Proposal to Revitalize Zhenfu Lou (振福楼)
Xia Nanxi Village, Hukeng Town (湖坑镇), Yongding County, Fujian Province

• Historical RecoFit+Natural Capitalism for sustainable redevelopment, south China

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INDEX (Note: our own projects have red border)

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A) Introduction: This revitalization plan for Zhenfu, respectful of its cultural and historical heritage, is a unique opportunity to resuscitate the past, retrofit the present and be ready for the future, as an international prototype for sustainable redevelopment of historic monuments (and villages) without forced retirement into static museums. This generic approach to save and rehabilitate Hakka villages is a privately-led partnership with Government and industry to demonstrate a new model or paradigm for a sustainable future. Zhenfu and its land, can be reborn as a dynamic, living, breathing, leading-edge Centre for Sustainable Living, Learning & Natural Capitalism ¹ and Centre of Appropriate Technology ² ³, as the first RecoDevelopment project in a future Hakka BioSphere Plan ⁴ for Fujian, Guangdong, Guangxi and Jiangxi, based on the data, vision and recommendations below.
B) **Context:**

Tulous in this region were built from ~769 (Fuxing Lou, the oldest) to 1979 (Shanqing Lou, Chuxi, the newest). All Hakka Tulou World Heritage Sites are located in western Fujian province, although there are good reasons to expand this limited location to other equally worthy sites in other provinces especially in the Meixian (Meizhou) area of Guangdong province, just west of the present sites, since people were not confined by artificial boundaries at that time. Eventually, a regional **Hakka Biosphere** may be created to encompass all major outstanding Hakka villages in south east China, all linked together by a **Hakka Heritage Trial**, as proposed elsewhere.  

C) **Historical Note:**

There is very little information on Zhenfu from the English internet, literature or other sources. The best source of information comes from small Chinese and Japanese books. The best English information comes from UNESCO.  

Zhenfu is of recent vintage. It is not ancient, old or contemporary. Its architecture is east and west. It was built in 1913 by a businessman to house workers for his tobacco business. Offices were located on the ground floor. This vision of a business person, prosperity from agriculture and the allocation of space, giving life to a community and building, are ideas worthy of replicating in the modern age. This part of the tulou story can be recycled into a new foundation for hope and the transformation of a static museum into a dynamic, flourishing, vibrant and prosperous community.  

D) **Specifications (site & buildings):** Note: “(? )” indicates information in need of (off/on-site) verification.  

01) site area: ~3 ha (1.56 ha) containing land, water and buildings; resources, flora & fauna  
02) legal description: NA (?), title owned by Su family, since 1913  
03) water frontage along Nanxi River: estimated at ~700 m (not including island frontage)  
04) **Zhenfu Lou:** 3 stories, 10 m (?) high, rammed earth, south facing gate, round plan ~43m ø, wood interiors, 96 rooms, “mixture of Hakka & western architectural style”, 4,000 m²  
05) row house: 40 m L (?), 10 m W (?), 10 m H (?), gable roof (see Fig. 1)  
06) location: Xia Nanxi Village, Hukeng Town, on Nanxi River, 24°38′06″ NL, 116°56′59″ EL  
07) status: 2008, UN World Heritage Site; 1998: County Preservation Building of Historical Relic

2: Map of **Zhenfu** (red) with river, ponds, waterwheel, tea house, restaurant, gardens & tourist facilities
E) **Policies**: This property (site) has 2 major assets (some well used, and some not used at all):
1) land (gardens, fishing pond, landscaping, paths, island, trees, river edge, picnic area, hills)
2) buildings (Tulou, row house (apartment), ruins, enclosed yard, restaurant, tea house, toilets)
It is recommended that an integrated approach should be used for site planning, architectural design, consulting, recfit, construction, implementation, programs, education and transit, to uphold, advance, enhance and diversify the historical, cultural and architectural legacy and opportunity.

**Sustainability** is the overarching policy that should guide and permeate all aspects of ecological redevelopment of Zhenfu, including the following 12 aspects of a revitalized property:
- historical archives of the family and its home
- site plan & architectural program and design
- engineering (i.e. structural, mechanical, electrical)
- choice of building materials, colours and textures
- construction process
- cultural, educational, youth and career programs
- operations: heating/electrical/office
- marketing: international and national
- waste disposal: biological, consumer
- transportation: to and on the site
- land use: gardening & farming practices
- water and energy use and consumption

![Image 3: Ancestral Records](image3.png)
![Image 4: Repair (Chaoyang, Hongkeng)](image4.png)
![Image 5: Structural/Wall Upgrade, Chaoyang](image5.png)

F) **Vision** (purpose, goals, opportunities, constraints):
01) **Historical Archive**: further cataloguing of information & clan books (Fig. 3) in digital format
02) **Heritage Preservation**: physical upgrade of tulou to uphold/strengthen its heritage (Figs. 4, 5)
03) **Cultural Celebrations**: Hakka food/music/mountain songs/dance/festivals (Figs. 6, 61, 68-73)
04) **Education**: learning centre for credit courses, conferences, tours & retreats (Figs. 7, 90-92)
05) **Live-in Community**: convert row house into modern flats for people, and tulou into multi-use centre for sustainable development, with learning on the ground floor, rooms on other floors
06) **Repopulate**: alive+dynamic with children+families, students+scholars (Figs. 7, 8, 62-63, 90)
07) **Economic Diversification** (cottage industries): new livelihoods/work/jobs: ecotourism, permaculture, clean energy, history & education as revenue generators for optimum local benefit
08) **EcoPark**: further development of public park & facilities as “head” of hiking trail linking all major regional Hakka villages (Figs. 9-12, 87-89, 96-97) to bring sustainable jobs, income & tourists
09) **Self Sufficiency**: independence in most food, income & all energy (solar, mini-hydro, methane)
10) **Energy Plus**: make site a prototype in the production & export of surplus energy to power grid
11) **Renewable Energy**: mini-hydro should be harnessed at 2 specific sites (shown in Figs. 15, 16)
12) **Modern Technology**: upgrade buildings to post modern conveniences/technology (Figs. 17-19)
13) **Village Scale**: expand successful strategies & technologies from tulou to all of Chuxi (Fig. 20)
14) **Promotion**: web site/internet advertising of amenities/attractions for ecoTourists/package tours
15) **Optimization**: of entire site for appropriate uses to honour existing heritage and to secure a sustainable future for the Su family, property, hinterland and all buildings for short & long term
16) **Centre of Appropriate Technology** as at Wales United Kingdom & Ontario Canada
17) **Constraints (possible)**: apathy, poverty, government, museum, disenfranchisement, lack of modern conveniences, not enough tourists & income, lack of leadership & vision
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6: Lion Dance, LuoRuiHe Lou
7: students, Sheung Yiu Museum
8: home study in village

9: Yuan Yuan Lou
10: Sheung Yiu, HK
11: Fuyu, Honkeng
12: near Yujing

13: mini-hydro beside Yanxian Lou
14: Yanxian Lou
15: beside Zhenfu
16: Zhenfu potential

17: satellite dish in Shenqing Lou
18: modern hotplate in Yucheng Lou
19: DHW tanks, Shuncheng
G) possible Architectural Imperatives, Opportunities & Features for Zhenfu Lou:

01) structural/safety: repairs if needed, to ensure structural integrity & personal safety (Figs. 4, 5)
02) fire separation: between rooms (Fig. 5) & floors (Figs. 21, 22) to increase fire ratings
03) roof upgrade: to eliminate all leaks & protect building below and for rain water collection
04) new wall finish: new durable, clear, interlocking new parging/stucco over rammed earth wall
  Note: there is a universal problem with traditional parging staying on walls (Figs. 23-27)
05) fresh gate decoration: new facelift according to tradition with new couplets (Figs. 28-30)
06) composting toilets: at north end of rowhouse for both buildings, quiet & no smell (Fig. 33)
07) mini-hydro: there are 2 high potential mini-hydro opportunities (Figs. 15 & 16)
08) main floor: reception, offices, class/common/handicapped rooms, dining, medical clinic,
09) 2nd floor: rooms for elderly & physically challenged, & storage
10) museum wing: educational displays (Figs. 34, 74-79, 85-86)
11) bridge between tulou & flats: for utilities, toilets, (water) elevator, open below for movement
12) solar collectors (Figs. 35, 41-42): instant hot water heaters (Fig. 36)
13) library: collection of historical records for international research, students, scholars & public
14) recycling centre: for tulou community & Chuxi
15) furniture: refurbishing of authentic well designed antiques remain unused (Figs. 37, 100-102)
16) Ancestral Hall: purpose to be maintained (Figs. 38-39)
17) water: a) rainwater collection into cistern, 2) greywater recycling into outdoor EcoMachines
18) heating strategy: use of radiant heating below floors (Fig. 40), preheated by solar (Fig. 39)
19) thermal energy: 1) conservation, 2) primary: solar, 3) backup: electric (mini-hydro) (Fig. 42)
20) electrical energy: mini-hydro (Figs. 13-16, 43)
21) conservation: retractible radiant barrier over courtyard in winter with reducing daylight(Fig. 44)
22) daylighting: SunPipes (Fig. 45) to funnel natural light into darker interiors, especially stairs
23) stairs: increased safety features: handrail, lighting & proper landings
24) courtyard optimization: planter fruit bearing/fragrant trees to enliven & beautify (Figs. 46-58)
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71: Xi’an Hakka Conference

72: Xi’an, World Hakka Conference

73: Toronto 2008 Hakka Conference

74: Longan, fruit for “treating amnesia”, Sheung Yiu

75: Cereus for “gastric pain, sputum and cough”

76: Forest Development, The Story of Reforestation

77: Bamboo: food, Feng Shui and may other uses
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78: Hakka rammed earth walls, Zhenfu museum
79: traditional Hakka forms/tampers, Zhenfu museum

80: rammed earth construction, 1990, ASH-Inc.
81: Alberta rammed earth construction, ASH-Inc.

82: central beam, Ancestral Hall
83: Yin Yang
84: 8-diagram Li Village, Dapeng
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85: genealogy of Lou family, LuoRuiHe Villa
86: founding fathers of LuoHuiHe Villa
87: Sheung Yiu Hakka Village
88: Sheung Yiu Hakka Village
89: SamTung Uk Hakka Village
90: SamTung Uk Hakka Village
92: Hakka Research Institute
93: biodiesel bus, Toronto, 2008
94: electric mini bus, Yongding, 2007
95: EcoCab (Taxi), Toronto, 2008
alternative Proposal for Zhenfu, Jorg Ostrowski © ASH-Inc., Nov. 4-22, 28-30/08 draft 2, p. 12/24

96: Taishan, 2007
97: recycler
98: electric golf cart, Calgary, 2006
99: Segway electric transit

100: Sheung Yiu Hakka Village
101: baby chair, LuoRuiHe Villa
102: wicker chairs, Ji Shan Lou, Qiaoxi

103: solar oven, Calgary
104: food dryer, Philippines, 1988
105: dried fruit, Zhencheng

106: Koi, Costa Rica 2008
107: Yongding
108: terraces north of Chuxi
109: grapefruit, Qiaoxi
H) potential Educational Programs that could be considered:

01) medical: alternative healing techniques, traditional medicine & acupuncture, reflexology
02) food: traditional Chinese/Hakka herbs (Figs. 59-60) & cuisine (Fig. 61)
03) meditation/philosophies: yoga, Tai Chi, QiGong, Taoism (Figs. 62-63)
04) arts: Chinese/Hakka paintings/art/drawings/sculpture (Figs. 64-67), ancient instruments & music (Figs. 68-70), mountain songs and opera (Figs. 71-73)
05) Chinese Language course: intensive mandarin for North Americans, Expatriates & Europeans
06) EcoCamp for children: 2 weeks of environmental education for children
07) environmental stewardship: integrated approach to healthy living for body, mind & soul
08) plants: edible & medicinal wild plants & their relationship to community living (Figs. 74-77)
09) renewables: solar (Figs. 35, 41-42) mini-hydro (Figs. 13-16, 43), biodiesel (Fig. 93), cogen
10) construction: “hands on” workshops: i.e. rammed earth construction (Figs. 78-81)
11) star gazing: study of the solar system and integration into Chinese history & culture
12) Hakka planning & architecture: defensive/aristocratic form, old/modern, both tulou & mansion style, Feng Shui (Figs. 82-84), siting, planning, architecture, details, best examples
13) Chinese Genealogy: computer based tracing of historical records & ancestry (Figs. 3, 85-86)

Note: It is recommended that Zhenfu become a satellite campus of the Hakka Research Institute at Jiaying University (under the direction of Professors Fang and Liang) as lead partner in the development of all educational programs on the property, with graduate students (Figs. 62, 92).

I) possible Cottage Industries (economic diversification, local job creation/income, green incubator):

01) ecotourism: tour guides for hiking trails (Figs. 9-12, 87-89), translation, B&B/Inns, concessions
02) EcoResort: hotel room/pension/inn accommodations with shared canteen
03) school tours: local schools (Figs. 7, 90) & university practicums (foreign architecture schools)
04) culture: special events, festivals & dances, musical performances (Figs. 6, 68-73)
05) education: courses, workshops & seminars (Figs. 62, 91-92)
06) renewable energy: solar (Figs. 35, 41-42), mini-hydro (Figs. 13-16, 43), biodiesel (Fig. 93)
07) emissions trading: sell sequestered CO₂ (environmental) credits ²⁰
08) green transit: buses, bicycles (rental & repair), Segways, electric vehicles Figs. 90-96)
09) building renovation: repair & upgrade (Figs. 4 & 5, above)
10) furniture: new furniture (Figs. 100-102) & repair of broken furniture using natural materials
11) solar installations: solar hot water collectors in the region (Figs. 35, 41-42)
12) fabrication: solar ovens/dryers (Figs. 103-104)
13) Hakka food: fruits & vegetables, restaurant (Fig. 61)
14) export: solar dried fruits for export (Fig. 105)
J) **Permaculture & aquaculture**: (sustainable Farm & Fish Ponds):
  Organic & biodynamic agriculture using natural pest control, companion planting, integrated land management, with of high value, low energy, agricultural produce
  01) **aquaculture**: expansion of existing ponds (Fig. 2)
  02) **terraces**: south facing terraces, building on culture/experience (Figs. 107-108, 113)
  03) **fruits & nuts**: most nutritious fruits (Fig. 109) & trees for local consumption & export
  04) **gardens**: functional, educational, nutritional & biodynamic vegetable gardens (Fig. 110)
     - camphor, tea, hemp, banana, bamboo are locally grown
  05) **compost production**: to produce healthy & safe soil for gardens & farm
  06) **reforestation**: new trees for CO₂ mitigation, oil/fruits/nut/oxygen production, erosion control
     (for oil Hakka extraction, see Fig. 111)
  07) **plant identification**: labels in Chinese, English and Latin of all species (Fig. 112)

K) **Stakeholders & Partners and potential roles (without brides)**:
  01) **Su family**: decide the future path, and if interested in this proposal, to select a liaison person
  02) **local people**: get an inventory of labour skills & interest to put “natural capital” to useful work
     **Note**: this program must benefit the family, local people & their micro-economy
  03) **philanthropists/investors**: seed money for: research, program development, proposal, PPT, as built drawings, design, project management, inspections and local assistants/labour
  04) **government** (UN, provincial, county): to facilitate concept, program, design, approval process, construction, success & replication
  05) **educational institutes**: local universities, international architecture schools for programs
  06) **industry**: partnerships for supply/install of appropriate technology
  07) **NGOs**: influential international & Chinese organizations for partnerships, support promotion
  08) **visitors**: to make it a success with package tours for ecoTourists, schools and other visitors
L) aspects of an implementation Strategy (both tulou & adjacent building):
   A strategy for Zhengfu could include, but not limited to, the following implementation plan:
   01) pre-construction: commissioning of the following, if approved by the leaders & community:
       a) PPT presentation on the “Zhengfu Lou Revitalization Concept” to family (& stakeholders)
       b) weather station, EcoInventory, water flow analysis, initial sketches/discussions/precedents
       c) Building Analysis Report to identify integrity of structure, fire, safety, water & sewage
       d) Cost Estimate of work to be undertaken: repair, including all aspects covered in #c above
       e) EcoTourism Feasibility Study: how many tourists visit now and what potential is there
       f) Mini Business Plan (including fund raising): to demonstrate a possible cash flow scenario
       g) site plan: integrated community approach to harness real potential of entire site (Fig. 1)
       h) architectural & engineering design:
            i) "As Built" drawings of existing structure for the record: plans, elevations, sections, specs
            ii) RecoFit Plans: plans for new uses to bring back daily life to the empty halls & rooms
            i) partners: universities, government, NGOs, industry suppliers, philanthropists, investors, etc.
   02) transit: only buses (Fig. 93) to parking area: then bicycle, Segway (Fig. 99) rental, or human
       powered rickshaws (Fig. 95), electric vehicles (charged by renewable energy) Fig. 94, 98)
   03) advertising & promotion: alliances with government & package tour companies
   04) special events: to celebrate major Chinese & western holidays
   05) educational programs: international speakers, seminars, workshops, think tanks, etc.

M) Feasibility (5=high probability, 0=no possibility):
   01) a museum recycled into community)? 4    09) funding from various sources? 3
   02) redesign of optimal buildings/site ? 4    10) conservation program? 3
   03) a learning/living centre? 4    11) government support? 3
   04) a Centre for Appropriate Technology? 5    12) industry support? 3
   05) an educational program to generate income? 4    13) permaculture? 4
   06) a model project? 3    14) economic diversification? 4
   07) renewable energy (mini-hydro installation)? 4    15) ecotourism? 4
   08) new income for local people? 4    16) can it be a live-in community? 5

N) Assumptions:
   01) numbers of tourists will increase in the future
   02) government & UN will support this initiative, although this will take considerable time & effort
   03) clan has final say in all decisions
   04) the only way to proceed is environmentally in all aspects
   05) the plan for the future must be an integrated approach
   06) community to select local project co-ordinator as liaison person
   07) all work to be done by skilled experts or professionals
O) Conclusions:

01) the stainable nature of tulous has been recognized by various parties, but only in passing:
   a) “harmonious relationship with their environment” 11,13
   b) “They are excellent examples of ecologically sustainable building design” 15
   c) “improved plan for the sustainability of the farming landscape which respect local farming traditions should be developed” 11
   d) “The biggest message that comes from Fujian round architecture is that a genuine practitioner of environmental and social sustainability relies on a simplicity of approach - a respect for nature.” 26

This fact provides a solid foundation on which to build a new plan for sustainable revitalization.

02) Such a vision and plan, although by far the most superior for the family, local people, land, environment, culture, history and business, as a new paradigm, will take a long time to realize, especially with government involvement on the county, provincial, nationaland United Nations levels. It will not be fast or easy. However it is definitely worthwhile. It may also be the first, and the process could be accelerated by professional project management. Ultimately, the negotiation process is key. This undertaking may well establish a precedent for all other tulous on the World Heritage Site list.

03) UNESCO documents of can be utilized as a powerful foundation or support for the above plans, since they share such common aspects of our work of the last 32 years, including:
   a) need to maintain historical authenticity: buildings for settlement, community and offices. Several tulous were built by businessmen, including Zhenfu. It should be noted that many tulous also had their schools within their clan building.
   b) surrounding area: need to improve the surround forest and farming practices
   c) other key aspects include: sustainability, environmental harm,“best practices, Feng Shui

04) no restrictions: on improvements, renovations or retrofit of the structures have been found

05) strategic location: first building to Chuxi village, as a natural gate house

06) the greatest opportunity here is to seize the opportunity, lead the way and set the benchmark and precedent by doing it properly (sustainably), with existing technologies and proven methods, before others get on the bandwagon with little or no experience.
P) Acknowledgements:
01) my dear wife Helen for roughing it on 2 trips through rural China
02) EcoTourist Guide/Translator Xiaoyan Li for faithfully taking us to all places shown above
03) colleague/architect Minoru Ueda for photographs, discussions, measuring & cataloguing
04) Dr. Keith Lowe for his continuous support, encouragement and opportunities
05) Mei-Juan Lin, for supplying Fig. 6, photograph of LuoRuiHe Village

Q) Bibliography:
   a) http://www.natcap.org/
   b) http://www.natcap.org/images/other/HBR-RMInatcap.pdf
   c) *http://www.globalissues.org/video/732/amory-lovins-natural-capitalism* (Note: Mandarin)
   d) http://www.bigpicture.tv/videos/watch/072b030ba
   f) http://www.abc.net.au/science/slab/natcap/default.htm (good detail)
03) Kortright Centre for Conservation, Kortright Ontario, Canada, http://www.kortright.org/
07) Nomination Files: http://whc.unesco.org/en/list/1113/documents/ (Summary Page)
08) Fujian Tulou, multiple locations (list showing name, location, coordinates, area)
   http://whc.unesco.org/en/list/1113/multiple=1&unique_number=1505
09) 1.e-6 (5), Map Showing the Area of Nominated Property and Proposed Buffer Zone around Fujian Tulou – 5: Zhenfu Lou, (China, Fujian Tulou.pdf, p. 19)
   http://whc.unesco.org/en/list/1113/documents/
10) Advisory Body Evaluation, Fujian Tulou (China), No. 1113,p. 22
   http://whc.unesco.org/en/list/1113/documents/
   “This large circular tulou, standing on its own in a narrow valley, covers 4,000 square metres, and was built by a businessman in 1913 to house workers for the tobacco industry. Like Zhencheng Lou, it is a mixture of Hakka and western architectural styles – the elaborate ancestral hall has granite columns, and the porch is tiled and enclosed by an iron grille gate. Part of the internal space was used for storing tobacco products and for offices.”
11) DECISIONS ADOPTED AT THE 32nd SESSION OF THE WORLD HERITAGE COMMITTEE (QUEBEC CITY, 2008),
   (Decisions report of the 32nd session (Quebec City, 2008) WHC-08/32.COM/24), p. 163
   http://whc.unesco.org/pg_friendly_print.cfm?cid=305&id_decision=1481
   Decision: 32 COM 8B.20

3. Adopts the following Statement of Outstanding Universal Value:

The Fujian *Tulou* are the most representative and best preserved examples of the tulou of the mountainous regions of south-eastern China. The large, technically sophisticated and dramatic earthen defensive buildings, built between the 13th and 20th centuries, in their highly sensitive setting in fertile mountain valleys, are an extraordinary reflection of a communal response to settlement which has persisted over time. The tulou, and their extensive associated documentary archives, reflect the emergence, innovation, and development of an outstanding art of earthen building over seven centuries. The elaborate compartmentalised interiors, some with highly decorated surfaces, met both their communities’ physical and
spiritual needs and reflect in an extraordinary way the development of a sophisticated society in a remote and potentially hostile environment. The relationship of the massive buildings to their landscape embodies both Feng Shui principles and ideas of landscape beauty and harmony.

**Criterion (iii):** The tulou bear an exceptional testimony to a long-standing cultural tradition of defensive buildings for communal living that reflect sophisticated building traditions and ideas of harmony and collaboration, well documented over time.

**Criterion (iv):** The tulou are exceptional in terms of size, building traditions and function, and reflect society’s response to various stages in economic and social history within the wider region.

**Criterion (v):** The tulou as a whole and the nominated Fujian tulou in particular, in terms of their form are a unique reflection of communal living and defensive needs, and in terms of their harmonious relationship with their environment, an outstanding example of human settlement.

The authenticity of the tulou is related to sustaining the tulou themselves and their building traditions as well as the structures and processes associated with their farmed and forested landscape setting. The integrity of the tulou is related to their intactness as buildings but also to the intactness of the surrounding farmed and forested landscape – into which they were so carefully sited in accordance with Feng Shui principles.

The legal protection of the nominated areas and their buffer zones are adequate. The overall management system for the property is adequate, involving both government administrative bodies and local communities, although plans for the sustainability of the landscape that respect local farming and forestry traditions need to be better developed.

4. Recommends that the State Party give consideration to the following:
   a) as one of the main potential risks to the property is increased visitor numbers, there is a need to ensure that tourism protection plans are adhered to;
   b) care needs to be exercised to avoid maintenance and conservation activities that may have an adverse impact on the authenticity and integrity of tulou by means of policy and “best practice” guidelines;
   c) improved plan for the sustainability of the farming landscape which respect local farming traditions should be developed;
   d) given the importance of the landscape setting of the tulou, consideration should be given to the protection of the wider setting of the property as well as the property and buffer zones;
   e) there should be a one-year re-evaluation of the monitoring system in detail;
   f) a coordinated overall interpretation and presentation plan at the provincial level is needed to ensure consistency in site interpretation and presentation. This should ensure consistency in quality and style from county to county, so as to create a recognizable visual identity in the eyes of visitors and local inhabitants.

12) **32COM 8B.20 - Examination of nomination of Natural, mixed and cultural properties to the World Heritage List - Fujian Tulou (CHINA),**

http://whc.unesco.org/pg_friendly_print.cfm?cid=305&id_decision=1481&


**Brief Description:** Fujian Tulou is a property of 46 houses built between the 12th and 20th centuries over 120 km in south-west of Fujian province, ... Several storeys high, they are built along an inward-looking, circular or square floor plan as housing for up to 800 people each. They were built for defence purposes around a central open courtyard with few windows to the outside and only one entrance. Housing a whole clan, the houses functioned as village units and were known as “a little kingdom for the family” or “bustling small city.” They feature tall fortified mud walls capped by tiled roofs with wide over-hanging eaves. The most elaborate structures date back to the 17th and 18th centuries. The buildings were divided vertically between families with each disposing of two or three rooms on each floor. In contrast with their plain exterior, the inside of the tulou were built for comfort and were often highly decorated. They are inscribed as exceptional examples of a building tradition and function exemplifying a particular type of communal living and defensive organization, and, in terms of their harmonious relationship with their environment, an outstanding example of human settlement.

**Outstanding Universal Value:** The Fujian Tulou are the most representative and best preserved examples of the tulou of the mountainous regions of south-eastern China. The large, technically sophisticated and dramatic earthen defensive buildings, built between the 13th and 20th centuries, in...
their highly sensitive setting in fertile mountain valleys, are an extraordinary reflection of a communal response to settlement which has persisted over time. The tulou, and their extensive associated documentary archives, reflect the emergence, innovation, and development of an outstanding art of earthen building over seven centuries. The elaborate compartmentalised interiors, some with highly decorated surfaces, met both their communities’ physical and spiritual needs and reflect in an extraordinary way the development of a sophisticated society in a remote and potentially hostile environment. The relationship of the massive buildings to their landscape embodies both Feng Shui principles and ideas of landscape beauty and harmony.

Criterion (iii): The tulou bear an exceptional testimony to a long-standing cultural tradition of defensive buildings for communal living that reflect sophisticated building traditions and ideas of harmony and collaboration, well documented over time.

Criterion (iv): The tulou are exceptional in terms of size, building traditions and function, and reflect society’s response to various stages in economic and social history within the wider region.

Criterion (v): The tulou as a whole and the nominated Fujian tulou in particular, in terms of their form are a unique reflection of communal living and defensive needs, and in terms of their harmonious relationship with their environment, an outstanding example of human settlement.

The authenticity of the tulou is related to sustaining the tulou themselves and their building traditions as well as the structures and processes associated with their farmed and forested landscape setting. The integrity of the tulou is related to their intactness as buildings but also to the intactness of the surrounding farmed and forested landscape – into which they were so carefully sited in accordance with Feng Shui principles.

The legal protection of the nominated areas and their buffer zones are adequate. The overall management system for the property is adequate, involving both government administrative bodies and local communities, although plans for the sustainability of the landscape that respect local farming and forestry traditions need to be better developed.

14) museum displays, Zhenfu, 2007

In the southeastern Chinese provinces of Fujian, Jiangxi and Guangdong, there exist a lot of buildings with a long history called “Tulou”. Raw earth, the main construction material, has been combined with wood structures, and stones have been used to certain extent. Most of these grand buildings with unique shapes and exquisite structures are round multi-storey buildings in mountainous regions serving the needs of families or villagers living together. These Tulou buildings, in isolation or in clusters, together with other traditional low residences in the localities, form villages large and small. They not only embody a profound cultural and historical tradition, but also integrate with the natural environment perfectly, presenting harmonious and wonderful scenes.

Unique, widely distributed and numerous Fujian Tulou buildings are an outstanding and representative architectural form created from long life experiences under unique historical and cultural backgrounds and particular natural and geographical conditions. With a large amount of objects and written records left from different times after the 11th century, the buildings reflect the emergence, innovation and development of this extraordinary art of raw earth buildings from the 11th century till now, provide abundant material evidence for the development and evolution of specific historical processes, cultural traditions, ethnic groups and folk customs, and have globally outstanding and universal historical and aesthetical value.

Among the world's various residential buildings, Fujian Tulou is known for its unique architectural shape, large size and exquisite structure. It is distinctive in the layout, and the choice of location which is integrated into nature. The abundant ethnic and cultural connotations and particular way of inhabitation make them unique and charming.

Fujian Tulou in the mountainous areas is a unique residential building complex made from rammed earth. It is a creative masterpiece in raw earth architecture. Fujian Tulou is mostly built by mountain side in rational layout. It absorbs the Fengshui principles in China's traditional architectural planning, meeting living and defense requirements of a family who live together. It cleverly makes use of narrow flat land in the mountains and local building materials such as raw earth, timber, cobblestone, etc. The many-storied building is itself a well-equipped, cost-effective and extremely solid system. It is both of high aesthetic value and marvellous defensive capabilities. Despite its seemingly plain appearance, its
concept, design, shape (circular in most cases) and exquisite interior structure is in an elegant harmony with surrounding mountains and rivers, presenting a uniquely charming picture.

Fujian Tulou is an architectural achievement and historical witness under specific natural, geographical conditions and significant social changes and turmoil, based on oriental kinship-based ethics and the tradition that a clan lived together. The modernized lifestyle and process of urbanization is influencing the continuity of traditional lifestyle. A practical way needs to be explored to protect and preserve the Tulou Building Cluster now and in the future.

The nominated Fujian Tulou is a unique and beautiful example of raw earth residential buildings or systems widely distributed in Fujian, Jiangxi and Guangdong provinces in China. Fujian Tulou is most widely distributed with the largest quantity and the richest variety. Approx. 3,000 Tulou buildings have been strictly confirmed. The properties presently proposed for inscription include ten buildings in Chuxi Tulou Cluster in Yongding County, seven buildings in Hukeng Tulou Cluster, fourbuildings in Gaobei Tulou Cluster and Yanxiang Lou, Zhenfu Lou, five buildings in Tianluokeng Tulou Cluster in Nanjing County, 13 buildings in Hekeng Tulou Cluster and Huaiyuan Lou and Hegui Lou, three buildings in Dadi Tulou Cluster in Hua'an County. They represent all known Tulou types and are of the best construction quality, highest aesthetic values, best preservation and management status with their authenticity and integrity least compromised.

Fujian Tulou has conformed to the oriental philosophy that regards the heaven and man as a whole and the so-called Fengshui theory of architectural planning. The indigenous construction material has been used, the site selection is either besides the mountain or along the river. Looking simple and rough in architectural style, the buildings are wonderfully elegant in form, appropriate in size and have complete functions. They present an idyllic picture in a charming country setting of mountains and rivers, and embody the harmonious and sustainable coexistence of human habitat and nature. Fujian Tulou is a perfect demonstration of a widely influential cultural tradition of a nation in a specific natural and geographical setting. It praiseworthily achieves a harmonious unity between residential buildings and natural environment, and is an architectural expression with singular features and aesthetic values. Though confronted with the modernized process, such kind of achievements in architecture and planning still have a charm and value we may not afford to overlook today.

16) The tour centre of Hakka houses or Tulou – Hukeng,

Yongding is a city in Yongding County; whereas Hukeng is a little town in the County. Many people know Yongding because it has been made famous due to its rammed earth buildings or round houses called Tulou.

Even though Yongding has got the name for being the place to see Tulou in the west of Fujian, the actual Tulou groups are not centred around Yongding, it is rather concentrated around Hukeng. (湖坑)

If you are rough and tumbled or for go comfort in the name of ‘life experiences’, It is also possible to stay in an earth building. Fuyu Lou (福裕楼) is one of them. It is reasonably clean and has good food. However, the bath room and toilet is on the ground floor whilst the bedroom is on 2nd floor (British). There is no air-con or heater. In winter, it is freezing. However, the cost is only around 60-100 rmb per night per person. Tourists can contact Mr Su who can also act as a guide, but please note he speaks no English.

In Hukeng town itself, you can walk to many of the tulou which are usually occupied and resided by families.

Hongkeng village (洪坑村) is the main centre for tourist activity with many of its showpieces, one of them being the Zhencheng Lou (振成楼). Though some of the Tulou are restored for tourists in which these Tulou are brought back to former glory, many are still resided by villagers and in their day to day living states. You can spend some time wandering around the village. Most of the buildings are still lived in. They aren't just historical relics. They are excellent examples of ecologically sustainable building design.

Hongkeng is a long village lying along both banks of a river that winds between fertile, sunny mountain slopes with terraced rice fields. In places where it is impractical to create terraces are found camphor and pine trees, tea, hemp, banana, bamboo and tobacco.
All of the 2500 inhabitants of Hongkeng bear the surname Su and almost all are Hakka.

In many villages, including Hongkeng, communal activities take place in the shade of an especially large tree. Here is also found the local altar of the soil, a small stone typically about one metre high.

For many years it was believed that the Hakka were the first to build tulou, as a direct consequence of their traditions and way of life. But there is now evidence of the existence of the tulou from before the arrival of the Hakka, most are today inhabited by other, South Chinese, ethnic groups.

The She people (a subgroup of the Yao people) lived here in the hills before the Hakka and inspired them in such matters as gender roles, division of labour, and even their architecture.

On the other hand, the counties of Yongding and Nanjing are predominantly inhabited by the Hakka and there is little doubt that they have to this day exerted a great influence on the buildings appearance. Some Tulou have been restored and are showpieces rather than dwellings, Zhenfu Lou (振福楼) in Hongkeng Village is one of them.

About five kilometres from Hongkeng village is Chengqi Lou (承启) which is the largest of the earth buildings. It is almost three hundred years old and is made up of three concentric circular buildings.

Three-star Tourist Hotel of Yongding Hakka Tulou Scenic Spot,
http://www.fjfdi.com/fr/cn/project.asp?job=showen&id=7711&yuyan=en
Fujian Provincial Hakka Tulou Tourism Development Co., Ltd.
Contact person: Huang Minyuan

Sir Crispin Tickell: Clean, Green Growth in China, (video)

C.S. Kiang: China’s Future.

Environmental credits (emissions trading):

Emissions Trading (or emission trading) is an administrative approach used to control pollution by providing economic incentives for achieving reductions in the emissions of pollutants.

Emissions trading: Like foreign aid, but better,
http://www.theglobeandmail.com/servlet/story/RTGAM.20070320.wcomment0321/BNStory/Front/

Ontario Emissions Trading Registry Introduction,
http://www.ene.gov.on.ca/envision/air/etr/index.htm

The Emissions Trading System - putting a price on carbon,
www.youtube.com/watch?v=y7veRksc_Yk

DIY Green Energy projects: http://www.hydro-electricity.net.cn/energy/

Sustainable Tourism in Hakka Luodai old town, (E-RENLAI Magazine)

The old town of Luodai is located 17 kilometers away from Chengdu. It was founded during the Three Kingdoms era (Note: the Archaeological Site of the Palace of the Nanyue Kingdom, built 2,000 years ago, in Guangzhou) in what was then the Kingdom of Shu. It is said that Luodai took its name after the Emperor Liu Shan of the Shu Kingdom dropped his jade belt into the town’s eight-sided well. Luodai is a simple folk town with a long history and a profound cultural legacy. The town counts 23,000 inhabitants of whom more than 90% are Hakka. The Hakka dialect, folklore and way of life have been well preserved up to now.

Lessons can be drawn from the example of how Luodai preserved its historical Hakka culture while developing sustainable tourism. The natural appeal of the site makes it attractive to tourists. The core attraction of LuoDai is the preservation of its traditional Hakka architectural heritages such as guild-halls. The people of Luodai have kept with utmost care what remains of their tangible and intangible ancestral heritage. The imposing and exquisite Guangdong Guildhall, Hunan and Guangxi Guildhall, Jiangxi Guildhall and Sichuan Guildhall have been kept intact. This ancient street of LuoDai is composed of 7 alleys. The two sides of the old street are of the same gray brick tiles and inlaid wooden doors. The embellishments engraved on windows together with the engraved roofs and eaves are perfect examples of the architectural style of the Ming and the Qing.
The yearly “Water Dragon Festival” and “Fire Dragon Festival” are folk activities that were brought by the Hakkas 900 years ago.

The people who have lived in the town for a long time are an integral part of the cultural landscape. Their hospitality plays an important role in the tourists’ experience. The tourism industry here has developed by focusing on the ordinary lives of the population in the ancient town. This allows the local population to preserve their own and unique customs of life, while participating in the development and promotion of the local tourist industry.

The activities of the international Peach Blossom Festival in Longquan, the celebration of the “Water Dragon Festival” and the “Fire Dragon Festival” link the countryside and agricultural tourism to Hakka culture.

This developmental model through sustainable tourism unites history and the present, while preserving and magnifying the ancient Hakka town of Luodai so as to open the way to future generations. By using sustainable tourism as a method of development, Luodai is becoming «The main Hakka Town of the West ».

E-RENLAI Magazine: interested in "pilot projects for humane and sustainable development... to build together a world order that would be more humane and sustainable"


“Purpose - The aims of the study are to analyze the features of a socially self-contained society; to analyze the features of an environmentally sustainable society; and to generate a discussion on an indigenous approach towards the sustainable design of communities, particularly through the study of the round village for its unique form and performance in terms of sustainable construction.

Design/methodology/approach – Researchers from an international group undertook a field study of a number of specimen round and square shape Hakka villages in December 2004. They discussed their preliminary findings with local academics regarding significant attributes for sustainable design principles, and summarized lessons by means of spatial and construction studies that inform contemporary urban designers' knowledge and practice of sustainability through indigenous architecture.

Findings – Through reinterpretation of “Feng-shui” theory, various observations made were easily and naturally correlated to basic laws of sustainability. The biggest message that comes from Fujian round architecture is that a genuine practitioner of environmental and social sustainability relies on a simplicity of approach â€“ a respect for nature.

Research limitations/implications – The study is confined primarily to observations by a team of architects and engineers.

Practical implications – Field study of vernacular architecture provides useful information and first-hand data for researchers on rammed earth structures.

Originality/value – The study of rammed earth structures in remote areas of China, in both coastal and earthquake active zones, offers fresh insight into the integrity and ingenuity of early settlers in sustainable construction. The research provides preliminary findings regarding environmental and construction practice in age-old Hakka round houses.”

alternative Proposal for Zhenfu, Jorg Ostrowski © ASH-Inc., Nov. 4-22, 28-30/08 draft 2, p. 24/24

   a) “The Five Phoenix Mansion”, 176-183
   b) “Round Fortress Ramparts in Fujian, p. 184-191
   c) “Hakka Encircling Dragon”, 192-201
36) *Hakka Enclosed Houses in Guangdong and Hong Kong*, subtitles in English
38) *Traditional Chinese Vernacular Dwellings* (Rammed Earth Collective Dwellings in Fujian), CD
39) *The Forever Homestead*, english subtitles for photographs
40) Jiao Hong-Hui, *The Home of the Hakka*, an on-the-spot Photo Album, many people pictures
41) *Hakka Enclosed Houses*, English Preface, Titles & Introductions (thin book)
42) David, P.Y. Lung, *Chinese Traditional Vernacular Architecture*, Regional Council and the University of Hong Kong, Exhibition Hall, Sam Tung Uk Museum, Kwu Uk Lane, Tsuen Wan, N.T. (Eric K. C. Lye, 1991, Professor and Head, Department of Architecture, University of Hong Kong)
43) Huang Hanmin 黃漢民