

Traditional Knowledge, Protection and Utilization in the Hani Terraced Rice Farming Ecosystem of Yunnan, China

Huang Shaowen

Professor and Director, Ethnic Cultural Heritage Research Centre, Honghe University



图片：黄绍文

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- ◆ Conclusion

Introduction

➤ The Hani people

- ❑ An ethnic group found in China and other countries, mainly in Yunnan, China as well as the mountainous northern regions of Myanmar, Thailand, Laos and Vietnam in Southeast Asia.
- ❑ About 2 million people worldwide, more than 1,733,000 in China and 1,633,000 in Yunnan Province, China

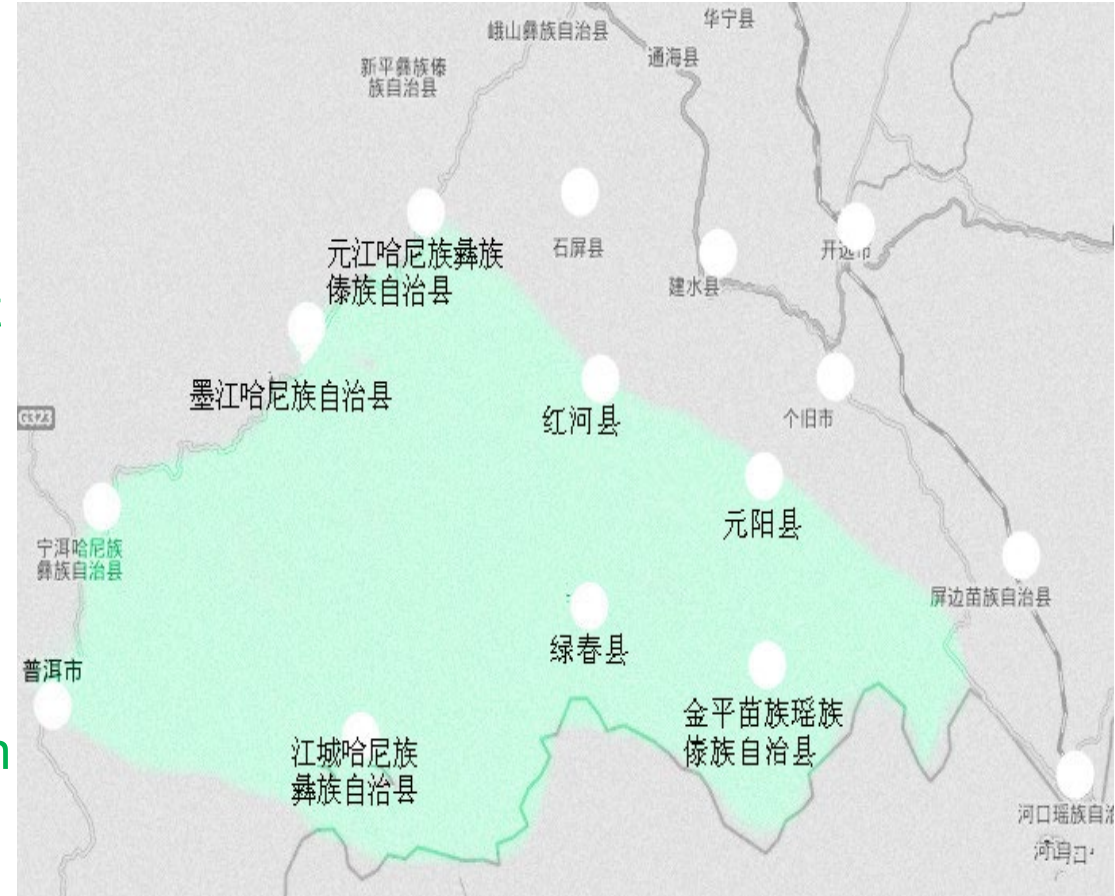


Photo: Huang Shaowen

Introduction

➤ The historical origin and distribution of the Hani terraces

- More than 1300 years ago, the Book of Barbarians of the Tang Dynasty recorded that the Hani terraced fields were "very well managed by the barbarians".
- Mainly located in the Ailao Mountain area in southern Yunnan
- A total area of 1.4 million mu, spread between 280 and 2000 meters in altitude



Introduction

➤ Honors received

- ❑ World Heritage Cultural Landscape (June 2013)
- ❑ FAO Globally Important Agricultural Cultural Heritage (June 2010)
- ❑ Important Agricultural Cultural Heritage of China (May 2013)
- ❑ National Wetland Park (November 2007)
- ❑ National Key Cultural Relics Protection Site (May 2013)

Introduction



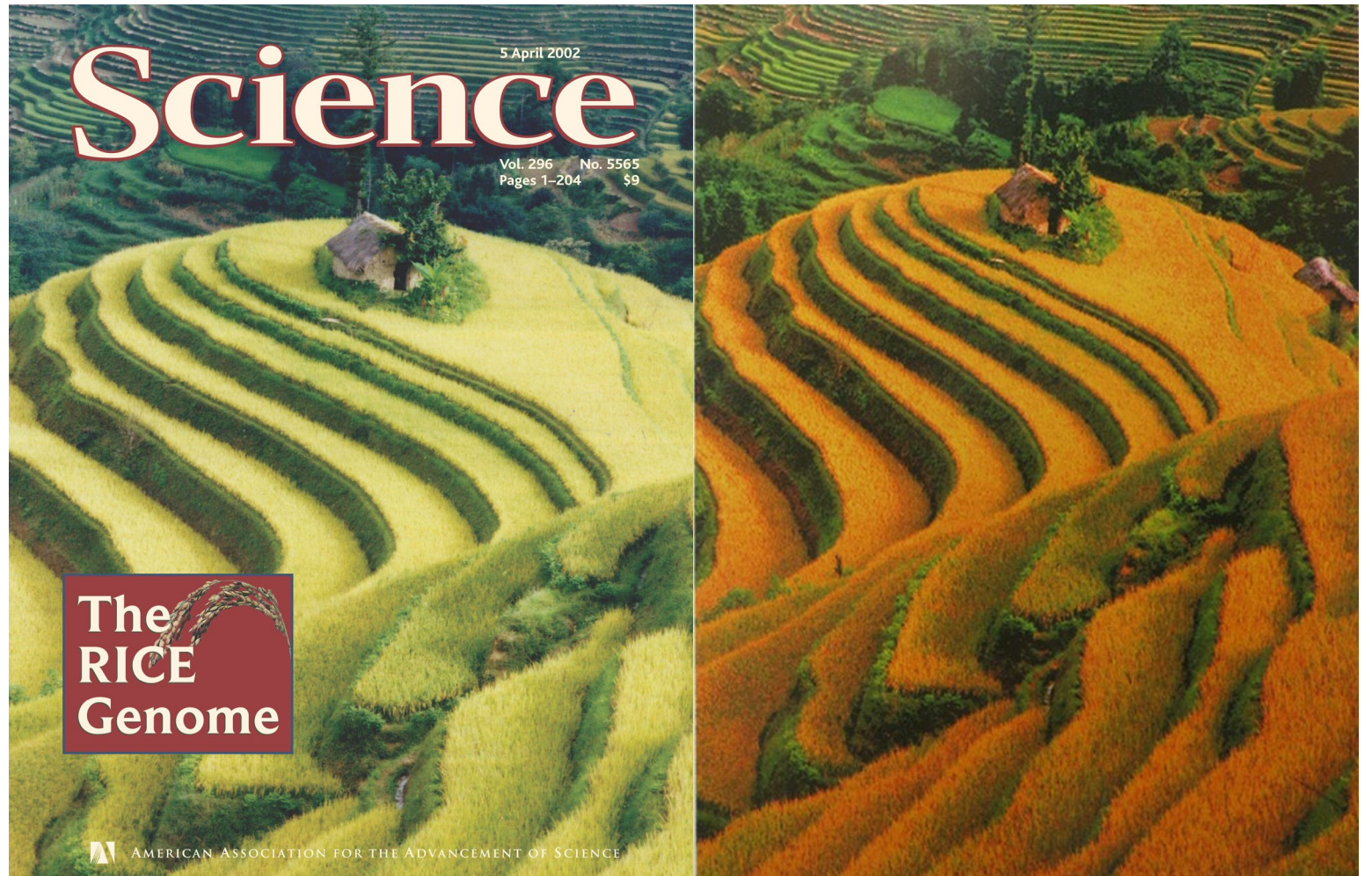
全球重要农业文化遗产标识图样



国家湿地公园标识图样

Introduction

- On 5 April 2002, *Science* published a scientific monograph led by UW Genetics, "A Working Framework Sequence Map of the Rice Genome", with the beautiful Hani terraces, the Snail Paddy Field, on the cover.



Traditional knowledge and culture based on terraced farming

➤ Clothing and personal adornment



Photo: Huang Shaowen

Traditional knowledge and culture based on terraced farming

➤ Local delicacy

- ❑ Raw steamed rice (1)
- ❑ Dyed rice (2)
- ❑ Dipping sauce (3)
- ❑ Long Street Feast (4)



1



2



3



4

Traditional knowledge and culture based on terraced farming

➤ Village creation



Photo: Huang Shaowen

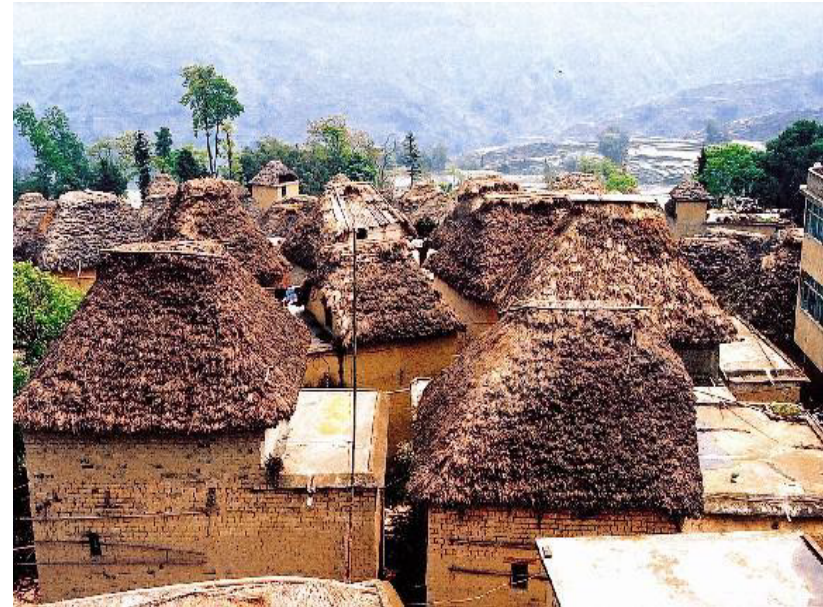


Photo: Huang Shaowen

Traditional knowledge embedded in the Hani terraced rice farming ecosystem

➤ Terracing layout

- ❑ Rigorous planning of the layout of headwater forests, villages and terraced paddy fields
- ❑ Built on a mountain
- ❑ Balanced construction
- ❑ Oneness of heaven and humanity



Traditional knowledge embedded in the Hani terraced rice farming ecosystem

➤ Farming system

- Annual monoculture
- All hand-transplanted, each time 1 to 2 rice seedlings, sparsely planted



Traditional knowledge embedded in the Hani terraced rice farming ecosystem

- **Farming procedures:** more than 30 processes including three rounds of ploughing and harrowing, ploughing over the stubble, transplanting seedlings after harrowing



Three rounds of
ploughing and harrowing



Ploughing over the
stubble



Transplanting seedlings
after harrowing

Photo: Huang Shaowen

Traditional knowledge embedded in the Hani terraced rice farming ecosystem

➤ Three rounds of ploughing and harrowing

- ❑ A typical traditional process reflecting the requirements of intensive cultivation in the Hani terraces
- ❑ Before and after the rice harvest comes the first round of ploughing and harrowing, starting with ploughing followed by harrowing, aimed at enhancing soil fertility
- ❑ In early spring comes the second round of ploughing and harrowing to enhance soil fertility
- ❑ In the fourth month of the lunar calendar comes the third round of ploughing and harrowing to loosen the soil and facilitate the transplanting of rice seedlings.
- ❑ The purpose of repeatedly ploughing the soil is, firstly, to make it less likely for weeds to take root, to produce rotten matter and to increase fertility; secondly, to ensure that field water penetrates evenly and is less likely to seep through, to maintain soil and water and to prevent geological disasters

Traditional knowledge embedded in the Hani terraced rice farming ecosystem



Photo: Huang Shaowen



Photo: Huang Shaowen

First ploughing: ploughing over weeds and stubble

Traditional knowledge embedded in the Hani terraced rice farming ecosystem



Photo: Huang Shaowen

Releasing water to maintain the field after harrowing

Traditional knowledge embedded in the Hani terraced rice farming ecosystem

Once the terraced paddy fields are drained, they are prone to geological disasters without the three rounds of ploughing and harrowing.



Traditional knowledge embedded in the Hani terraced rice farming ecosystem

➤ Farming techniques

- ❑ Terracing techniques: terracing according to the terrain, little human alteration, oneness of heaven and humanity
- ❑ Ditching techniques: supporting facilities, ditching with running water
- ❑ Farmyard manure flushing: top-down ditch water is used to flush farmyard manure into the field.
- ❑ Allocation of water with woodcut notches: an unwritten system that has been in place for a long time. Each family agrees on the amount of water to be used. A crosspiece is set up in the water division area and measuring notches are carved on the top. The water from the ditch flows naturally into the terraced paddy fields through the notches. Making changes to the notches on purpose is punishable.

Traditional knowledge embedded in the Hani terraced rice farming ecosystem



Stream flowing down the ditch



Farmyard manure washed into the terraces at the time of transplanting



Allocation of water with woodcut notches

Photo: Huang Shaowen

Traditional varieties of Hani terraced rice crops and the protection, development and utilization of their intellectual property

➤ Protecting traditional varieties

- ❑ Traditional varieties are tall, adaptable, stable, disease resistant, fertilizer tolerant and hardy.
- ❑ No chemical fertilizers, less susceptible to pests and diseases, no pesticides or herbicides
- ❑ Rich in nutrition
- ❑ Disadvantages: low yield, 250 to 350 kg per mu, easily fallen because they are tall



Photo: Huang Shaowen

Traditional varieties of Hani terraced rice crops and the protection, development and utilization of their intellectual property



➤ Ensuring good quality

- ❑ 78 trademarks have been registered, including "Honghe Hani Terraces" and "Hani Terraces".
- ❑ The Honghe Hani and Yi Autonomous Prefecture Institute of Agricultural Science has improved the traditional variety "thin bamboo grain" and has applied for a series of new plant varieties such as Hong You No. 1, No. 2 and No. 3.
- ❑ Honghe Hani Terraced Red Rice was recognized as one of the "Six Major Rices of Yunnan".
- ❑ Yuanyang was awarded the title of "Green and High Yielding Rice Project" and "Home to Red Rice of China".



Traditional varieties of Hani terraced rice crops and the protection, development and utilization of their intellectual property

➤ Brand-building through digitalization

2022 Double 11 marketing campaign: Yuanyang Red Rice Special Live Stream (12 hours)

4 million + (number of online viewers)

30,000+ (number of sales units)

2 million + (single-session sales)

Single session sales exceed the county's total online sales for the same period in a single month

Working with Alibaba e-commerce platform to explore "Yuanyang Red Rice + digitalization", introducing the traditional knowledge of Yuanyang Red Rice through brand marketing and online live streaming, creating a brand of origin and leveraging digital channels to accurately link consumers nationwide.

The collage illustrates the digital marketing strategy for Yuanyang Red Rice. It features three main components: 1) A screenshot of the '数乡宝藏旗舰店' (Number of Treasure Flagship Store) on the Alibaba platform, showing the product's origin and a '已订阅' (Subscribed) button. 2) A live stream interface for the '公益助农·最美中国行' (Public Welfare Assistance - Most Beautiful China) campaign, featuring a host and a map of Yunnan. 3) A product page for '元阳梯田红米' (Yuanyang Red Rice) with a price of 34.9 yuan, a coupon for 59.9 yuan, and a 'Buy Now' button. The product page also shows a coupon for 59.9 yuan and a 'Buy Now' button.

Challenges to the preservation and protection of the traditional culture of Hani terraced rice farming

➤ Lack of labour and discontinued farming heritage

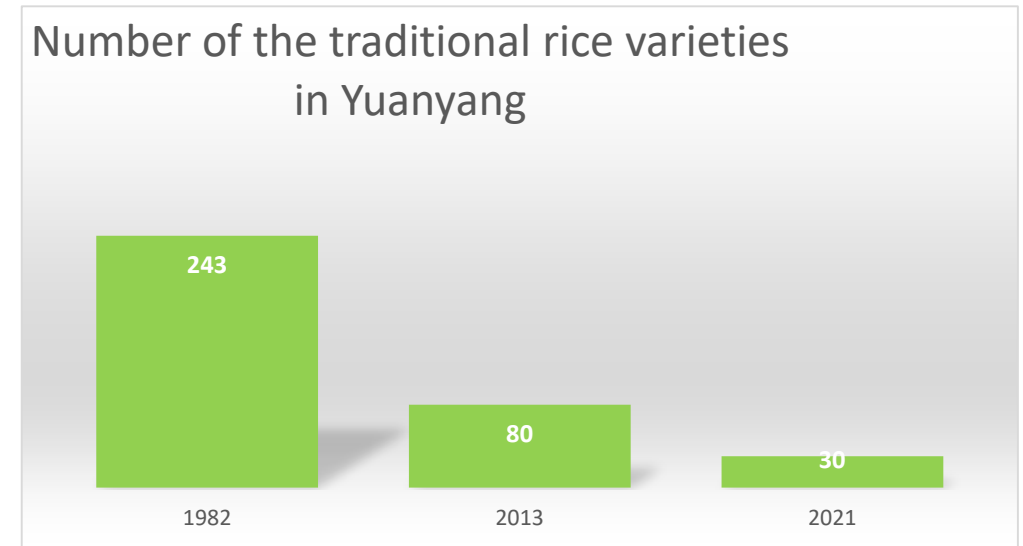
- ❑ The labour input for terraced farming is high, and traditional cultivation requires a series of farming techniques such as "three rounds of ploughing and harrowing" to ensure stable yields.
- ❑ Young Hani people prefer to go out to work rather than learn about traditional farming.
- ❑ At present, most of the people working on the terraces are over 50 years old, and as these people grow old and pass away, the terraced farming culture will face a crisis of discontinuity.

Challenges to the preservation and protection of the traditional culture of Hani terraced rice farming

➤ **Area planted with traditional varieties shrinks due to new variety promotion, terrace drought and other factors.**

□ By 2013, 71% of the farming was planted with new varieties such as hybrid rice in Yuanyang County, while less than 30% was planted with traditional varieties.

□ Since the 2010 drought in southwest China, many terraced paddy fields have had to be converted to dryland crops due to lack of water, which has exacerbated the shrinking of traditional varieties.



Challenges to the preservation and protection of the traditional culture of Hani terraced rice farming

➤ **Traditional varieties of red rice are not well marketed, and awareness of intellectual property rights is weak.**

- ❑ The brand name of Hani terraced red rice is not well known, and the exploration of "GI brand + digitalization" has just started, so there is a need to accelerate the industrialization capacity to help farmers gain more income.
- ❑ There is a lack of local intellectual property professionals and e-commerce operation professionals, weak industrialization capacity of farmers, poor awareness of intellectual property rights, and an inadequate product quality standard system. There is an urgent need to improve and explore the product quality standard system, cultural connotation and GI brand value of traditional rice varieties, and accelerate the development of an ecosystem of traditional varieties + good quality + well-known brands.

Conclusion

- There is a need to strengthen legislation for the protection of traditional knowledge at national and international level.
- Establish a national park for the Hani terraces to comprehensively protect the ancient and diverse traditional varieties of rice farming.
- Raise awareness of the use and protection of intellectual property rights in local communities.
- Further optimize traditional varieties, improve and harmonize quality standards, take full advantage of IP protection such as geographical indications and collective trademarks, and grow digital capabilities to enhance the value of the Hani terraced rice brand and form a good IP ecosystem.

gaoq laoq bi meeq, nee sal bi hha!

Thank you for listening!



Photo: Huang Shaowen