Sustainability Scenarios for Spatial Planning: Ideal or Real?

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A SPATIAL APPROACH TO SUSTAINABILITY

The local dimension as related to a universal discourse finds its manifest representation even in remote Chinese rural villages: this is the final thesis of the "SUCCESS" study in China. The spatial approach was one of the preconditions for the interdisciplinary work, and this paper presents two disciplinary results that digest findings from the other disciplines: on the one hand the social glance at the spatial conditions, on the other the urbanistic approach that searches to include findings form the sociological discipline.

The SUCCESS project – Sustainable Users Concepts for China Engaging Scientific Scenarios[41] – develops and carries out seven case- studies of peri-urban and rural settlements in six different provinces in China. This interdisciplinary project combines the disciplines of socio culture and architecture with economy and ecology and works out sustainable future scenarios for the Chinese villages. The basic question of the research is: What to maintain and what to change in the selected villages? The three-year-study initiates a process that leads from the proto-sustainable Chinese villages to contemporary sustainable settlement systems - a process which supports an emergent future, respecting human needs combined with the needs of nature.

The project studied seven villages, in different architectural and social situations with a case study methodology based on the local situation. By developing the future scenarios, the disciplines analysed the local precondition and the change within the years of the project time. We will introduce some preliminary data and experiences from this project describing the necessities and potentials of the local village situation. By applying the case study approach, SUCCESS considers the local place in the village as the basic starting point for the balance seeking process between ideal and real, between non sustainability versus sustainability oriented future images. The basic research question "What to change ? What to maintain?" can be treated starting from the conditions existing in a given concrete place, namely the seven villages.

Thereby, spatiality is the basic condition for our interdisciplinary research approach; it is also a condition for the definition of sustainability used as basic guideline for the research. This definition gives the basis for the combination of spatial and societal approaches by binding the sustainability approach to a local place within its actual or abstract territory.

"Sustainability is a local, informed, participatory balance-seeking process, operating within a Sustainable Area Budget, exporting no negative imbalances beyond its territory or into the future, thus opening the spaces of opportunity and possibility."

-local: it happens at a specific place – the living environment of a settlement within its region, including living patterns and creativity of the tenants
-informed: it benefits from the tools of the global scientific community and requires an interdisciplinary approach which provides cause and effect feedback
-participatory: it needs informed, empowered, gender sensitive human actors who are the stakeholders in the sustainability negotiation process
-a balance-seeking process: it models alternative future scenarios, taking into account the classical triad of sustainability: economy, ecology, socio culture , complemented by the context of built environment
-spaces of possibilities : sustainability considers the future as an open space where socio cultural life quality, economic equity, and ecological needs converge towards balance
(copy right Dumreicher, Levine, Yanarella)

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[41] ICA4-CT-2002-10007, www.china-eu-success.org

SOCIAL DIMENSIONS OF SPATIAL PLANNING

In our approach, the social aspects of planning take the community as a whole into account, respecting the inner community relations and the social interactions between the corpus of people living on a specific place. In the studied villages we show the social dimension and its spatial equivalent. The sociological team is working with the specific methodology of the photo interview (Harper 1987, Wuggenig 1990) to investigate the local life quality. The photo interview is one of the rare sociological methods able to create a relationship between spatial and societal realms. Selected people in the village take photos of their view of their own home village and give an interview where they make a narrative about the sites which they photograph. The photo interview as an active participatory process in visual sociology, generating empirical data for the photo and text analyses (Oevermann 1993), is the basis for our interpretation that figures manifest as well as latent aspects and creates the scientific hypothesis building process.

The sociological approach specially serves by providing specific results that support the building up of spaces of possibilities within the village groups. They also support the emergence of the sustainable future scenarios in the interdisciplinary research process. In order to answer the specific needs of intercultural research and of the problems of communication between European researchers and Chinese village dwellers, we have applied two different methods: the photo interview specified above, and the participatory video. Both methods introduced instruments of new media in the daily life of the Chinese case study village by the SUCCESS study. This participatory approach also contributes to the experience with high tech instruments and enriches the scientific results with the dwellers view.

Participatory video can be described as a "group based activity that develops participants' abilities by involving them in using video equipment creatively, to record themselves and the world around them, and to produce their own videos"(Shaw and Robertson 1997). Within the SUCCESS project, participatory video workshops were held in three of the case study villages in order to initiate the use of new media in the villages with regard to empowerment, especially women's empowerment; to support the view of local people, to provide information for the pool of experts with a focus on community organization and gender issues and to develop new approaches to Participatory Action Research (PAR).

The experience with participatory video within the SUCCESS project showed that the use of new media such as video and editing equipment can serve as an empowerment tool especially for women and young people. The video workshops initiated discussions between the participants and the other village inhabitants on specific issues (such as gender inequalities, future visions, life quality), and strengthened solidarity amongst the participants. By teaching modern media skills to women and young people, the video workshops strengthened their self-esteem and at the same time their overall position within the community.

The films produced by the workshop participants show the meaning of both private and public spaces within the villages. With relation to space, the analysis of the films supports the following results, especially with regard to the importance of public space in the villages.

COMMUNICATION CIRCLES IN THE VILLAGE: OVERLAPPING OF SOCIAL AND SPATIAL DIMENSIONS

The horizon of the spatial and social experience for the local village dwellers is present in seven spatial interconnections. The study describes the village as a whole, starting from the following correspondences and relationships between social and spatial:

1. To the smallest spatial context present is "my body", the social context shows up as the individual "Me".
2. The somewhat larger spatial context is "my house with its inner courtyard". This corresponds to the social context for " My relatives and my family"
3. The spatial village context like the shops, the school, the public space and the public streets is occupied by the social context of "My neighbours"
4. The spatial context present as the edge of the village prevail the social context of the "In between" as the place for more formalized community relations.
5. The spatial context formed by the surrounding landscape has the social context "Our village as a place of identity"
6. The spatial context where political and influential scale are still congruent is the whole country of VR China, including the government in Beijing, which corresponds to the social context of "The Me as a part of the nation"
7. The largest spatial context influencing the village is the terrestrial globe which relates to the social context „Me and the globe, me and the world society"

This paper concentrates on the third circle. The village spaces like the public streets with their shops, the school, the public squares in the village represent the local dimension for social activities in the community of the dwellers. This circle seems especially convenient for the implementation of sustainability in the local village.

VILLAGE SPACES

People within the village and within the village community and their spatial equivalents constitute the communications circle that we call „village spaces" – places in the middle between the individual spaces, the home and the courtyard, on the one side, the regional, national and global spaces on the other (for the juxtaposition of local and global see our contribution to the CORP conference 2004; Dumreicher, Kolb 2004)

In the local studies of the photo interview the dwellers presents their local daily life and where it is happening. The dwellers, in our photo interviews, show that the public spaces have a meaning for their life in the village. These are for instance the streets and furniture along them, meeting places under a tree of even a square that shows a tree and a newly built Buddhist - Daoist altar. Often the motives represents a walk and a story telling through the village: first entering the house, showing for instance the housewife, in a

next step leaving the house where the photographer meets the neighbours and later a walk to the next village square in order to take the next photo under the tree. When the dwellers are describing the village, the street becomes "our street", the Huai Shu tree serves as a help for orientation relating to the own house as well as to the friend's house; and the interviewee makes a link of all of this with her or his own house.

When the interviewees choose the places that they consider of interest, they make their choice according to their own intuition. In the village Bei Suzha, they have chosen the following places for communication: The village street, the primary school, the villages square and the greenhouse. All these spaces have sets of meanings for the different sexes and for the different generations, but they have also sets of meanings that are common for the whole population: they stand for the integrity of the whole village and they all represent spaces for communication – the shops along the street just as well as the party center, and they are all considered important for the whole village. The flow of communication and information within the villages seems to present an abstract value, but within the villages, these abstract flows are carried by spatial patterns. The role of these material artifacts may change as it is the case right now, the house as well as the school, the street or the village square – but what remains is the fact that these places represent the integrity of the village – as well in the inner direction (for the dwellers) as in the outside directions (for the outsiders). The village as the built environment of the farmers is in direct link with the "emotional co ownership" of the village (Dumreicher/Kolb: 2001).

This is our street - 这是在我们街道上

村: 这是在我们街道上，这是大槐树. 大槐树北面，他在第三排，他的房子在我后面，我的房子在他的前面.	This is on our street. This is the big Huai Shu tree. This is north from the Huai Shu tree. His (my friend's) house is in the third line, behind my house, my own house is in front of his house.

Interview men group, Zhou, Xia Foutou, 04/2003, paragraph house

If well constructed the public space – the street, the square around a tree –represents the meeting space for the traditional village. People meet to eat in common, to play, to look after their children or to proceed to day-to-day-work like weaving carpets or cleaning the corn. The street is a place for producing – the shoemakers repairs the shoes, the soup cook cooks her noodle soup – and for selling and buying, the vegetable seller offers her cherry tomatoes, the iceman sells green pee lollypops. The public space is where people get to talk to one another and where neighbors and others exchange the latest informations. In the contemporary society, the public space which so far was dedicated for human activities gives in to the achievements of the modern era and to the motorcycles, the cars, the lorries and in general to the transport systems which enhances the economy but appropriates the public space.

Even the SUCCESS research activities showed the village dwellers in a stringent way how the researchers leave their parking cars in the street as a symbol of progress in front of the party center. So far, traffic is a singular event in the village, so far, the visit of foreigners in the village is an outrageous event. The SUCCCESS team has seen lots of different streets in the villages: dusty streets, narrow streets, asphalt streets, concrete streets, large streets, no streets at all. The building of streets and roads is discussed in all the villages. And whatever the level of modernization, the village dwellers will always look out for better street: if the street is an earth street, they hope for asphalt, if the street looks like a walking path, they hope for an urban boulevard. In all villages, the street is a symbol of modernization and shows the development stage of the settlement. The photos of the villages spaces are welcome artifacts for the interviews with researchers who, according to their discipline, relate in very different ways to these photos. From the photos, they can give their appreciation of the whole Chinese development. One economist, looking at the photo of a modern, clean but rather boring street, sees in this street the effects of modernization, development and amelioration of the environment which corresponds superficially to the needs of the people, but this development goes past the people and leads to a lifeless human environment. This cannot be the scope". (*"Zwar gibt es eine Art von Modernisierung, Entwicklung und Verbesserung der Umwelt, die zwar oberflächlich gesehen den Bedürfnissen der Menschen entspricht, die aber an den Leuten vorbei geht und zu einer etwas leblosen menschlichen Umgebung führt. Also das kann nicht das Ziel sein"* (04/2002, Economist, paragraph the street).

The same street, for the expert sinologist, is a "deterrent example- a sterile wall to the left and the right, plus concrete soil. (05/2002, Sinologist, paragraph the street)."Functional, cheap, quick, built during the cultural revolution, not nice to live but providing cleanness" *(Funktional, billig, Schnellbauweise, während der Kulturrevolution gebaut, steril, funktional, nicht angenehm einladend zum Wohnen aber wahrscheinlich eine gewisse Sauberkeit wurde damit gewährleistet"* (05/2002, Sinologist, paragraph the street*)*. A street of urban emptiness instead of rural slowness. "obviously not a place to stay, but to get across quickly and without looking*"* *("Das ist offensichtlich kein Platz zum Verweilen, sondern dass man hier schnell und beliebig durchgeht"* (05/2002, Sinologist, paragraph the street). The woman specialized in the question of participation imagines "people who go from A to B. But nobody would sit here".(*"Da sieht man Leute, und die gehen von A nach B. Und es sitzt niemand da"* (04/2002, Partizipation/Social worker, paragraph the street). If the village atmosphere only consist of this kind of streets, where could people sit? Where could they meet? The architect who comes form the west finds a "not uninteresting pattern" among the tiles."(06/2002, Architect, paragraph the street). But his critique points out that someone was at work who did not take into account the village and its singularities: "It appears to be that the houses and the street are designed by one person. It is a lot newer, than the rest of the town. Also brick, they street and the buildings around they don't seem to have the advantage to got through any sort of process or settling into any sort of local culture"(06/2002, Architect, paragraph the street). You do not see a contact with the existing village, nor with its history, nor with the people who might be willing to live here "Someone is not in tune with the town which existed or with the people maybe occupying this place. It doesn't seem that this is a sort of street and walls, that have been adjusted and modified through several generations"(06/2002, Architect, paragraph the street).

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SITTING UNDER THE TREE

Old big trees have a prominent place in the history of the villages, often a tree is a family tree belonging to one specific house, being part of the family's history and taken care by them. Just as well as the family, in the Chinese village, is the one social structure that carries the village community, the family trees are visible, readable and living icons for the family within the overall system of the dwelling. The dwellers meet under the tree for chatting, eating and discussing about their daily life. The tree gives the people shadow against the sun, but also the special fruits for example from the Hua Shu tree. This fruit is a valuable one, because it can not only be used for salty, but also for sweet cooking, which is a very rare flavor in the Chinese kitchen.

Huai Shu Tree – Village Square in Xia Futou, 2000, Photo LÜ Hongy
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The photo shows an old tree up on the hill in the village Xia Futou (Henan province). The tree has a social value: it is the meeting place for the whole neighborhood, shaping their social life. A wall with a whole through which a tree is growing – a rather unusual landmark and spatial icon: the dwellers have constructed this with a window for the tree, thereby expressing their will for well observing the small scale of the village spaces It also shows that in Chinese context, nature does not remain natural – nature is integrated into the human domain. Instead of killing the tree or letting it grow as I can, people give it a very special care and have even put special ornaments on it. They also use the wall as an information center where they put calligraphies about actual events in the village.

Nature, at large scale, has a bad standing in the modernization process of the PR China; but in the near communication circle that we are describing, nature has a very special standing. The photo gives a view on the traditional rural atmosphere that is under big stress in the urbanization wave that is reaching even the village we are describing. In the process of the SUCCESS future scenario making, the place and the people around the tree made a starting point for the hope to maintain some of the societal and spatial in the Chinese village and yet proceeding to an upgrading of the rural life quality. It is inspiring for the urbanists, architects and spatial planners who take into account that the public squares around the trees are part of the ancient Chinese rural village pattern system. The public place under the tree is important, because the dwellers meet there. "This is very interesting. The most interesting tree in this village. We always saw a lot of people, the neighbors getting together, not only for the shape of the tree and the wall between the tree, but for the people, the way they like it and gather together attracts me a lot. It attracted almost all the researchers. They felt very happy for this finding" (06/2002, Chinese , the tree). For the architect LÜ Hongyi, the tree fits into the whole setting: the contorted street as well as the natural stones building the wall for sitting. In the other local village case studies, we could observe a similar process where dwellers revive old places again. They build new religious locations for the public and spiritual living in the village. The old culture is re-integrated in the current life. This process contributes to an interesting cultural procedure: after years of prohibition, now the old culture comes back, but as something new. The recently built altar representing an old tradition in the village thereby contributes to the current public and social life.

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THE WASHING PLACE

Washing the clothes is still a public issue in Chinese villages, and the villages offer different local systems for doing this work. In Du Jia, province Yünnan, women carry the cloth baskets to the river and wash the clothes on specially arranged big stones on the river bank. These stones present a little comfort for doing this hard work. In Xia Futou province Henan, the river bank is adapted with stone stairs, to make it easier for the women to come down to the river.

下到，到那河边去。我们这儿不方便。水可以畅着用，要有排水机，水流在这儿，可软，可颠，不好走。	I go down to the river. It is not very comfortable here with us. We have more water than necessary, but we need a pumping device. The water flows on the earth street and the soil can become slippery, you can fall and it is hard to walk.

Young woman, Xia Futou 2000, paragraph washing

The women consider water a natural constituency of their life quality and are happy that –to the difference of other places in PR China where water is a scarcity or very polluted – their villages has a lot of water: – more than necessary, and this constitutes one of the richness of the village. In San Yuan, province Yünnan, there is a specific water system in the village: in the middle of the village is a public space – a platform of concrete and a series of small water pools – with running water. Nearly every family of the village – women and also young children are washing the clothes on this place. Here, the social contact seems to be very important: different generations meet other dwellers to chat and discuss. In San Yuan, the water system is a cascade system which uses the water in an efficient way and guarantees the adequate water quality- for worshiping gods for washing vegetables, for washing clothes and for irrigating the fields. In a sustainability scenario, these results lead to the following idea: The village can base its future water image on the existing tradition that shows the importance of this good; and the existing patterns can serve as a source of inspiration for the way in which the water service will be upgraded to new standards.

IN THE SHOPS

Another places of interests in the village are the shops. In the beginning of the SUCCESS projects only a small number of shops were in the villages. Mostly the dwellers went to the weekly markets, which are following the calendar of moon, exchanging goods and also information. At the present time more and more in the beginning small shops are opening: first the refrigerator in the entrance of the house, offering a modest assortment of goods, Chinese ice of green beans for half a Yuan, sunflower seeds, cheap canned lychee juice. After a little time the assortment is expanded. In Bei Suzha, Anjing described the running system as a half professional exchange system.
The shops are also currently places for selling products but the business people are also producing Chinese Bread – the Manto bread. This service is mostly done when the dwellers have to do with their crop, and families save time. Then the farmers go to buy their meals in the shops. The small shops represent a new form of service for the village. New shops are a symbol for more comfort and convenience. Talking about service in the city shops are basic element for public infrastructure in a modern settlement. (Dumreicher/Kolb 2000, Service, 7 Theses of town). In the village the shops represent the modern life with comfort and convenience. Not only the prime requirement of food and basic needs, but also the desire for aesthetic and new life makes the shops successful. The whole village recognises the shop of a hair dresser as a symbol of prosperity. The Chinese village owning a bakery or a hair cutter demonstrates its wealthy community life to the surrounding. The shops are meeting points in the villages, are part of the social life and communication system and they also represent the modern lifetime.

PUBLIC GOODS IN THE VILLAGE

In the Chinese village the community of the dwellers - the neighbours all together - organizes the public services for the inhabitants. This services – the street, the school, the local bus, the community centre and the library make the village attractive for the dwellers. In the SUCCESS project, we studied different forms of organisations to build the street, to rebuild the school or to construct the water pipes. Sometimes the village committee organises the necessary work with the labour force of the dwellers. In some provinces, the local administration arranges the water supply and the electricity. The different organisation systems of the villages is an outcome of the permanent situation of transformation. The money is often not available, the dwellers are mostly ready to invest their labour force. Sometimes the basic infrastructure is a common effort of both systems, the administration systems donates the money and the village community contributes with their labour work.

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Photointerview 04;Jiang Jiazhai 04/2003, paragraph women

THE SCHOOL

The school is a very important side for the Chinese village. Since the education system is changing, some middle schools are closed down in the country side, other are built in the small cities. In this case, the pupils get a higher education standard, but they have to leave the village for their education, which contributes to the social impoverishment of the villages. Therefore, the village cadres fight for maintaining the schools in the village: "Xia Futou is an important village for the territory. I hope to rebuild the school in the coming two or three years. I want to buy two computers, so that the students can work with them. The computer can open the students eyes to know the international (Interview headmaster, XFT, 04/2003)". Similarly, the village Bei Suzha (Hebei province) considers the school an asset of their village performance.

这个最有历史意义，我们的学校。我们村很穷，学校的房子都要倒了，下雨恐怕砸到学生，我们村干部动员，老党员老干部，我一年的工资都里头了，一年没挣钱，盖上学校，孩子在这里学习，培养下一代。这很重要。	This has a mostly historic significance. Our school. Our village was very poor; all the houses of the school nearly broke down. We were afraid, when it rains; it would fall on the students. The cadres of our village mobilized the old party members, the old cadres. My whole one year salary was put in it. One year making no money. For building up the school, so children study in it. Educating the next generation. This is very important.

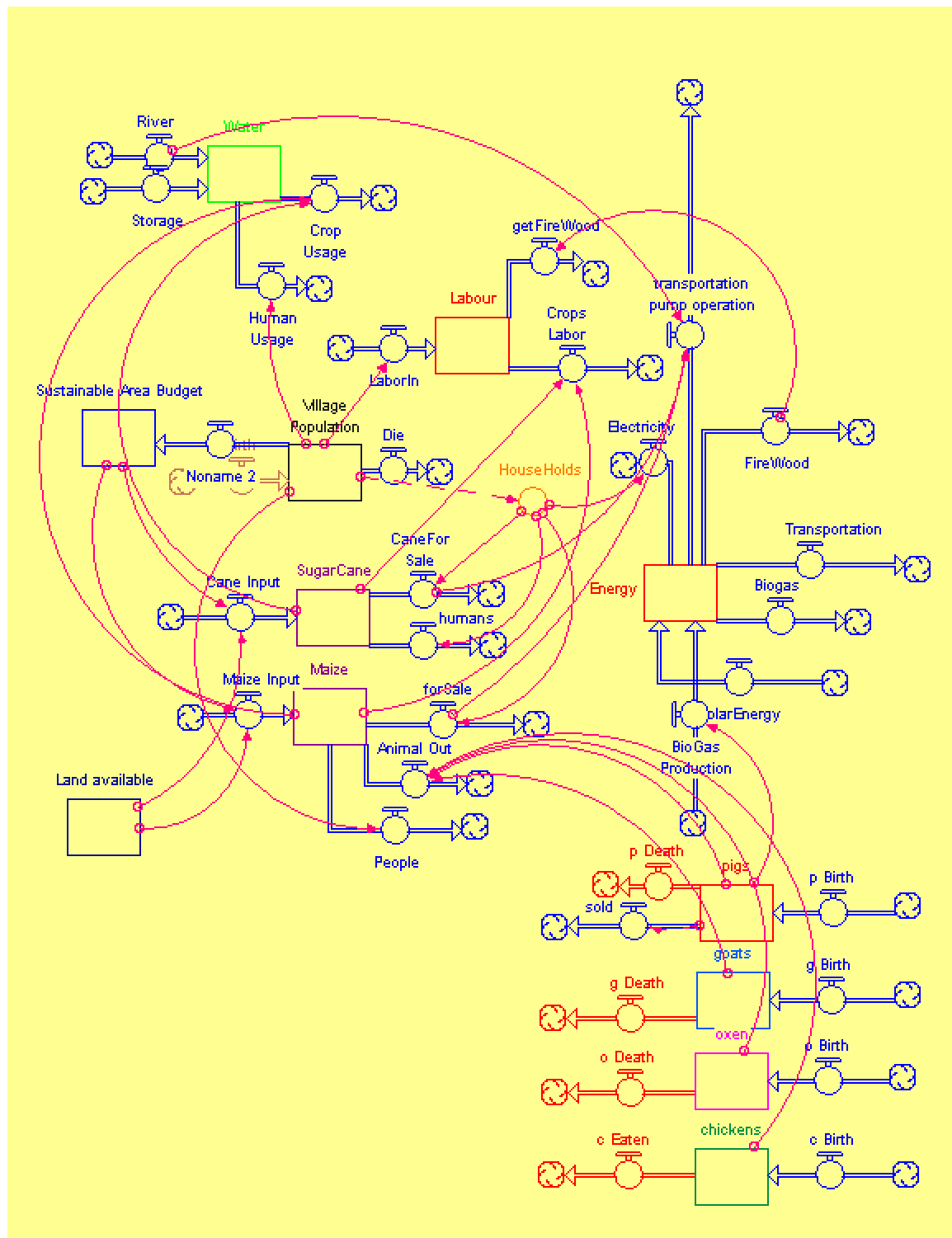Zhang Fan, Bei Suzha 9/2002, paragraph school

Depending on the social experience in the village, the cadres develop different strategies in order to get the dwellers to contribute for the village upgrading, from the school to the street or to the water supply system. The wealthy director of a rubber company, the party secretary, the village dweller – they all give their monetary contribution. Our example shows that a woman dedicated a one-year-salary to the school. Often people who come from the village and have made carrier outside considerate their duty to contribute to their home village.
Based on this traditional combination of the notion of voluntary work with the notion of communitarian duty, every village finds its own system for expressing the obligation of the "we" to maintain the community.

**Preliminary Sample Diagram for a User-Friendly,
Interactive Sustainable Village Systems Model: The Village Du Jia, Yünnan**

The interactive systems model of the village Du Jia in Yünnan represents some key aspects of the material, energy and time and money economies of the village. The diagram shows a variety of linkages with different aspects of that economy and thereby

presents a tool capable of accompanying the What-if-Scenarios that form the balance seeking process between ideal and real, showing the user which consequences a specific decision taken by the player may have on other parts of the villages system (see diagram).

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Initial recommendations by both researchers as well as villagers are likely to involve individual incremental interventions in different specialized areas (agriculture, dwellings, energy, diversity of economic activities, social and cultural support.) These sustainability oriented "wish lists" represent what in SUCCESS are regarded as being on the "weak sustainability" level and are a necessary starting point in a comprehensive sustainability process. This would be followed by a strong sustainability approach, which would need to experiment with the interactions of combinations of a variety of different interventions and their effects upon the life and economy of the overall village, within a variety of different scenarios. In order for either researchers or ultimately villagers to do this with any degree of accuracy, complexity, efficiency or confidence, the employment of a user-friendly systems modelling tool is essential. This diagram shows what such a systems model might look like. The diagram roughly represents some key aspects of the material, energy and time and money economies of the village of Du Jia in Yünnan province. The diagram shows a variety of linkages with different aspects of that economy. One of the things to be found in that diagram are a symbol that represents the number of people currently living in the village ("village population"). That "stock" is connected on one side to "births" defined by an assumed or historic (or regulated) birth rate and on the other side by a death rate. A more detailed model would also include in and out migration rates. Population is related (connected) to a variety of other things that are also represented in the diagram. People supply "labour" which in this simplified model is used for getting fire wood and for growing crops. They consume water both for

growing crops (from the river) and for domestic use (from the mountain). They consume energy in the form of fire wood (which is being phased out), biogas for (cooking and lighting), solar energy (for water heating), diesel fuel and petrol (which would be replaced by renewable in a sustainability oriented transformation of the existing model) and imported electricity. The biogas comes from family-scaled biogas digesters that are fuelled by pig manure and human excrement. The digested manure is fertilizer for the maize, sugar cane (and other crops to be added later). The pigs eat some of the maize and agricultural wastes. Some of the maize is eaten by the people while most of the maize is exported as a cash crop. Some of the pigs are eaten and some of the pigs are sold in the town market. There are other animals that are raised in the village: some as draft animals and others as family food, export income and as pets. There is a finite amount of "useable" land available in the village which is allocated to the different families and for different uses, which limits the various capacities of the village activities; economic, environmental, and socio-cultural. Another limit that may be superimposed on the model is the Sustainable Area Budget, which may be either larger or smaller than the actual available land area.

Although this appears to be just a diagram of village relationships, it is also a computer program that can embody actual relationships and data. That is to say that such a diagram can be put together to show the general relationships of typical villages in the abstract, or it can be an actual "working model". In the working model the symbols are not just pictures, but they have intelligence, information and actual relationships behind them. So actual populations, birth and death rates can be represented as well as figures on food consumption, allotment areas, land productivity, consumption of water, food consumed and biogas produced per pig, biogas necessary per person, market price for maize, pigs and sugar cane, and so on. Data may be in the form of numbers, graphs, or equations.

With this sort of model, which may be easily added to or changed, researchers or ultimately villagers can experiment with many different possible futures. In the SUCCESS conception of strong sustainability, activities within a specific village to be modelled that could not be part of a sustainability regime, would be replaced with Sustainability Oriented Means or Methods. That is to say, diesel, petrol, pesticides, chemical fertilizers, coal, and other unsustainable material and energy sources and commercial products would be replaced by their sustainability oriented equivalents; bio-fuels, organic farming, renewable energy, etc. Then a great variety of "what-if" scenarios may be and run on the model. What if we double the amount of pigs we raise! The effects of such a proposition would reverberate through the entire system. More manure is produced making more biogas. A larger pigsty is needed taking more land and requiring more material (lumber, concrete, tile), consuming labour and export income. The pigs need more maize to eat reducing the amount of maize for export, thus lowering export income (how much). More pigs are available to sell in the market thus raising export income (how much). Amount of required labour is changed. Water use is changed. Land use is changed. As the effects of this what-if intervention reverberate through the village system many unanticipated effects occur – some opening new opportunities while others create new problems. Researchers can pursue these new opportunity/problems with new what-if interventions. It would be in the interest of researchers to make the modelling system and the relationships and the data to support them more accurate and more robust. Eventually villagers would be able to use these systems models to explore opportunities for increasing the quality of life in their common future. Such a process opens spaces of opportunity for both the rational and the irrational; the cultural as well as the scientific. It will be limited by the world of the possible, but will be driven by the interests, biases, cultural background, traditions, hopes and desires, of the villagers through a scenario-building, Sustainable Civil Society negotiation process. The systems model will provide this process with the feedback to inform the villager-stakeholders of the consequences of their ideas and proposals. It will tell them whether a given intervention would increase or decrease the productivity, the availability of more free time, the creation or distribution of more wealth, or the mutual satisfaction of a variety of different needs. It will also tell them whether interventions are driving the village system towards balance or away from balance and thus would be a guide for suggesting further interventions that would preserve the positive aspects of a previous what-if model while compensating for the imbalances it may have introduced.

China in its old tradition has a long experience with balanced situation in nature and society. In the local village we still can find traditional patterns, which contribute to this balanced situation. A lesson we can learn from the point of architecture:

LESSONS FROM CHINESE VILLAGE PATTERNS

In the tremendous speed of the actual Chinese urbanisation and transformation process that tends to establish a stereotyped concept of modernisation and raised living quality, the study has gone back to the existing traditional patterns still present in some of the villages and representing the ancient Chinese principle of Tian Ren He Yi – Coexisting of the Nature and Human beings.

1. FENGSHUI AND ITS IDEAL PATTERN IN THE VILLAGE

One of the most important methodologies that carry out the concepts of Tian Ren He Yi a spatial pattern in towns and villages in China is Fengshui. According to Fengshui, there exists special energy (and integrative information between the nature and human beings), which is called "Qi" in Chinese, between the human dwellings and the landscape around it. Only when "Qi" moves fluently in a specific environment can it bring infinite harmony and happiness to the whole settlement. So an ideal settlement pattern for Chinese people is not only a matter of building up a good living quality to the people of one generation, but a matter of setting up a good relationship with the universe which will bring them happiness and wealth to all the generations in the place. The material spatial elements of an ideal village pattern in China are the mountain (back), the human dwelling (middle) and the river (front) and abstract spatial factor is the infinite movement of "Qi" around among them. From some existing traditional patterns in our case study villages, we can see clearly the integrative communication between the human dwellings and the nature around it. Most of time, the ideal village pattern making starts from site choosing, closely working with a Fengshui expert and the most respectful people of the village. To some villages that didn't have such ideal environment, the villagers would reset the environment and location (i.e. build a big pond in front or sometimes small hill or a big tower at the back) to complete the ideal pattern of a village. As soon as the ideal

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overall pattern of the village is decided, every family can adjust its house through some special material spatial structure like the location of the house and Zhaobi in front of the house as the village grows.

2. DAOISM AND CONFUCIANISM AND SPIRITUAL SPATIAL SPACES IN THE VILLAGE PATTERN

In many Chinese villages, especially villages of Han majority, the dominant religions that influence s the village pattern making is the combination of Daoism, Buddhism and Confucianism, which relates the essential factors or supporting factors, the spiritual spatial space, in the village pattern. In general, we can conclude two kinds of spiritual spatial space in the village pattern, Nature Spiritual Space relating to Daoism and Socio-culture Spiritual Spaces relating to Confucianism.

2.1 Daoism and Nature Spiritual Spaces

Daoism, the philosophy of the law of nature, strengthens that people should follow the law of nature and worship the power of the nature being (i.e. Mountain, Water, Big tree). A lot of traditional villages have several special nature spiritual space which play the role of uniting the nature landscape into the village pattern and creating diverse public spaces in the socio pattern of the village.

Different to other grave religions place (i.e. Temples or Church), most of the nature spiritual spaces in the rural area in China carry out the function of "open public space" which imports daily life of the villagers with a happy atmosphere. To most villages, equivocality and diversity are the distinct characteristics of the nature spiritual spaces in the traditional Chinese village pattern.

2.2 Confucianism and Socio-culture Spiritual Spaces in the village

Confucianism, the philosophy of the principles of the society, paid a lot of attention to deal with different relationships in a society that was built up by blood relationship. In a rural area like a Chinese traditional village, the blood relationship chain is very strong even today. Many villages consist of two or three big clans, which sometimes can even date back to the beginning of the villages.

In order to unite all the people together in a clan, people built up ancestral temple to manage social affairs in their clan. Therefore the socio-culture spiritual spaces came into being in the village pattern and built up the special socio structure in it. In a traditional village the ancestral temple is more important than some religions site to the villagers in the past. The village centre and Party centre took place of the ancestral temple after l949 and became the new socio-culture centre in a village.

In a nature evolution village pattern, the ancestral temple is kind of self-organized socio-culture spiritual spaces with the participatory of people while the current village centre is an organized socio-culture centre made by the country or the government. Today a lot of ancestor temples are rebuilt by the donation of villagers and regain their status in the village pattern.

3. Yin Yang Zhong He and its ideal pattern of a house

Yin Yang Zhong He, balance seeking between Yin and Yang, was regarded as an important characteristic of the nature as well as the human beings. So only when a person reaches the balance between Yin and Yang does he reach the law of the nature, that is, Tian Ren He Yi. So does the human society and human dwellings. As the oldest Chinese architecture book, Zhai Jing, said in its first paragraph: a house, is a pivot of Yin and Yang, and it is a module of human society.

In Chinese traditional concepts, a courtyard represents Yin where a building represents Yang in a house series. If a courtyard is too spacious compare to the buildings around it, there are too much Yin in the environment; If the building is too huge compare to the courtyard nearby, there are too much Yang in the environment. Both are not good for health because they don't follow the law of the nature.

Siheyuar or Sanheyuan, an appropriate size courtyard with four separate or three separate houses surrounding it, was regarded as an ideal house pattern that reflect the balance of Yin and Yang. In this pattern, the courtyard is the centre in both the social structure and house structure in a family and it is in charge of the overall arrangement of the space of a house pattern. The house styles are diverse in different place in the rural area in China, but the courtyard which works as a positive "open living space" as well as an active socio centre in the house is always a dominant factor in a house pattern in a Chinese traditional village, even in a very free growth pattern of a nature evolution village.

In a word, Chinese traditional villages and vernacular houses show diverse possibilities of the human dwellings under different nature environment and local carrying capacities. But at the same time, they reunite together under the traditional concepts of Tian Ren He Yi which closely working with the ancient concepts of Fengshui, Daoism and Confucianism.

CONCLUSION: VILLAGE SPACES AND THEIR ROLE FOR A SUSTAINABLE FUTURE

The common results of the study show the participatory approaches from the SUCCESS project: The future scenarios developed in cooperation with the village's dwellers show conflict lines between the real and the ideal representations among the scientists on the one hand, the village dwellers on the other. The common results, future scenarios of sustainability, take into account the spatial as well as the social dimensions and include them into the overall sustainability approach.

The village spaces as communication circle are the place for the social interaction, where an informed and interested community has the opportunity to establish sustainable action fields. This is the background for management systems of separating or avoiding waste, this is the place for a planning concept for the usage of public space; this is the place for a weekly or monthly market where economic, ecological and social dimensions can find a common space for human activities. The photo interview and the participatory video show how such a space can become a meeting place for the researchers and the dwellers, the systems model shows a draft of how these activities can be integrated through a new technological planning tool that can serve in a top-down-approach for the planners as well as in a bottom-up-approach for the village dwellers. Based on the traditional Chinese patterns this scientific approach is a potential for a sustainable future. The theory of communication circles delivers the basis for the field of action to

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choose for a specific sustainability intervention. The communication circle "village spaces" is the frame for the organisational and societal learning as a common societal task for a sustainable village. In the question of how sustainability can come about, this paper shows that a combination of disciplines and a combination of high tech tools between paradigmatical and social sciences can lead to a future concept that makes the bridge between traditional and contemporaneous values.

NOTE

This paper represents the interdisciplinary work in the project SUCCESS. The special findings are due to the following researchers: Heidi DUMREICHER Austria, Bettina KOLB, Austria ("Seven Communication Circles" - sociology and photo-interview), Richards S. LEVINE, USA ("Preliminary Sample Diagram for a User-Friendly, Interactive Sustainable Village Systems Model: The Village Du Jia, Yünnan"), LÜ Hongyi, P.R.China ("Lessons from Chinese Village Patterns"), Ina IVANCEANU, Austria ("participatory video").

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