

TO CATEGORIES 

**1.400.000** PAGES OF RESEARCH

MONTHLY  
**1.200.000**  
PAGE VIEWS

OVER  
**300.000**  
VISITORS PER MONTH

**new** E-BOOKS 

FULLTEXT SEARCH



NEW: [Advanced Search](#)

## Periodicals:

### MSF

> Materials Science Forum

### KEM

> Key Engineering Materials

### SSP

> Solid State Phenomena

### DDF

> Defect and Diffusion Forum

### AMM

> Applied Mechanics and Materials

### AMR

> Advanced Materials Research

### AST

> Advances in Science and Technology

### JNanoR

> Journal of Nano Research

### Ecological Construction Experience Analysis on Traditional Houses of Dong Inhabit Villages in Sanjiang, Guangxi

**Journal** [Applied Mechanics and Materials](#) (Volumes 71 - 78)

**Volume** [Frontiers of Green Building, Materials and Civil Engineering](#)

**Edited by** Dongye Sun, Wen-Pei Sung and Ran Chen

**Pages** 3586-3590

**DOI** 10.4028/www.scientific.net/AMM.71-78.3586

**Citation** Qun Chen et al., 2011, Applied Mechanics and Materials, 71-78, 3586

**Online since** July, 2011

**Authors** [Qun Chen](#), [Yan Bing Ye](#)

**Keywords** [Dong Minority](#), [Ecological Construction](#), [Experience](#), [Inhabit Villages](#), [Traditional Houses](#)

**Abstract** Constructions in Dong inhabit houses respond to the cosmopolitan ecological thought " Man and nature live in harmony" with landscape of simplicity, nature and unity of heaven and humanity. It is not only Chinese nation' s cultural treasure but also a distinguished one in the art of architectural world which forms going through long-term choice and elimination of nature and human society and includes many reasonable ecological construction experience. This paper summarizes its ecological construction experience by researching traditional houses of Dong inhabit villages in Sanjiang, Guangxi to provide guidance for local architectural creation and sustainable development of villages.

**Full Paper**  [Get the full paper by clicking here](#)

### First page example



## Ecological Construction Experience Analysis on Traditional Houses of Dong Inhabit Villages in Sanjiang, Guangxi

Qun CHEN<sup>1, a</sup>, Yanbing YE<sup>1, b</sup>

<sup>1</sup>The Guangxi University of Technology, Liuzhou, 545006, China

<sup>a</sup>598576775@qq.com, <sup>b</sup>yyb.268@126.com

**Keywords:** Dong Minority, Inhabit villages, Traditional houses, Ecological construction, Experience.

**Abstract.** Constructions in Dong inhabit houses respond to the cosmopolitan ecological thought "Man and nature live in harmony" with landscape of simplicity, nature and unity of heaven and humanity. It is not only Chinese nation's cultural treasure but also a distinguished one in the art of architectural world which forms going through long-term choice and elimination of nature and human society and includes many reasonable ecological construction experience. This paper summarizes its ecological construction experience by researching traditional houses of Dong inhabit villages in Sanjiang, Guangxi to provide guidance for local architectural creation and sustainable development of villages.

### Introduction

The Dong wooden constructions have long building history which can be traced back to early stage of primitive and clannish society or nest living period which is earlier. Early in Wei and Tang Dynasty, Dong ancestors constructed wooden or bamboo constructions which are mountain on the potential and from local materials conforming to the landform and climate in the south, which has a history of more than one thousand years up to now. They has continuously developed for a long-term history which leads wooden construction craft to an extremely high level among each nationality using the same language which creates a wooden construction system of Dong's own and forms its unique style. Although it is not directed by ecology, many technical measurements corresponding with ecological principle have been used in the developing process of traditional houses in Dong inhabit villages whose ecological construction experience mainly stands out in the selection and distribution of inhabit villages, exploration and utilization of natural resources, use of green construction materials and the control of indoor physical environment using scientific and reasonable construction form.

### Site Selection and Distribution of Villages

Three Terrain of Sanjiang, Guangxi is steep with rolling mountains. Dong compact community is selected to be at the foot of mountain and villages are all back against hillside which aims at conforming to the ups and downs of mountains. They are faced with rivers and line upward along contour one after another which will prevent flood from drowning because of its high terrain and slope terrain is also good for quickly draining the rain in rainy season. Meanwhile a sense of security exists in hearts of villagers as villages are back against the mountains. Drop between one layer and another will avoid shelter of sight and provide fine light for daily life. On the other hand, valley breeze will easily come into being on the site of hillside. During the daytime, mountains absorb more solar radiation than valleys do and distance between air on the top of hillside and ground is longer than that of valley so that air on the top of hillside heats more while air on the top of valley heats less in which temperature difference comes into being. Then thermodynamic circulation takes shape because air on the top of hillside goes up to the top of valley above the colder air and air at valley bottom supplies upward to the top along hillside. During the nighttime, the direction of thermodynamic circulation becomes reversal as mountains become cold source. Valley breeze which forms due to the terrain factor of hillside strengthens ventilation and heat dissipation for residents and green plants on hillside can cool hot wind in summer which has the function of natural air-conditioner.

### CONFERENCE

> GO!

11/13/2012 - 11/15/2012

The International Conference on Advanced Eng

8/24/2012 - 8/25/2012

AMMT 2012: 2012 International Conference on

8/24/2012 - 8/26/2012

2012 2nd International Conference on Material :

more...