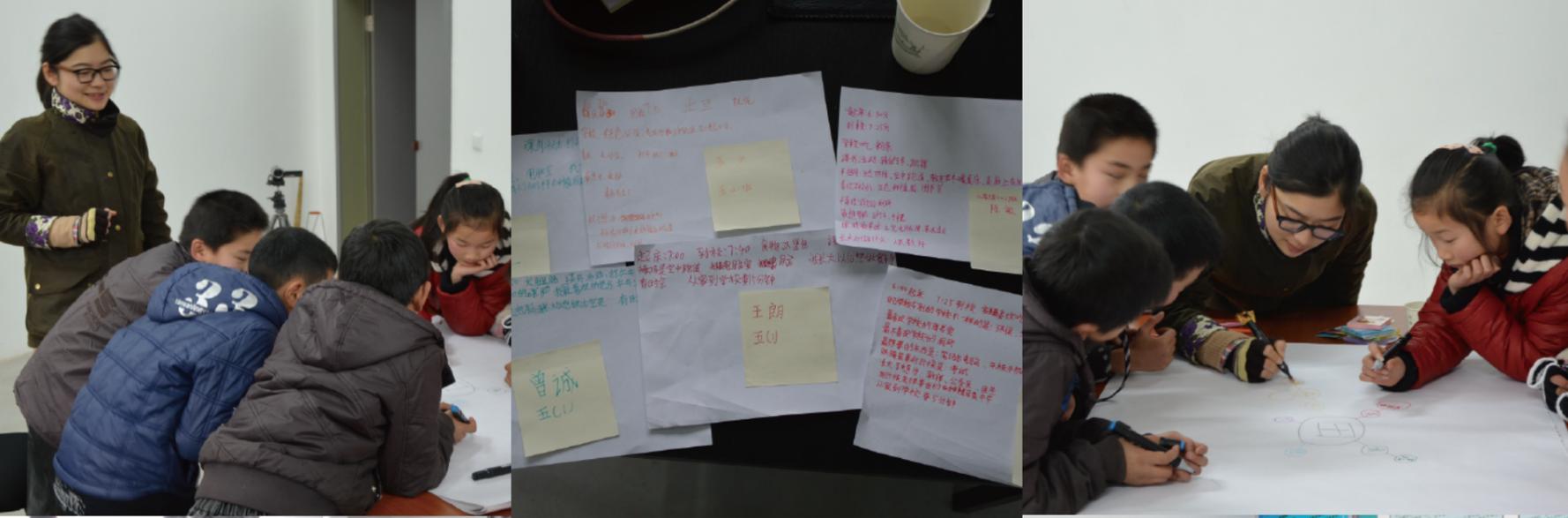
Photo 3.2.2 Research Onsite
taken by author

3.2.3 RESEARCH SAMPLE DATA

The samples range from age 6 to over 55 with different genders and jobs. From the community sector to the school sector, of which are all covered. In the following research, user are divided by community side and school side. The detailed sample data is as following:

COMMUNITY

Age
- 18-25years old   5 people
- 26-35years old   8people
- 36-55years old   12people
- above 55 years old   5 people

Total : 30 samples

SCHOOL

Age
- 6-12years old   15 people
- 26-35years old   7people
- 36-55years old   3people

Total : 25 samples

Family income (yuan/month)
- below 1,000   4 people
- 1,000-2,000   6 people
- 2,000-3,000   22 people
- above 3,000   16 people

Total : 55 samples

Sex
- Female   30 people
- Male   25 people

Total : 55 samples

Family state
- single   4 people
- married without children   14 people
- married with children   27 people

Total : 55 samples

Image 3.2.3 Sample data
Reference Resource: Author

- 16 -

3.2.4 USER RESEARCH ANALYSIS

1.COMMUNITY RESIDENTS

RESEARCH AREA	INTERVIEWEE	RESULTS FEEDBACK
HEALTHY LIFESTYLE	11 local farmers	Wish more acivities besides play poker during spare time
		Longging for urban life but still donot want to lose their tradition rural interest
	4 imigrants from other villiages	Need time to adapt to the life in Jindai
		Hope to find their community bonding feeling

RESEARCH AREA	INTERVIEWEE	RESULTS FEEDBACK
COMMUNITY AGRICULTURE	11 local farmers	Most of their farmkand are owned by the government
		Each home can support their own vegetable consumption
		Donnot want their childs to be a farmer any more
		Afraid of losing their roots in the local area

RESEARCH AREA	INTERVIEWEE	RESULTS FEEDBACK
KNOWLEDGE SHARING	11 local farmers	Young people want to live the life as city people do
		Hope their childs can live the life as city childs do, share the same resources
		Love to get to learn some practical knowledge in spare time
		Feel free to know more about healthy and chic lifestyle
	3 local governers	Hope to find more opportunity for residents to make profits
		Proud of their Jindai resources
		Hope to figure out a developing method exclusively for Jindai

RESEARCH AREA	INTERVIEWEE	RESULTS FEEDBACK
SUSTAINABLE LIFESTYLE	11 local farmers	Tourists love the fresh local vegetables and special dishes in the restaurant
		Tourists from far away are curist about traditional food in Jindai
		The Shuanggui temple attracts most of the tourists.
	15 tourists	Want to experience simple farm life,but donot want to really live with it
		Want to work in the farmland and harvest
		Complain about the hygiene problems in the public services in Jindai such as WC
		Demand more activities suitable for whole family with kids
		Curious about the new architecture of Jindai elementary school
		Buying potential for fresh food

In all samples:
People want to find more opportunity for sustainable development:
-"Hope to figure out a developing method exclusively for Jindai"
-"Hope to find more opportunity for residents to make profits"
-"Longging for urban life but still donot want to lose their tradition rural interest"

In all samples:
People want to enrich their spiritual life:
-"Feel free to know more about healthy and chic lifestyle"
-"Wish more acivities besides play poker during spare time"

In all samples:
People want to feel more involved in the community belonging:
-"Hope to find their community bonding feeling"
-"Need time to adapt to the life in Jindai"
-"Afraid of losing their roots in the local area"

SHARE RESOURCE WITH CITY

SPIRITUAL DEVELOPMENT

CULTURE REBUILD

COMMUNITY BELONGING

ECONOMIC DEVELOPMENT

Image 3.2.4-1 Community residents needs
Reference Resource: Author

3.2.4 USER RESEARCH ANALYSIS

2.SCHOOL STUDENTS AND FACULTY

RESEARCH AREA	INTERVIEWEE	RESULTS FEEDBACK
HEALTHY LIFESTYLE	15 students	Want more excecise facility for PE class
		Hope more kinds of food provided in the canteen
		Eager to know about new things and technology online
	10 teachers	Need healthy food
		Get better life through easy ways

RESEARCH AREA	INTERVIEWEE	RESULTS FEEDBACK
COMMUNITY AGRICULTURE	15 students	Eat the vegetables they grow in the field in the school occasionally, but not quite offten
		Love to grow and take care of the vegetables at school and think it is fun to do so
	10 teachers	Hope to find labor to take care of the fields in school to free the teachers from it to have more time in the class

RESEARCH AREA	INTERVIEWEE	RESULTS FEEDBACK
KNOWLEDGE SHARING	15 students	Want to play with city kids
		Not too much pressure on study
		Parents care little about their grades
		Know a lot about city life
	10 teachers	Want students can catch up with those in city
		Hope to communicate with parents but their poor education background is a barrier

RESEARCH AREA	INTERVIEWEE	RESULTS FEEDBACK
SUSTAINABLE LIFESTYLE	15 students	Pretty know about the sustainable technologies that applied in Jindai elementary school
		Know nothing about the operation of the sustainable facility
		Have strong sustainable sense
	10 teachers	Want kids to implement sustainable ideas to future life
		School can be the model for sustainable school
		Need money for the operation of the sustainable facility
		Want the sustainable idea accepted by the parents

In all samples:
People want more interaction between school and parents,even the community:
-"Hope to communicate with parents but their poor education background is a barrier"
-"Want the sustainable idea accepted by the parents"
-"Hope to find labor to take care of the fields in school to free the teachers from it to have more time in the class"
-"Want the sustainable idea accepted by the parents"
-"Longging for urban life but still donot want to lose their tradition rural interest"

In all samples:
People want to flourish school's sustainable modeling effect:
-"Pretty know about the sustainable technologies that applied in Jindai elementary school"
-"School can be the model for sustainable school"
-"Need money for the operation of the sustainable facility"

In all samples:
People want school to get rid of the negtive effects and embrace the positive effects from both the rural area and the city
-"Eager to know about new things and technology online"
-"Want to play with kids from city and show them their farmland"

MONEY

TECNOLOGY

LABOR
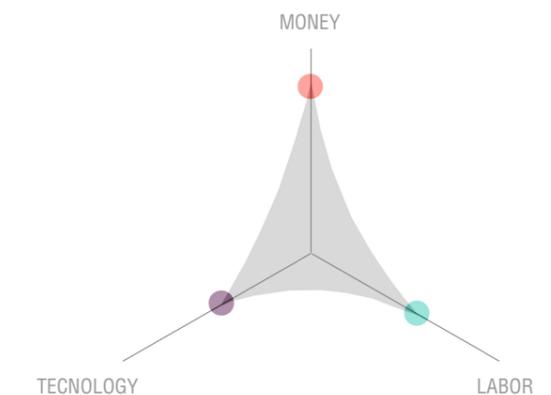
Image 3.2.4-2 School faculty needs
Reference Resource: Author

3.3 FEASIBILITY-SITE RESEARCH

3.3.1 ABOUT NEW JINDAI ELEMENTARY SCHOOL

The new Jindai primaryschool is designed to a sustainable model school in periurban China. Its creative sustainable design follows two rules:One is by technique,the other is sustainbale experience. The creative ideas in the design of the project reflected in the followings :

01 Protection of geomorphic enviroment;
02 Adaptation to local environment
03 Recycle of used materials
04 Cost-effective energy-saving technology
05 Ecological water recycle system
06 Confortable interior environment
07 Local architecture
08 Scalable building block design
09 Safe building

Some worrying problems appeared after one year operation of New Jindai primary school from the opening ceremony in April, 2011. Those hidden problems exist during the school construction gradually exposed.
Due to the limited local resources and funds and to cut the investment, the school minimized the energy consume facilities and systems and even stop some of them. The worst is caused by non-use of the passive HVAC system. High moisture and system pipes mildewed are caused. The computer smells of mould due to the lack of use and no ventilation. Waterlogging and ponding are in the plastic track and playing field because of construction flaw and barely method and crude repair works were performed to this condition. The foundation of school landscape pond has non-uniform loads due to tight construction timeline and caused leaking soon after project completion. These flaws are acceptable and common for normal school projects but it is not reasonable for such a Sino-US Center invested sustainable school project. The maintenance for this


Image 3.3.1-1 Preserve the farmland and lift the running track
Reference Resource: Tektao
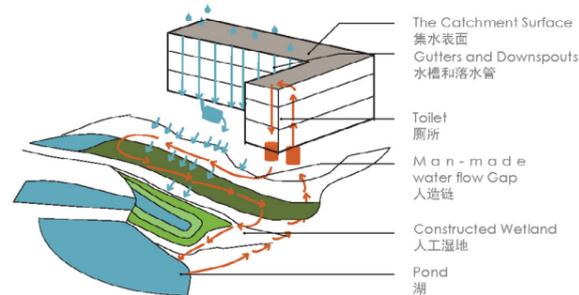
Image 3.3.1-2 Ecological water recycle system
Reference Resource: Tektao
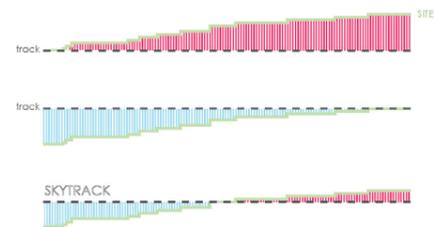
Image 3.3.1-3 Cost-effective on sky track construction
Reference Resource: Tektao
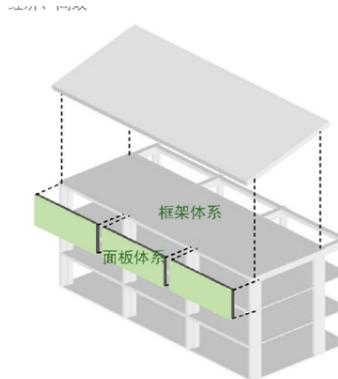
Image 3.3.1-3 Moduler System
Reference Resource: Tektao

3.3 FEASIBILITY-SITE RESEARCH

3.3.2 RESOURCES

-JINDAI school campus
The school desig follows two principles as "economy" and "replicability" , by selectively using sophisticated sustainable technology, according to the actual situation through innovative design. Various scenarios are placed in the campus.For example: organic agriculture, aquaculture, water recycling site purification systems, power generation runways and so on. For the community, it is a sustainable urban and rural linkages intersection.

-Creative Farming
A field preserved in the center of the school is the best resource for creative farming activities.

-Technique
A lot of sustainable techniques can be seen everywhere in the Jindai campus.

-Housing
Normally 2-3 people live together. Young people work outside in the city. First floor is for living room and second floor is the private space such as bedroom.

-Transportation
A highway passes through Jindai. Most people use bus,motocyle and cars to travel around.

-Leisure
Playing cards or chatting

-Economy
Because of Shuanggui temple, small business related to tourism are common.

-Culture
Shuanggui temple, budism history


HOUSING

TRANSPORTATION

LEISURE

ECONOMY

DISADVANTAGE ADVANTAGE SLIGHT ADVANTAGE DEFINITE ADVANTAGE

Image 3.3.2 Resource analysis
Reference Resource: Author
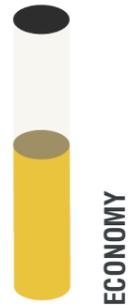
CULTURE

CREATIVE FARMING

TECHNIQUE

CAMPUS

3.4 CASE STUDIES

3.4.1 Project H- Design that change the world

1.Background brief
Emily Pilloton is a professional designer and is devoted to a bold testing that design leading the community change and on interaction between public education and communities optimization via interaction. This test is named as Project H. She offered design thoughts and skills to the students in Bertie, one of the poorest villages in the States. Emily organizes and collects inspiration and power from those students and brings a refreshing future in the rural area in USA.
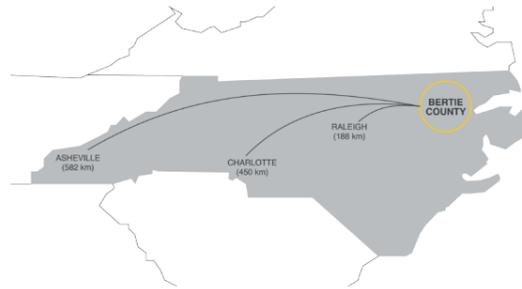
2. Service type of Project H and operation analysis
a. Course innovation: program rural adaptive courses:
   Take the mathematic course outside for example
b. School used as the Community Study Center:
   Improve Bertie public education;
c. ICT(information and communication technology)in school and community: The only place that has wireless network in Bertie is the only fried chicken shop and the local public school. ICT between school and local community was built by fund promoting interaction. Project H especially operate a fund project target to ensure every student in the public school has a computer connected to ICT.
d. Bring design course into periurban primary school: Bertie has no design innovation condition as it has no designer in the village. Emily Pilloton figured out that to bring design courses early into middle/high school could help students find better career direction and solid the living basic abilities to improve their living condtions.

3.Reference value
Compared with most idealists, Emily seems more practical. Her team tried to change the entire village ecology by improving the local undeveloped education. As it is a successful operated frame, Emily's success would be adapted by the similar society has have profound meanings.
BRING INSPIRATIONS AS BELOW:
a. Bring design courses;
b. Share school resources to the community;
c. Make community feel being part of and responsible for the

4.The following should be taken into considerations when referring
a. Construction and facilities completion level difference compared with Jindai (especially the ICT need);
b. East and West culture difference;
c. East and West education direction difference;

Image 3.4.4-1 Project H location
Reference Resource: Author

Image 3.4.4-2 Project H Aim
Reference Resource: Author
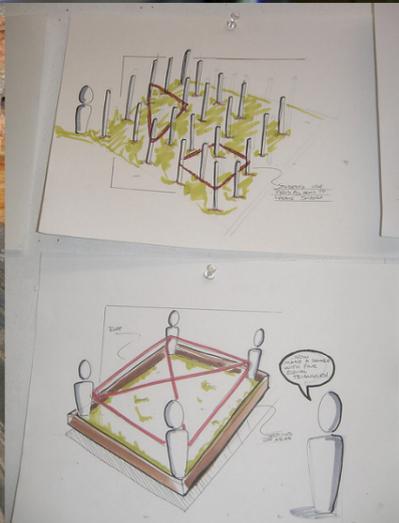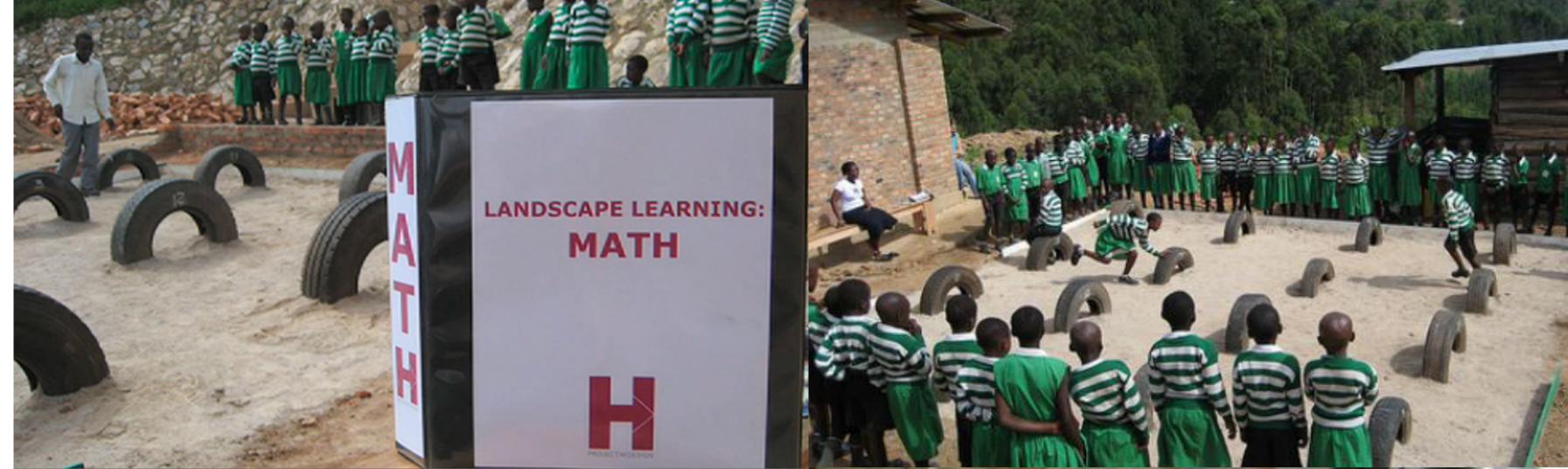
3.4 CASE STUDIES

3.4.2 The People's super market

1.Background brief
A London Chef named Dawson opened the People's Supermarket, its commercial mode is: anyone who pay 25 pounds annual fee shall have the supermarket equities; and should have 10% off on all items in the supermarket if working 4 hours per months in the supermarket. 15 years after the People's Supermarket's establishment, the number of membership is close to 1,200 and benefits 1,500,000 pounds.

2. Service type of People's supermarket and operation analysis
The People's Supermarket's commercial mode has the following characteristics:
a. Membership: The buyer could become member if to pay some membership fee and quota share;
b. Democratic management; The Management Committee and the board are selected by members, take charge of management. The rights and duty are equal to all members regarding the investment.
c. Interest share: Interest for each member's quota share and annual bonus from net annual profit by the consume proportion.

3.Reference value
a.Stakeholders: in People's Supermarket service system, the stakeholders are both buyer and the system's creators; they are both consumer and stockholder, which is the motivity of the entire system operation;
b.Service system model: the most obvious difference in service system is membership and member devoted working mode, which is the motivity for the system operation.

4.The following should be taken into considerations when referring
a. Construction and facilities completion level difference compared with Jindai (especially the ICT need);
b. East and West culture difference;
c. East and West education direction difference;

Photos 3.4.5 The people's supermarket
Reference source:www.thepeoplessupermarket.org

3.5 STAKEHOLDERS

3.5.1 STAKEHOLDERS CLASSIFICATION

In the Jindai school-and-community interaction service system, different stakeholders are involved together. To classify, it includes Jindai community residents, community governments, enterprises, primary school teachers, economic groups,NGOs, potential consumers and so on. It can be said that every participant in the whole service system occupies a certain position and play a independent but important role. According to different levels of community involvement, participation in school-and-community interaction in the periurban areas generally has three modes:

1. The purest mode,the service system is fully owned and managed by the community.All members of the community take turns to run and participate in the the business, in an effort to feed benefit back to the community.
2. Members of the community actively participate on a voluntary basis in the service system.
3. Community members cooperate with external commercial partners jointly developed service systems.

CONCLUSION: In the Jindai primary school and community interaction service system, the participatory approach is that members of the community actively participate and cooperate with external enterprises in the business model.

3.5.2 STAKEHOLDERS' ROLE

Enterprise:provide bussiness opportunity
Jindai Community: provider of resources and labor
Jindai Government:coordinating services and other projects in the area of relationships
NGO:provide training and technical assistance, to some extent, they can also provide financial support.
Jindai primary school:a resource provider, including sustainable knowledge and technology demonstration on training similar schools; places for community activities, as well as sustainable farming experience and so on.
Potential consumers:cultural and social exchange
Economic groups: involve in and get new bussiness opportunity

Image 3.5.1 Stakeholders
Reference Resource: Author

4.1 Service system platform between New Jindai primary school and community.

4.1.1 Tangible/Solid Platform

The tangible/solid platform is directly open to the visitors and enables them to participate in the periurban campus and community interaction activities and other activities offered by the service system. The visitors are the rural culture messager when interacting with local residents and understand the rural ecology and sustainable living idea.

4.1.3 Solid platform and virtual platform connections

The built and form of solid platform and virtual platform reveals the concept of cooperation between solid network and virtual network. The usage of virtual interaction and activities, services in the real world. When it works, it could connect the city residents and local residents. These two platforms are rely on each other and combined by information exchange and real life, network's interactions. Those interactions promote the connection between New Jindai primary school and the community, which eventually make the project practical in real life.

4.1.2 Intangible/Virtual Platform

The entire service system is built on web2.0 intangible/virtual platform and is interacting with weibo, weixin platform. The real meanings generated by the virtual world are beyond querying. It empowers people with equal resource, multi information channels and more cooperation and commutation.

The society cooperation, client dominant, and the client better experience shall be given propriety. The virtual platform between Jindai campus and community fully make use of web2.0's functions, which contain motive search, web agriculture, online shopping and delivery, virtual community dating, update information and upload etc. the entire service is public platform. The server is not only usable but also could be programmed and interacted. The client involved is not only the user of the system but also the system creator.

服务网络Service Network
移动生活Mobile Life
相关商业点Related Business Model

Community Center社区服务中心
Health and Entertainment健康休闲
Creative Project创意活动

当地／外界／联系空间
LOCAL/OUTDOORS/CONNECTIONS

虚拟平台
Intangible Platform

实体平台
Tangible Platform

+BLUE GROUP
Company

+RED GROUP
Community Residents

+YELLOW GROUP
Creative Community

+GREEN GROUP
School students/Faculty

Infomation flow

Image 4.1.3: Solid platform and virtual platform connections
Reference Resource: Author

4.2 CONCEPT DIRECTION

4.2.1 SERVICE

According to the above research and analysis of the user, intergrated with the opportunity areas generated before, I think the design direction of the design harvest site based agro-food supply chain should be as follows:

Community Agriculture

Healthy Lifestyle

Suatainable Lifestyle

Healthy Lifestyle

Knowledge Sharing
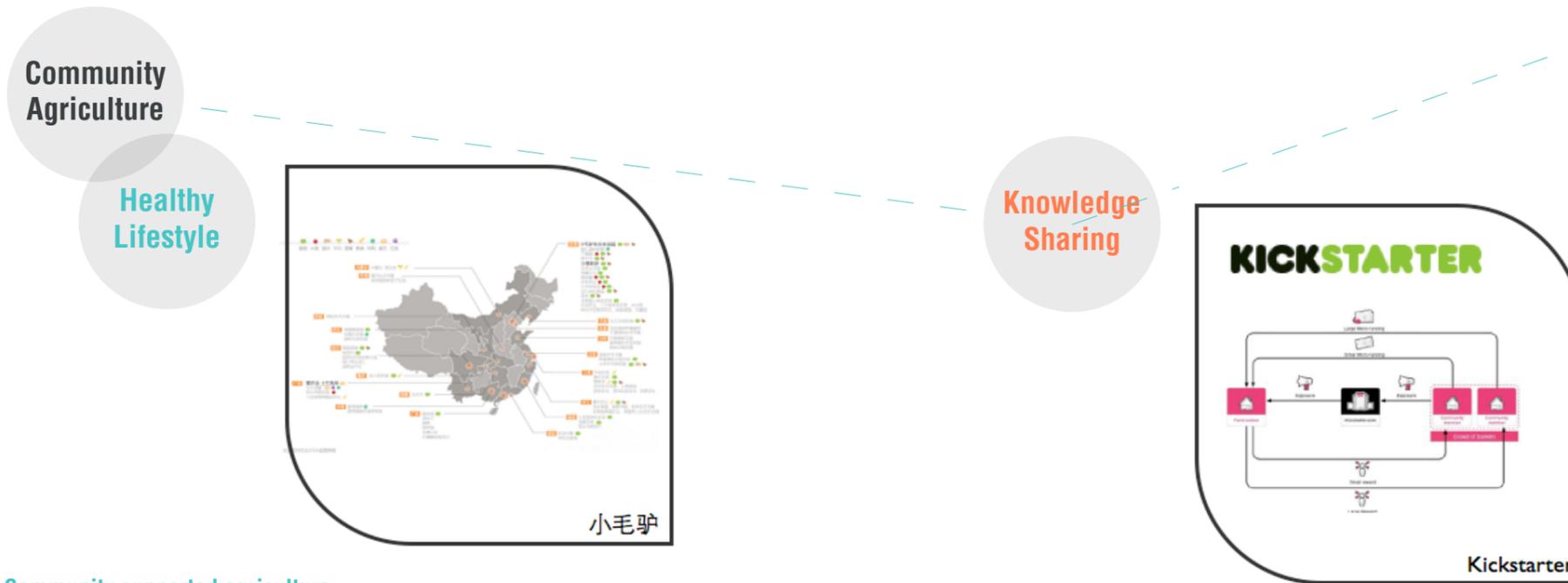
Community supported agriculture

The community cooporated agriculture is a healthy, sustainable life thought for the residents, offering the visitors the farmland experience, enable visitors to involve in the local activities and build good relationships. The mode has short-term and long-term types. The long-term communuty cooperatedagriculture is the community supported agriculture (CSA), original started in Swiss in 20 century 70s years, and developed firstly in Japan. During that time, the buyers hope to cooperate with the farmers who have stable clients to gain safe food resource. One of the most important principles of CSA is that to ensure the ecological agriculture system could product healthy foods. The buyers are the shareholders and would take risks for agriculture activities, natural hazards for example. The core theory of CSA is to establish the local food economy environment and the sustainability of food security, natural environment, society, economy could be fulfilled with the cooperation of farmers and buyers

Crowd funding for creative programme in periurban community

Finance support is a great issue in the forming of school and community interaction in the periurban area. At present, China's rural projects are mostly funded by national subsidies, but for various reasons, financial supports to the welfare of rural residents from the economic pillar are rare. Therefore, if we can establish a new government subsidies which do not rely on government,but a brand new business model for the promotion of service system, it would play a certain role in effectively improving the lives of community residents in the periurban area. On one hand, some traditional craftsmanship with skill can carry forward the cultural heritage and improve their financial state.On the other hand, professionals involved in the design team with traditional handicraft, would bring its innovative insight into the local community.

Sustainable education training

The design of New Jindai primary school is not only the technical part on sustainable design including design, construction, and energy (exhaust) reduction but to popularize the sustainable experience from it. According to the analysis of local group activity mode, age, family frame, education, and physical healthy, combined with modern rural society environment, economy environment, culture environment, the New school gives a serious of sustainable deign for various local group and visitors. The sustainable community is to combine the community communication function with the school entrance located in the center road in the town. The community communication center provide interaction platform by offering the space in the front square. The center exhibits school introduction and campus sustainable design show and works to popularize the sustainable idea. The center could also be used as some culture activities to enhance community interaction, sustainable education. In the different parts in the school, clear direction and explanation on the usage of sustainable design application are given. Through real experience in daily life, the students could deliver those thoughts to their family members, to educate in a indirect way. During the school vacations, the school is vivid classes for the visitors by arranging the visiting line, and highlights the sustainable design points. The school could also be a tourist spot and bring economy benefit to local people if advertised properly. The sustainable practical study could not only provide fresh agricultural products to the students but also could highlight the importance of land by offering planting, harvesting, cooking etc. in the courses. It provide the students with more change to experience the nature and deliver the sustainable thoughts and healthy living style. Interesting play ground and vivid public space are the platforms for the healthy physical activities and communication, and enable students to create their own study workshops.
The school is a sustainable exemplary combined with sustainable technology and sustainable practical experience.

4.2.2 SERVICE RELATIONSHIP

The relationship between these types of service network is that,an open system.The various types of services can be linked with business and technology,in another extent, promoting the interaction and communication between school and community.
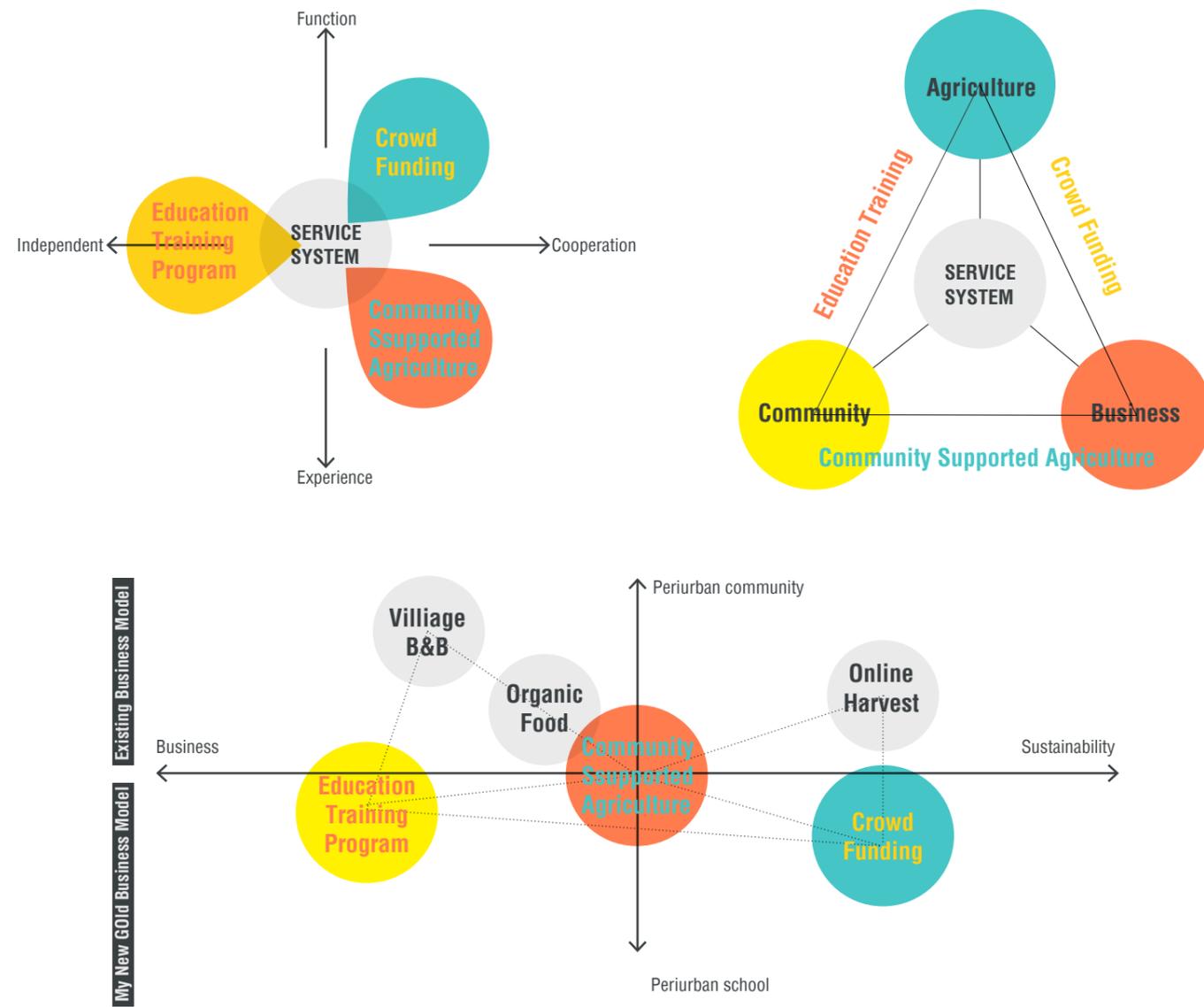

Image 4.2.2: Service Relationship
Reference Resource: Author

Persona is the synthesis prototype of one real user. By the researcheson the objectives, behaviors and views of the product users, theseelements are synthesized into a set of descriptions of the typicalusers, with the purpose of assisting with the decision-making and design of the product. The setting of Persona has the following features:

- Persona is not equal to the user specification
- Persona is not the average user
- Persona is not the real user
The major targeted users of the project are the people who have a certain understating of the organic products and are willing to try.

The reasons are as follows:
- For the people who thoroughly do not trust the green food, it willcost too much to educate them, and causes too much difficulties for a start-up project. After the project is mature, we can consider including them into the targeted users and shouldering the responsibility as the educator and leader for the market.
- For the users who only purchase the green food and environmentfriendly products, they have already formed a certain purchasing habits and had the familiar brands. For such users, the challenge for us is how to stand out amidst the similar products. At present there are many mature products and brand sold on the market, and it can be said that we do not have any advantage to compete with them.

After determining the range of our targeted users, we may obtain the following three personas according to the seven-step task role method raised by Alan Cooper(1994):

01. Identify behavioral variables

02. Map interview subjects to behavioral variables

03. Identify significant behavior pattern

04. Synthesize characteristics and relevant goals

05. Check for completeness and

**06.** Expand description of attributes and behaviors

07. Designate persona types
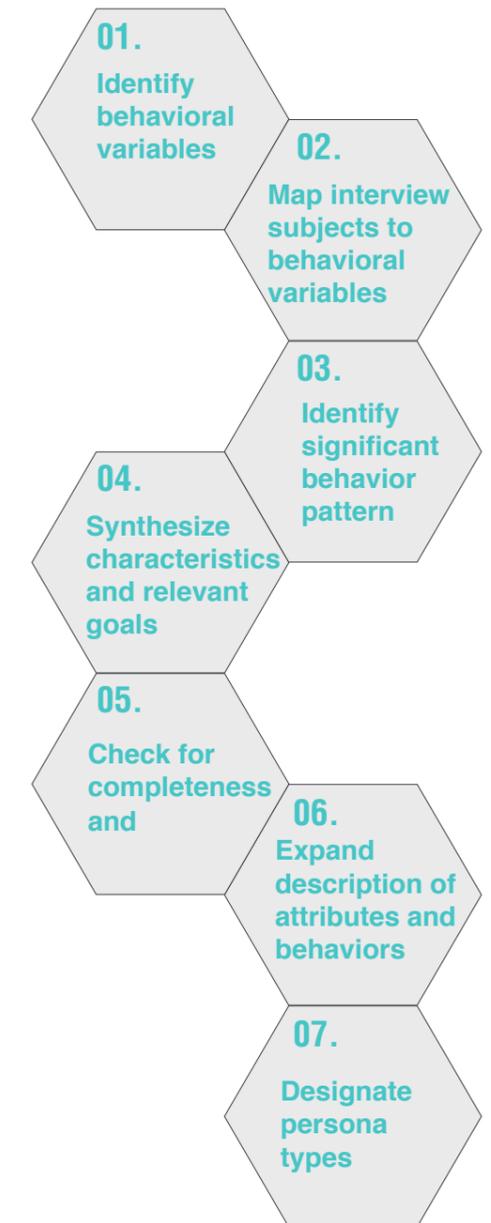
Image 3.3.5 Alan Cooper:Seven-step task role method
Reference Resource: Author

Persona 01
NAME: Mrs. Yuan
AGE: 43
OCCUPATION: Work in the city
FAMILY STATUS: Married, with her husband who works for a decoration company in Inner Mogolia and a 19-year-old daughter.Her 78-year-old monther live with them.
ECONOMIC STATUS: with a middle family income in Jindai.Need to pay a certain loan installment every month.

As Mrs. Yuan and her family are not Jindai locals. They just moved here to live from another periurban area about 35km from here.It was under the new rural development policy carried on by the government. They are so called corresponding new immigrants. This policy calls on rural residents moving in to live together to improve their living conditions. Mrs.Yuan's husband is working in Inner Mongolia,2-hour-flight from Jindai, a plasterer, come back home once a year. Their only daughter,19 years old, working in the city as waitress. Because there are no local job opportunity, the whole family are working outside Jindai, leaving her behind her old mother at home. There are no farming land belonging to their family. Their old mother grows vegetables to feed herself in a small farm land belong to themselves whcih is only 20 m^2 large. This samll farmland provide basic self-sufficiency of vegetables. After the completion of the New Jindai Primary School, the local town house becomes easy to sell at a good price. Mrs Yuan's casual hobby is knitting chatting and playing cards with neighbors.
Mrs. Yuan would love to come back to work in Jindai if she can find a local job in Jindai.

**MRS. YUAN
COMMUNITY RESIDENT**

Persona 02
NAME: Granpa Li
AGE: 65
OCCUPATION: farmer
FAMILY STATUS: 5 menbers: spouse, two daughters (unmarried) and a grandson,the student of the New Jindai primary school
ECONOMIC STATUS: impoverished,under $2,000/ year

Grandpa Li has a grandson in Xinjindai Elementary School. He is the boy's guardian since the father died years before and the mother got remarried. The family lives in povrty with the two daughters as the main breadowners. There's only 20 minutes walk from Grandpa Li's home to the school. The family gets a piece of vegetable field. Grandpa Li used to grow pomelo(a common friut) in JIndai.However recent years all of his farmland has been boughted by the givernment leaving a small piece of land for his family. He and his wife take turns to take care of those vegetables. And besides satisfying the family's demands, some of the vegetables would be sold in the town in exchange for family's daily needs. Frequently, Grandpa Li himself would do some odd jobs in the town to help the family. Now, Grandpa Li has two wishes. His grandson would get more help in the learning from teachers at the school since he and his wife know nothing of the courses of his grandson. Secondly, the community could develop some jobs suitable for the old like him for a living, because it wouldn't be long before he's too old to find odd jobs in the town. If that day comes, life will be more difficult for his family.

**GRANPA LI
COMMUNITY RESIDENT**

Persona 03

NAME: Mr. Wang
AGE: 38
OCUPATION: school teacher
FAMILY STATUS: five menbers: parents, spouse and one 11 year old son
ECONOMIC STATUS: medium, with bank savings and a private house in the town

Mr. Wang teaches at Xinjindai Elementary School.His son is a fifth-grade shchoolboy there. Mr. Wang has a piece of land in the school where he grows some vegetables juat for his family to consume. Having seen the establishment of the Xinjindai Elementary School, Mr. Wang takes great pride in applying the sustainable technology to the school and wishes a great success of the school.

Mr. Wang teaches Computer Science in JIndai primary school. Usually the class is about using offcice software,such as word,ppt and so on. But most of the students know the software very well.Thus,Mr Wang wants to introduce some other interesting work to the his computer class.

TEACHER WANG
JINDAI PRIMARY SCHOOL

Persona 04

NAME: Miss Ye
AGE: 34
OCUPATION: financial analyst
FAMILY STATUS: married, with a son
ECONOMIC STATUS: urban medium above

Miss Ye works at a insurance company in Chongqing. Being a financial analyst, and with heavy job to do, she is a true healthy food nut and often buys organic vegetables from supermarkets specializing in imported goods if she feels like cooking at home. Miss Ye is an artistic youth often surfing online when she's free. Recently, she has surpported a couple of landacape architects wishing to have their own business by setting a moss workshop. In exchange, Miss Ye is quite happy to get a moss bonsai. She said she'll be concerned with other entrepreneurship program on the website called 点名时间 (crowd funding website). These days, she is thinking of becoming a supporter of a college girl who is planning to make a microfilm.
Miss Ye's work is very busy.She and her husband loves somewhere quiet and close to nature. Sometimes she arranges the whole family to live at the old home in the county where she is born during weekends.

MISS YE
CHONGQING CITIZEN

CHAPTER   05
DESIGN
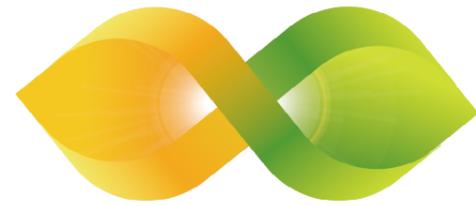
新金带
MY NEW GOLD

■ C0 M82 Y93 K0

■ C4 M22 Y83 K0

■ C70 M19 Y100 K0

■ C25 M0 Y87 K0

■ C0 M0 Y0 K100
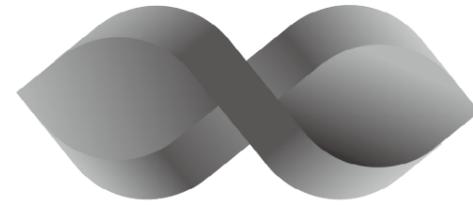
新金带
MY NEW GOLD

■ C0 M0 Y0 K90

■ C0 M0 Y0 K30

■ C0 M0 Y0 K100

5.1.1 SERVICE NAME: MY NEW GOLD

- For the chinese name " 新 金 带 "means "MY NEW GOLD" which refers to the new born service system. In Chinese "Jindai" means *golden belt*, it does related to a telling of golden belts buried here in Jindai. "MY NEW GOLD" refers to the plaform which serves to promote the interaction between school and community, optimize resource allocation to achieve maximium benefits.

Secondly, the Chinese " 新 金 带 " means newborn and innovation. "MY NEW GOLD"as creative community speaks for itself. "My New Gold" is a gold belt "blings" that can radiate to other villages as the origin.

- For the english name, "MY NEW GOLD" it resembles an integrated world of school and community, representing that a bunding Jindai in the project.
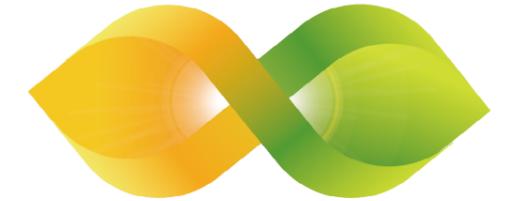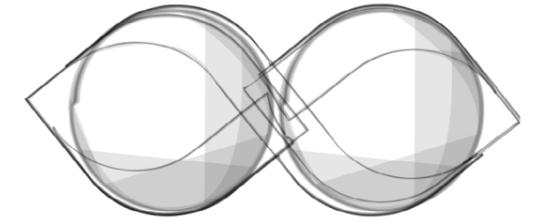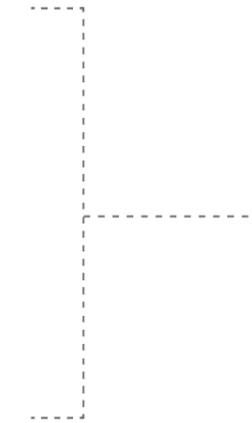
5.1.2 SERVICE LOGO

- For the logo the shape of the logo comes fromt he new bud in the farmland in Spring.The bud is energetic, fresh and powerful.Although it is young and small, it breaks from the hard surface and woulg grow up. These represents the spirit of MY NEW GOLD.

- It also resembles the shape of "ifinity".The author hopes MY NEW GOLD would radiate to the other villiages and become a brand. It would expand as ifinity.

- For the color,yellow and green is the suitable color for MY NEW GOLD.Yellow represent "GOLD". Green represents the meaning that is rooted in nature.

The OFFERING MAP

Community Residents

School Faculty

School students

Tourist

Tourist

Tourist-kids

MY NEW GOLD

Agriculture — "My Field"

on digital platform
- tourists — Online shopping
- community resident / school faculty
  - Farming training
  - Workshop

on farm
- community resident — Job opprtunity
- school students — Farming knowledge
- family
  - Green food
  - Workshop

Business — "My Dream"

on digital platform
- community resident
  - Finacial support
  - New knowledge
- school faculty — Teaching materials
- tourists — Chance to be sponcer

Tangible platform
- community resident — Profit
- tourists
  - Physical product
  - Profit share

Education — "My Class"

on digital platform
- tourists — Oniline booking

on school site
- community resident — Job
- school faculty — Profit
- trainee
  - Physical marterials(book)
  - Experience

SYSTEM MAP

Designer

Sale Coporation

The Others

Students

Community

My New Gold

Online Platform

Mobile Platform

Farmland in School

Jindai School

Sustainable System

Other schools

→ Material Flow

● Cash FLow

✳ Info Flow

■ Labor Flow

5.4 STORY BOARD

5.4.1 "MY FIELD" STORYBOARD

2.

3.

4.

1. 新订单

袁女士

叶小姐

8. 定旅游

7. 点评

6.

5.
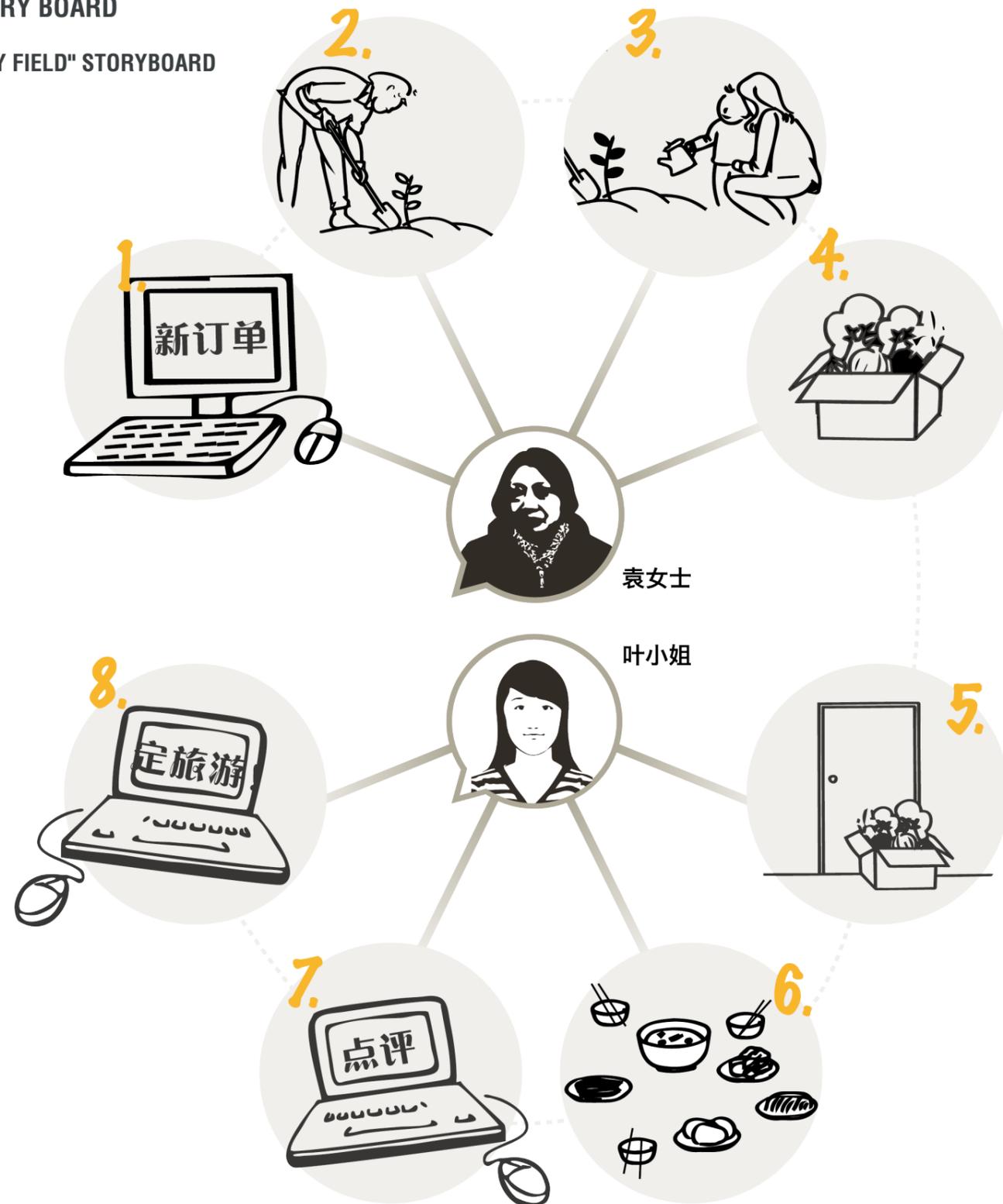
1. At My New Gold service center one morning, there is again new orders for organic vegetabls from school campus on Miss Yuan's screen.

2. After handling the orders, Miss Yuan goes to the campus field at Xinjindai Elementary School to check the situations of vegetables and by weeding and fertilizing.

3. Then Miss Yuan returns back to the service center to prepare for the afternoon's lesson for the pupils at the school. The agriculture lesson for today is how to loosen the soil. In the afternoon, Miss Yuan together Mr. Wang is giving agriculture class by showing the children how to loosen the soil. The children enjoy learning some agriculture knowlege and the moment to be in the field.

4. After the lesson, Miss Yuan gets all the vegetables ready on the orders, packs them, forward them to ChongQing through delivery company.

5. In the evening, Miss Ye gets back home and takes the ordered vegetables from the security staff.

6. Miss Ye makes dishes with the vegetables. The family enjoys them very much.

7. after the dinner, Miss Ye connects to My New Gold to comment on the vegetables ordered today and exchange opinions with other consumers in the net community.

8. Being quite satisfied with the service and the vegetables from MyNewGold, Miss Ye signs the family up for the sustainable parent-child activity at Xinjindai Elementary School.

5.4 STORY BOARD

5.4.2 "MY DREAM STORYBOARD

1. 低保！

2.

3.

4. 页面上线！

李大爷　王老师

7. 上传制作进度

6.

8.

叶小姐

5. +¥19 赞助！
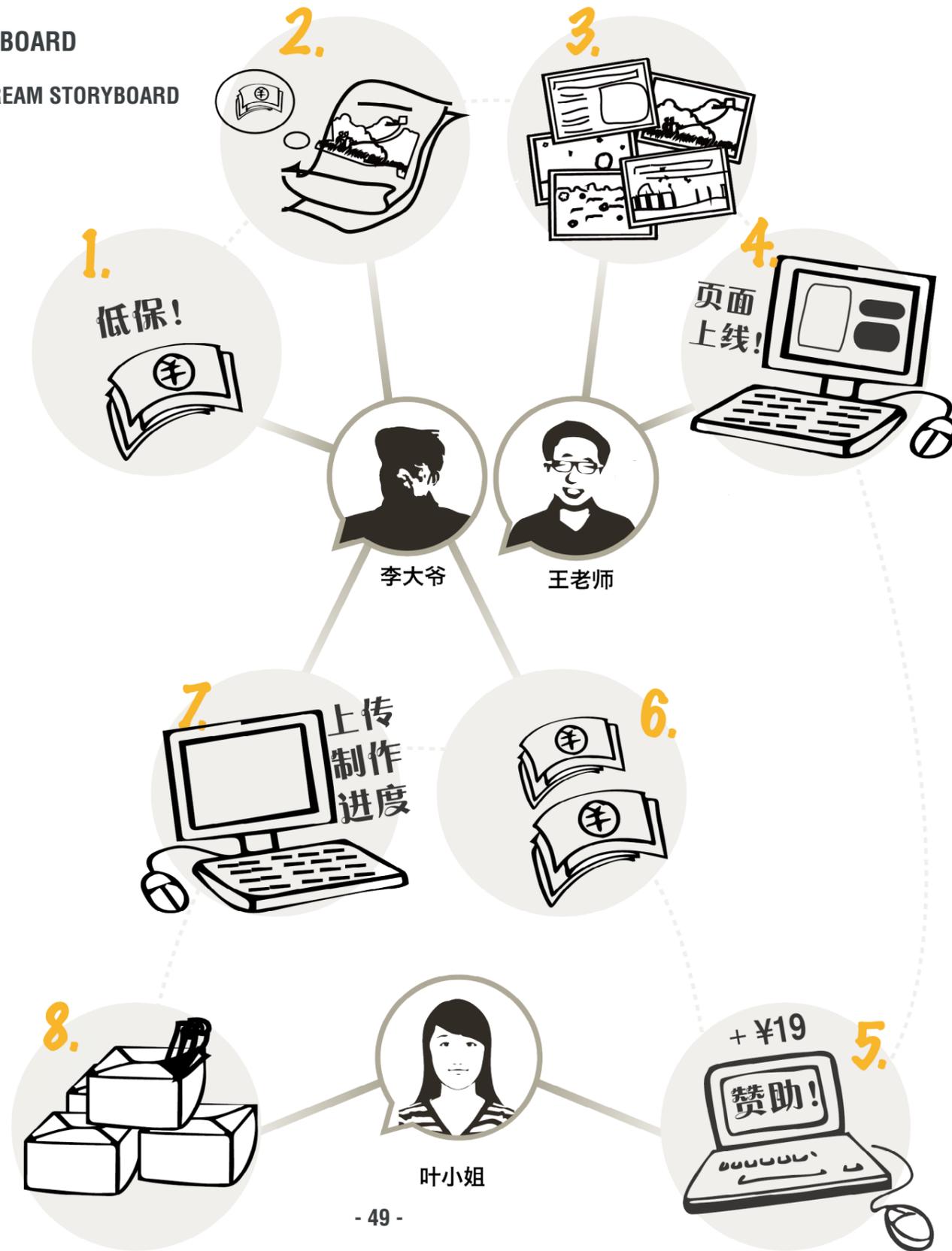
5.4.2 "MY DREAM" STORYBOARD

1. As a member of enjoying the minimum living garanteen, Uncle Li wants to improve the family's living, so he goes to MyNewGold community center at the schoolto seek possible help.Mr. Wang is on duty by turn there.

2.Mr. Wang suggests him take up his old job, LianPing bamboo paintings.He also promises Uncle Li to add his program to the MyNewGold Rural Creative Project Financing.

3.Mr. Wang teaches computer at Xinjindai Elementary School. Mentaining the MyNewGold web site is one of the main parts for the school's computer courses.Mr.Wang assign sixth graders to design a financing web page of LianPing bamboo paintings for Uncle Li.

4. Mr.Wang checks and values the pupils work,then puts one design on the web after making some modification.

5.Miss Ye notices the program of Uncle Li's LianPing bamboo paintings. As an designer and being very much intersted in traditional paintings, she contributes 19 Yuan and becomes a shareholder of the one hundre of Uncle Li.

6.Within a month, all the starting funds are collected and Uncle Li begins to make bamboo paintings.

7.The making process is uploded at regular time by staff at MyNewGold.

8.Two months later, each of the one hundred shareholders is happy to have a piece of bamboo painting made by Uncle Li, and Uncle Li feels grateful to MyNewGold that helps him to earn the money for the next making.

5.4 STORY BOARD

5.4.3 "MY CLASSES" STORYBOARD

王老师

叶小姐

1. At the weekend, Miss Ye drives the family to Xinjindai Elementary School.

2. Mr. Wang and Miss Yuan are the organizers and the persons in charge of the parent-child activity for sustainable education of MyEcoClass at the school.The parents and children are showed around and visit those sustainable designers in the school.

3.At noon, the Ye's have lunch at the school's cafeteria enjoying a"peasant meal" with kinds of organic vegetables.

4.In the afternoon, parents and children are led into the field garden to pick the fruits and vegetables.Miss Yuan and the staff of MyNewGold community show the children from the city how to differentiate the virieties of vegetables.The local children and the children from the city are all having a wonderful time in the field while Miss Ye and some other parents go a sightseeing to a historic spot nearby.

5. Then in late afternoon, the parents and children all see a film about sustainable ecology specially made for the children at the school hall.

6. One day activity ends, Miss Ye buys some agriculture products sale in the MyNewGold community center. They are packed in MyNewGold packages,Some are also the achievements by the help of rural creative financing program.

7. The Ye's drive back home in Chongqing, recalling this one-day's activity, they can't help feeling delighted and contented particularly when they sit down around sampling those fresh organic fruits and vegetables.

5.5 SWOT

The SWOT structurally evaluate the MY NEW GOLD service system. The matrix reveals the objective of MY NEW GOLD service system is attainable. It informs later steps in planing to implement MY NEW GOLD service system.

My New Gold system can promote exchanges between town and periurban, to achieve the harmonious and sustainable development.

Innovatively dig, preserve and derive sufficient rural resources to promote the development of rural economy.

Create new job opportunities for periurban community

Provide the urban population a place to relax and get in close with the nature

Combining solid and the virtual platform to provide an interactive platform for people.

Provide personalized service innovation for periurban residents, to meet the developing needs of the periurban community

A new mode of development of education in periurban China

A brand new business mode for periurban community

The innovation of system is not fully reflected in the service design. It is because that it's such a new interactive model.

In the framework building process of product service system, perhaps special design toolbox (Tool Kits) should be studied.

Economic feasibility is yet to be considered.

It woulld need money to train the local residents in advance.

Government support is crucial in the beginning process.

External finance input burst the power of My New Gold system.

Cooperation with different industry, broaden the platform.

My New Gold service system is designed to be a challenging approach, with the same conditions applied to other periurban development. Service type and network mode can be used as a prototype to expand.

Spontaneously promote ecological sustainability in the rural lifestyle.

My New Gold has the opportunity to become routine system, and the representative of the new rural lifestyle

My New Gold system is open, and user participation will improve the system to modify and create new types of services.

Improper use of space and facility would cause damage to the school by the user.

Too many tourists would reflect on the local rural ecological damage

Too often activities would disreupt teaching rutine

 Once the city occupied the supply of rural resources,it might cause imbalance between local supply and demand.

KEY PARTNER

- Tektao studio
- Tongji University
- Desis Network

- Jindai Government

- Other CSAs

- Other primary school

- Travel agency
- Food Sales(Walmart)

- Taobao(online shop)
- Weibo(Chinses twitter)
- Weixin(Chinese Chat app)

KEY ACTIVITIES

- Field cultivate
- Crowd funding
- Knowledge sharing
- Green food production

KEY RESOURCES

- Virtual platform(website/-mobile app)
- Suatainable campus
- Field in the campus
- Laborsource in community

VALUE POSITION

新金带
MY NEW GOLD

A NEW SUSTAINABLE RURAL LIFE STYLE IN PERIURBAN AREA

CUSTOMER RELATIONSHIP

- Community
- Self service
- Personal assistance

CHANNELS

- Online website
- Mobile app
- Taobao online shop
- workshop

CUSTOMER SEGMENTS

- Community Residence
- Education Oganization
- Third party customer

COST STRUCTURE

- Virtual platform develop and maintain fee
- Enployee salary

REVENUE STREAMS

- Food sale revenue
- Workshop attending revenue

CHAPTER   06
TOUCHPOINTS

The touch points of MY NEW GOLD will be mainly as following:

- INTANGIBLE

1. Official Website
official website is for introducing MY NEW GOLD service to public, it will explain users what is MY NEW GOLD, how does it work, how to join in and ect. The seperated service will be intergrade into the official website inside of a independent website.

2. Mobile Application
In this service, MY NEW GOLD will release several kinds of verson: IOS(ipad, iphone),Android and WinMobile. Along with the technology development, application based on pad or phone have become quite popular and loved by users.

3. Online shop (taobao)
Although MY NEW GOLD will have its own official website, it will be very helpful to open an online shop on china's biggest online shopping website – www.taobao.com. The huge amount Taobao user can bring MY NEW GOLD online shop more visitors. Besides, the mature online payment system of Taobao will be very convenient for a start up company.

4. Weibo
Weibo is the most popular micro-blog website in china, similar as twitter. MY NEW GOLD will use weibo to as the main social media to promote activates and news.

5.Wechat
The world's biggest group messaging app, Tencent's WeChat – or "Weixin" as it's called in Chinese – is taking an interesting turn in China. It is now also a platform for social media marketing, allowing blogs, newspapers, TV shows, brands, and celebrities to reach out directly to the app's users. Wechat can bring MY NEW GOLD a social media broadcasting platform to the app's 400+ million users.

- TANGIBLE

1. MY NEW GOLD environment
The environment of MY NEW GOLD is the main physical touchpoint. MY NEW GOLD will keep the campus' original design, and just add logos at obvious some points.

2. Prodcuat package
It is mainly some food package design, for instance, the vegetable package. It will be nice to keep raw rural style since they are from countryside.

3. Poster and brochure
Poster and brochure will be the physical way for introducing user MY NEW GOLD
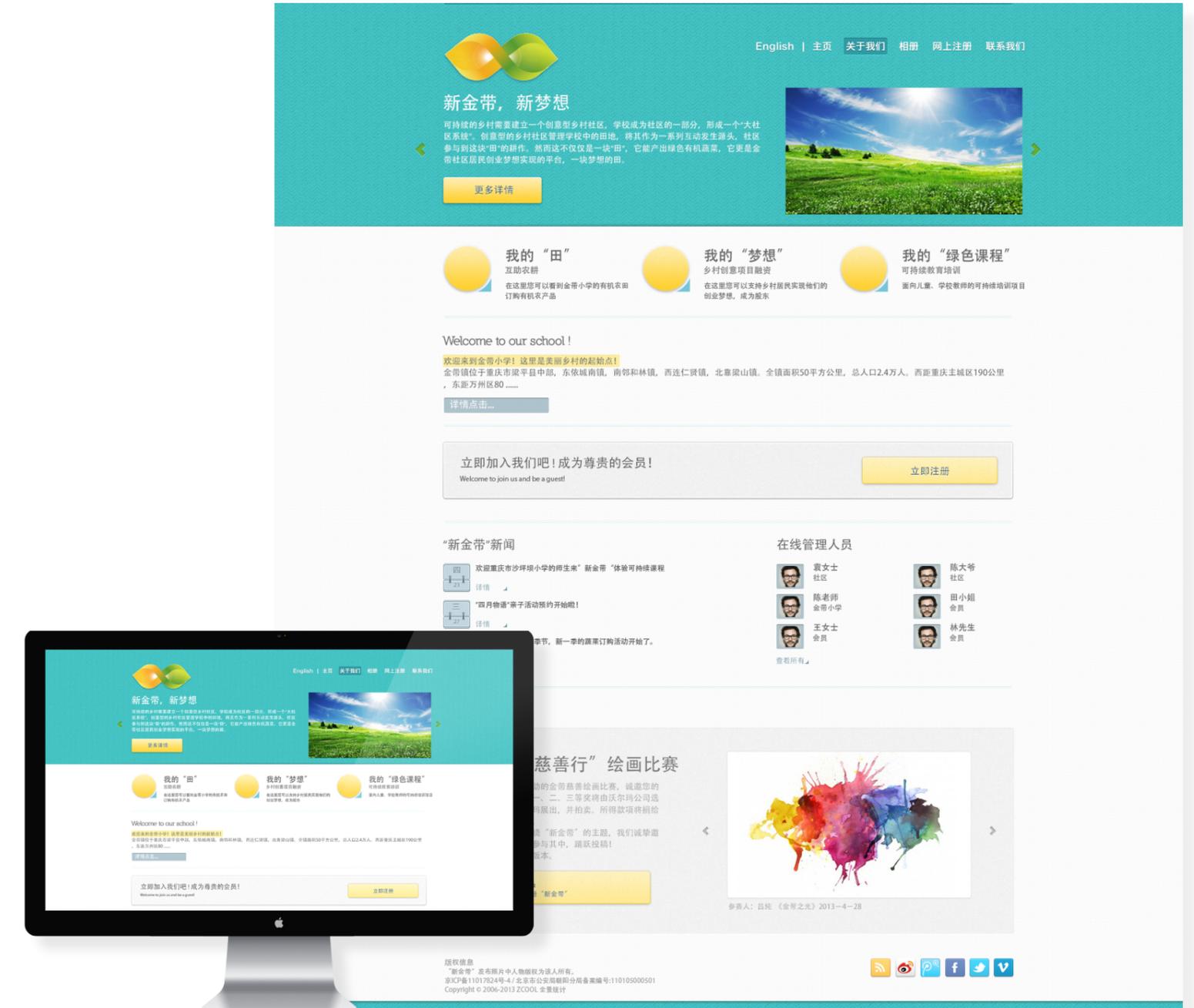
Image 6.2-1： Official website Homepage
Reference Resource: Author

6.2 OFFICIAL WEBSITE

The official website is for introducing Farmmy farm service to public, it will explain users what is Farmmy farm, how does it work, how to join in and ect.

The website consists 8 modules.
- in "home" module, user will see the basic information of MY NEW GOLD, how to join, which kind of service does it have, which activities is going on.
- In " My field", "My Dream" "My Greeen Classes" module, it is linked to indepedent webpage to its seperated service.
- In "forum" section, user can communication with each other. User can release questions, upload receipts, give feedback to others and etc. User will be reward by credits if they post high quality content.
- In "contact" section, user can find the way to communicated with MY NEW GOLD.
- In "photo" section, user can find the updated photoes of MY NEW GOLD.

Image 6.2-2 Website: "My Field" page
Reference Resource: Author
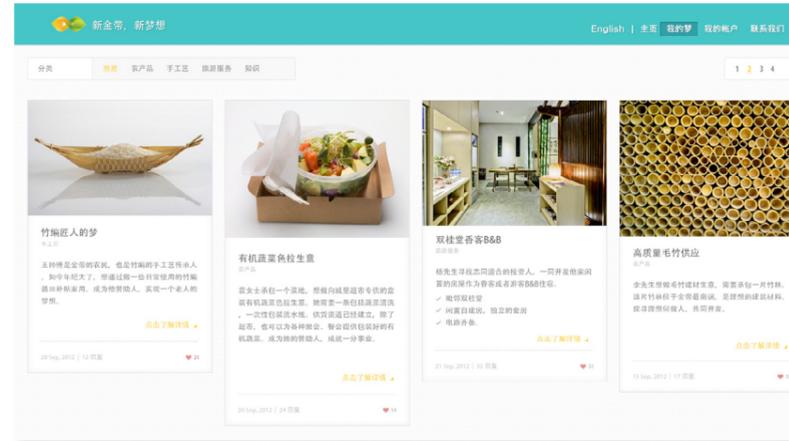
Image 6.2-3 Website: "My Dream" page
Reference Resource: Author
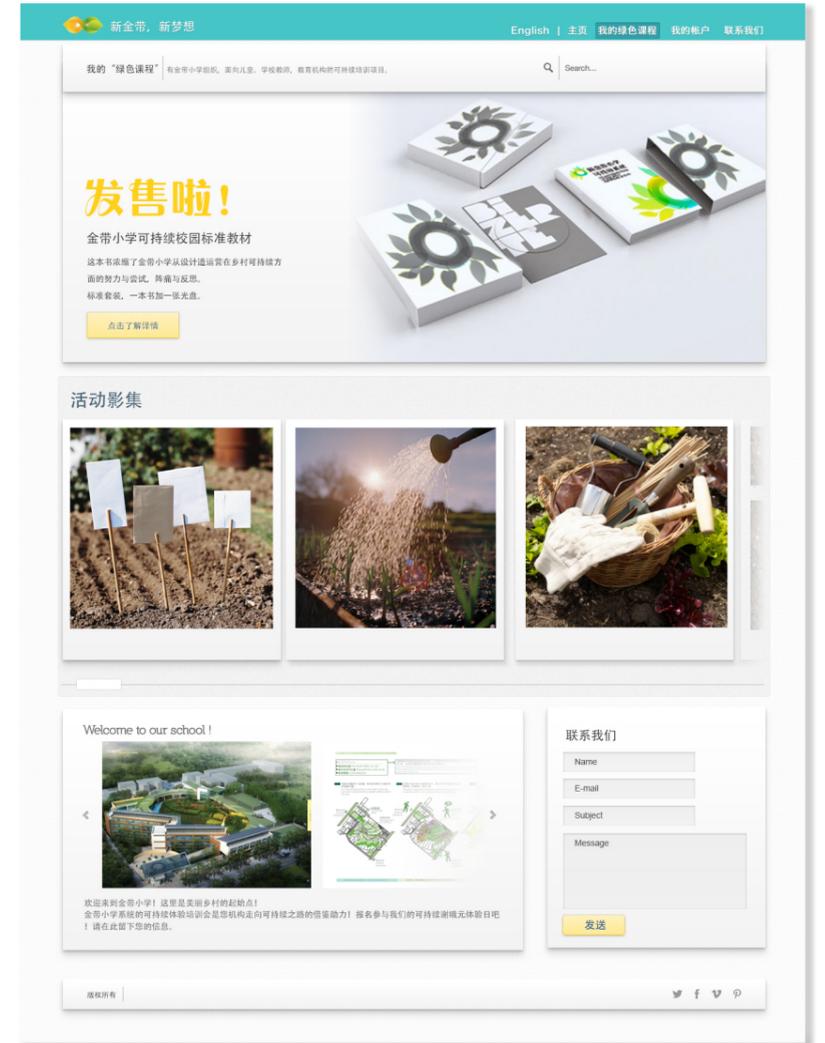
Image 6.2-4 Website: "My Class" page
Reference Resource: Author

6.3 MOBILE APPLICATION

-My New Gold mobile application, as a virtual extension of the platform, is currently the most active virtual platform.

-Mobile application based on mobile phone software, both with website platform, functions as extension to service system.Different from the website with complex function, the mobile application of MY NEW GOLD focused on broadcasting the latest news release.It is easier , more simple and efficient to use than the website.

Image 6.3 Mobile app
Reference Resource: Author
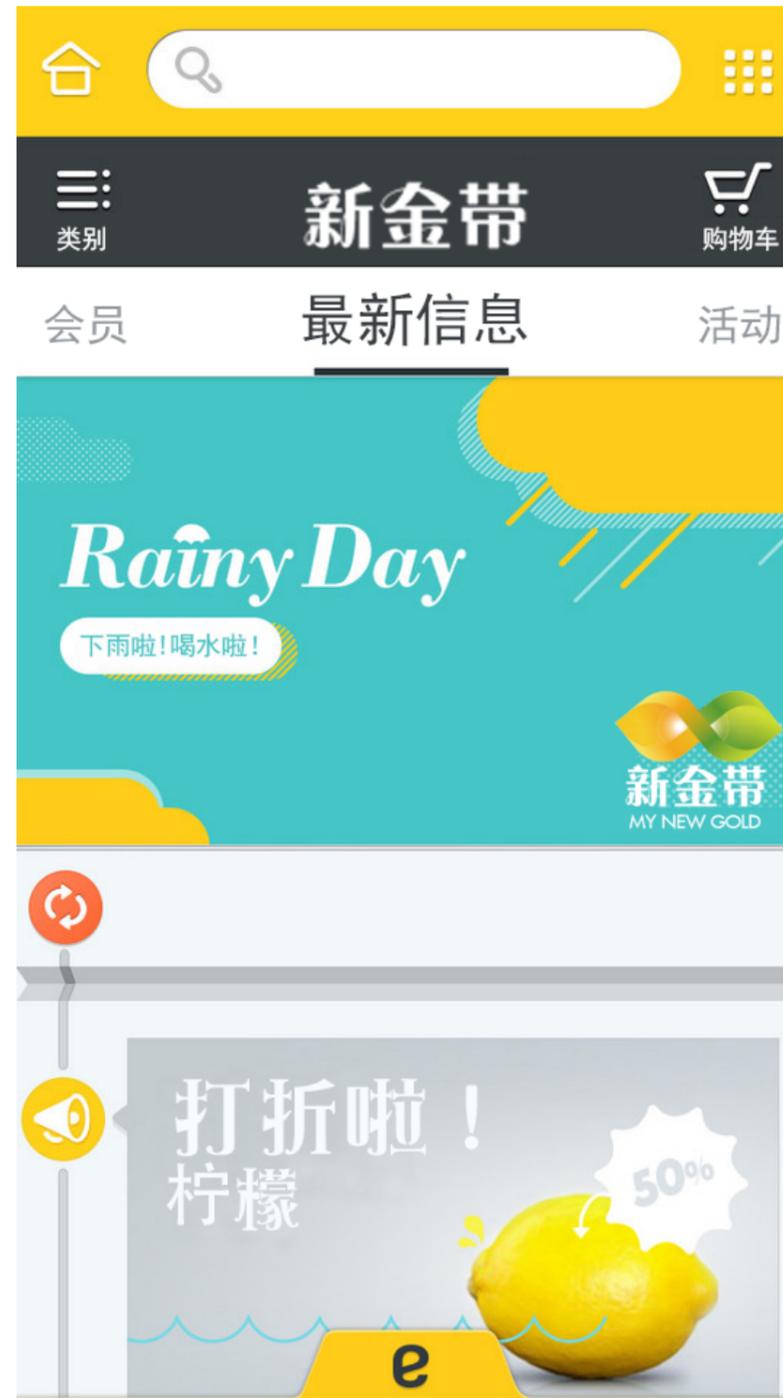
6.4 ONLINE SHOP(TAOBAO)AND WEIBO

- The huge amount Taobao user can bring MY NEW GOLD online shop more visitors. Besides, the mature online payment system of Taobao will be very convenient for a start up company.

- MY NEW GOLD will use weibo to as the main social media to promote activates and news.

Image 6.4 Taobao webpage
Reference Resource: Author

Image 6.4 Weibo webpage
Reference Resource: Author

The employee uniform, product package will give user the first expression of MY NEW GOLD. So a uniform brand image is important.

Image 6.5-1 MY NEW GOLD uniform
Reference Resource: Author
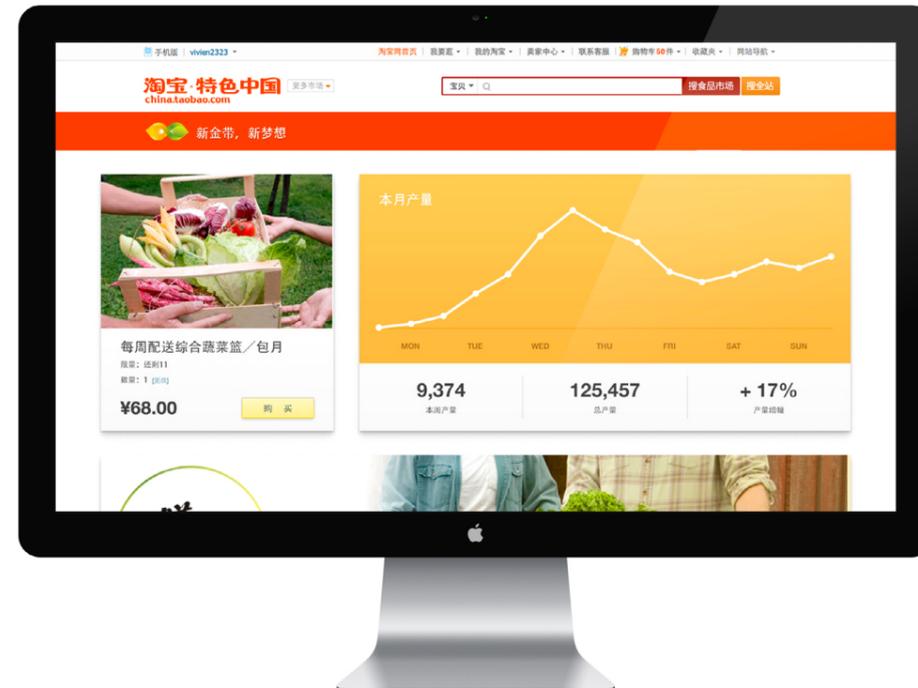
Image 6.5-2 MY NEW GOLD product package
Reference Resource: Author

Image 6.4 Taobao webpage
Reference Resource: Author

ESCAPE?

COME TO 新金带 AND SEE

Please get more information on http://www.mynewgold .com

Image 6.5 Poster
Reference Resource: Author

CHAPTER   07
CONCLUSIONS

7. CONCLUSIONS

MY NEW GOLD is a service based on a real primary school project in Jindai,Chongqing.The author took part in the design process collaborated with Taktao design team. The New Jindai Primary School project launched at 2009 and can be considered as an experimental project supported by university,government and enterprises for building a new sustainable model of China periurban primary school and community harmonious development guided by social innovation. Now in Jindai village, you can find in the school, a piece of land cultivated in nature farming method, a communication space renovated from a school exhibition space. All of those changes are though the power of design and social innovation.

As a start up project, it is difficult for MY NEW GOLD project to stand out and compete with the other similar from both scale and reputation perspective. In another way, there are hardly any similar projects in China to refering to at present. For the New Jindai Primary School, the current production cost and maintain cost is quite high. For the Jindai community, it need pulses to drive it back from falling apart. This thesis aims to provide a sustainable solution for the school-community relationship by making the best use of current resources, redefining the project position, sharping the target group and enhancing the product competence.

At the research phase, the author studied in 3 fields, user research for understanding user's potential needs, site research for digging out the maximum available resources and the case studies for giving the further design reference and inspirations. During the research, the author find out three important opportunity areas, understood the current resource network and the situation. After that, by analyzing and summing up those research data, the author finally came up with a project concept that providing CSA service that combined with crowd funding and sustainable education,three service packages. This service has been named as "MY NEW GOLD" for giving user the feeling of "farmland with new technology and fresh feeling". There are three kinds of service packages, all of them intergrade online and offline activities.The community and school are the user, operator and owner of this service system. Outside user can come to Jindai to take part in the field work by themselves or just order vegetables online. Users can seek the funding projects online to choose to raise money for the Jindai locals and get the real product in return. They can also take part in the suatainable experience journey to know more about the sustainable countryside lifestyle,especially the family with kids. During the experience journey, children can learn agriculture knowledge by playing on farmland in the primary school.The service enhance the product value and provide users more than just green food. In the other way, it triggers the interacrtion between the school and community, which is the ultimate purpose of this project. This is how MY NEW GOLD differentiate from others.

Innovation is unpredictable, even the designer have no idea about the final solution. At the end, MY NEW GOLD came up with the solution contains CSA, crowd funding and sustainable education service packages together. MY NEW GOLD is a huge servie system hope to integrate with local government to renovate Jindai community to become a piece of "new gold".

The purpose of the proposal is to create an open service platform, enhancing the attractiveness of the countryside to the city, while promoting interaction within local villages and revitalize resources. Proposals designed to serve three parts: the content, products, and communication. Through SWOT analysis and business model evaluation,the analysis of the entire project was made.

The authors studied Jindai, hoping to start from a relatively small unit. The design of the periurban communities-and-school based service system,the MY NEW GOLD, can be a experiment of system construction. In the recent future, MY NEW GOLD service model can be a prototype, which can be promoted to other villages have the similar background in periurban China.

The thesis is about to reach closure, but for it, the periurban communities and school interactive service system design research,has just begun. Sustainable Development of the rural economy and harmonious urban and periurban areas, can not be accomplished in a day, but to take generations interdisciplinarily to research. Service system is open. With the social development, periurban communities and school interaction service system design will continue to be discussed further, to be added, improved and innovated. I hope this thesis can open a window for future research on the sustainable development of rural China.

But luckily, this project will not be stopped as the thesis finished. However the Tektao design team have been negociating with the Jindai Government to start the "sustainable education" part of the MY NEW GOLD service system. The author will continue working on developing this project by collaboration with Tektao team.

BIBLIOGRAPHY

[1] 伦文强等."学校—社区教育一体化"的实践与研究 [J]. 思想·理论·教育 .2004(3).

[2] 袁方. 社会学百科词典. 北京：中国广播电视出版社，1900

[3] 李书磊. 村落中的"国家"——文化变迁中的乡村学校 [M]. 浙江人民出版社，1999.

[4] 李红婷，无根的社区. 悬置的学校——大金村教育人类学考察 [D]. 中央民族大学博士学位论文，2010.

[5] 娄永琪. 一个针灸式的可持续设计方略：崇明仙桥可持续社区设计，《创意设计》.2010.9,

[6] 娄永琪等. 环境设计. 高等教育出版社，2008

[7] 娄永琪. 系统生活世界理论视点下的长三角农村居住形态.《城市规划学刊》，ISSN 1000 – 3363,2005/3

[8] 费孝通. 乡土中国. 上海人民出版社，2007

[9] 费孝通，《江村经济》，上海人民出版社，2007，ISBN: 9787208068483

[10] 杨利华，乡村可持续社区设计方法研究——以崇明县仙桥村为例，同济大学 2011 年硕士论文

[11] 朱明洁，城乡耦合视角下的乡村公共空间设计——以崇明县仙桥村为例，同济大学 2011 年硕士论文

[12] 周楚轶，崇明仙桥创新中心数字平台设计研究，同济大学 2011 年硕士论文

[13] 贺欣，基于社区的乡村生态旅游服务体系设计研究——以崇明岛仙桥村为例，同济大学 2010 年硕士论文

[14]Adrian Smith, Alternative Technology Niches and Sustainable Development, ESRC Sustainable Technologies Programme Working Paper, Number 2003/2

[14]Dean Hawkes, The Selective Environment-Approach to Environmentally Responsive Architecture, Spon Press, 2002,

[14]Anna Meroni, Strategic Design to take care of the territory.Networking Creative Communities to link people and places in a scenario of sustainable development,2008

[15]Ezio Manzini,[R], Francois Jegou,"sustainable everyday_scenarios of urban life",Edizioni Ambiente,Milan,2003

[16]Ezio Manzini, Francois Jegou.sustainable everyday-scenarios of urban life[R]，Edizioni Ambiente，Milian，2003

[17]Ezio Manzini,F.Jegou,Sustainable Everyday：Scenarios of Urban Life[M].Milano：Edizioni Ambiente，2003

[18]Gong, M., Feng, S. & Assawaboonyalert C. (2008). Collaborative services and Mobile network: Observation of social innovation and anticipation of sustainable lifestyle in China, In: Cipolla C., Peruccio P.P. (eds), Proceeding of Changing the change. Design, visions, proposals and tools. Torino: Umberto Allemandi & C, Torino, Italia, 10-12 luglio 2008. ISBN: 978-88-422-1670-4.

[19]Mulgan G.Social Innovation：What It is，Why It Matters，How It can be Accelerated[M]. London：Basingstoke Press，2006.

[20] F.Jegou,E.Manzini,Collaborative Services：Social Innovation and Design for Sustainability[M].Milano：Polidesign，2008.

[21]David Benyon,Phil Turner,Susan Turner.Designing Interactive Systems. Pearson Education Limited, 2005.

[22] Bill Moggridge. Designing Interactions [M]. The MIT Press. 2006.

[23] Jane Fulton Suri . The Experience Evolution: Developments in Design Practice[J]. The Design Journal. Volume 6 , Issue 2. 2001

[24] Neilson, Usability Engineering [J]. San Francisco: Morgan Kaufmann., 1994.

[25] Norbert Streits, Carsten Magerkurth, Thorsten Prante, Carsten Röcker, From Information Design to Expereince Design: Smart Artefacts and the Disappearing Computer[J], 2005

[26]Solution Oriented Partnership

[27]Creative Communities---People inventing sustainable ways of living

[28]Feeding Milan

[29]E. Manzini, "Small, Local, Open and Connected: Design Research Topics in the Age of Networks and Sustainability," in Journal of Design Strategies, Volume 4, No. 1, Spring 2010.

service design
[1] http://www.businessmodelalchemist.comdesign harvest
[2] http://www.techcrunch.com
[3] http://www.servicedesigntools.com
[4] http://www.sdn.com

social innovation
[5] http://www.socialinnovationeurope.eu
[6] http://socialinnovation.ca

case studies
[7] http://www.projecthdesign.org/
[8] http://inhabitat.com/video-project-h-design-launches-new-education-initiative/
[9] http://www.ted.com/talks/emily_pilloton_teaching_design_for_change.html
[10] http://www.thepeoplessupermarket.org
[11] http://www.channel4.com/programmes/the-peoples-supermarket
[12] http://www.kickstarter.com/
[13] http://green-coop.org/

Other resources
[14] http://en.wikipedia.org/wiki/Community-supported_agriculture
[15] http://blog.sina.com.cn/usashiyan
[16] http://www.mypingtan.com/
[17] http://www.douban.com/group/topic/4554122/
[18] http://www.justfood.org/csa
[19] http://www.nal.usda.gov/afsic/pubs/csa/csa.shtml
[20] http://www.localharvest.org/csa/

QUESTIONARE

JINDAI RESIDENTS NEEDS QUEATIONARE
金带社区居民需求调研

以面对面访谈的形式进行。
1.　　　调查领域：健康生活
（1）平时的作息怎样，每天工作多久，休息多久
（2）休息的时候有些什么活动，谁组织
（3）对于现在闲暇时间的评价，是否愿意改变还是保持现状
（4）社区的感觉是否强烈，平时有组织的活动否
（5）向往什么样的生活，工作多久，休息多久，工作内容，休息内容

2. 调查领域：互助耕种
（1）请问家里有耕地吗，多少亩
（2）谁负责耕种，与社区居民合作吗
（3）自家的蔬菜来源是自家耕地吗，还是别的
（4）会与社区居民交换蔬菜吗
（5）家里有孩子吗，他们参与农活吗，为什么
（6）现在的孩子对农田感兴趣吗
（7）希望自己的孩子以后做什么工作
（8）怎么看待农田，还有耕种，愿意换别的工作吗
（9）现在食品安全问题突出，乡村的蔬菜是否保证有机，化肥和农药的比例各是多少
（10）城市人担心农村食品安全，您觉得原因是什么

3. 调查领域：知识交流
（1）请问一家人收入多少，满意吗，富裕还是拮据
（2）金带哪些农户比较富裕 / 哪些相对不富裕，为什么
（3）金带有什么优势，怎么看待
（4）与城市相比，怎么看待自己的生活现状。差异的原因是什么
（5）获取信息的渠道是哪些，按照频率排序
（6）会学习吗，有学习的机会吗
（7）金带小学如果开放，您最想参与学校的哪些活动
（8）对外界的哪些信息感兴趣

2. 调查领域：可持续生活
（1）游客最喜欢金带的哪些资源
（2）一般游客逗留的时间长短
（3）一般游客在金带的消费有哪些，哪些体验活动
（4）一般游客对金带不足之处的点评

APPENDIX

QUESTIONARE

JINDAI SCHOOL FACULTY NEEDS QUESTIONARE
金带小学师生教工需求调研

以面对面访谈的形式进行。
1. 调查领域：健康生活
（1）描述一下自己一天的活动，哪一个环节希望提升
（2）对学校的食堂的使用频率，原因
（3）对学校食堂的建议
（4）平时都吃些什么主食、零食，健康食品的认识，

2. 调查领域：互助耕种
（1）参与学校"田地"的耕种活动吗，为什么
（2）认识多少种蔬菜
（3）能在食堂吃到学校种的菜吗，为什么，有哪些建议
（4）认为学校"田"的优缺点，建议

3. 调查领域：知识交流
（1）怎么看待乡村小学和城里学校，向往吗，为什么
（2）乡村社区家长对于学生的学习介入有多少，能帮助吗
（3）乡村小学会与城里学校知识脱节吗，不会，为什么 / 会，为什么
（4）金带小学的建成对孩子们的生活前后产生了哪些影响

4. 调查领域：可持续生活
（1）了解金带小学的可持续技术点吗，可以一一列举吗
（2）现在可持续技术的运营情况是否了解，有问题吗，什么问题
（3）资金是否成问题
（4）学校的理念是否被同行接受，是怎样的状态
（5）学校作为一个热门的参观点，是否有接待能力

2013.7
SHANGHAI