Identification of a composite agricultural heritage system

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Introduction

- In June 2005, Qingtian Rice-Fish Culture System in China was designated as one of the first five GIAHS pilot sites in the world.

- In February 2009, FAO/GEF GIAHS project was officially launched in Beijing.
In 2012, the China-NIAHS program was launched officially.
In August, 2015, MOA issued and implemented the Regulation on the Administration of Important Agricultural Heritage Systems.

It is the FIRST legal document on the administration of agricultural heritage systems in the world.
第一批 China-NIAHS
第二批 China-NIAHS
第三批 China-NIAHS
第四批 China-NIAHS
第五批 China-NIAHS
“Like the **Garden of Eden**, I have never seen so magnificent a landscape. If authors of the *Genesis* had seen the beautiful scenery in Diebu, they would have put the place of origin of Adam and Eve here”.

——Joseph Rock, 1925
Location

- The system is located in Zhagana Administrative Village, Yiwa Township, Diebu County, Gansu Province, ranging from $103° 08'49"$ to $103° 10'15"$ E and $34° 09'40"$ to $34° 10'80"$ N.
- Zhagana Administrative Village consists of 4 natural villages, namely, Yeri, Dongwa, Daiba and Dari.
Composite system
A Relatively Closed but Complete, Integrated but Self-sufficient Mode of Agricultural Production.
On the upper part with an altitude of more than 4,200 m, naked bedrock is the primary landform due to cold climate, and rare rainfall, where the well-known Tibetan medicinal herbs grow.

At an altitude of 3,600-4,200 m, air temperature slightly rises and rainfall increases, this part of the mountains is a natural pasture.
At an altitude from 2,400 to 3,600 m, a humid climate and snow water gives birth to forest and variety species, such as animals, wild vegetables, Tibetan medicines and wild fungi, etc.

At a relatively low altitude, there are good farmland for crops and vegetables.
Agro-pastoral integration:

- Provision of fodder (crop residues and grains) by cropping
- Provision of manure, draft animal by animal husbandry
- Rotation and fallow of cropland for pasture
- Soil conservation by pasture
- Watershed conservation by alpine grassland
Agro-silvo integration

- Provision of eco-functions by forests
- Provision of fuel wood and materials by the woods in the fields
- Enriching soil nutrients by intercropping, rotational cropping and composting of straws
Silvo-pastoral integration

• Forage production and grazing areas by forests, including ground covers and fodder trees for animals
• Shade by trees for animals outside village
• Bedding materials collected from forests for animal sheds inside village
• Manure left by animals
• Plant seed dispersal by animals
Composite system

Agriculture

- Foods, Vegetables, Medicinal materials
- Farmyard manure
- Fodder, Animal traction, Livestock manure fertilizer

Forestry
- Soil nutrients
- Tools, Curb the sand, Stabilize soil
- Firewoods, Foods, Building materials

Farmer

- Livestock breeding
- Livestock manure fertilizer

Animal Husbandry
- Foods, Zoic fur
- Fodder, Livestock housing
Satisfy the daily needs
Meet normal production needs
Supporting traditional lifestyle and culture
Core elements

Rural natural

Agricultural economy

Rural society

Agricultural technology

Agricultural history
International and Governmental actors

International level:
- FAO-GPIU
- FAO Beijing

National level:
- MOA as NFPI
- GIAHS China
- Office/CNACH in CAS as NPF

Local level:
- GIAHS leading group headed by a county governor
- Town government

Social actors
- research institutes
- universities
- experts and researchers
- NGOs
- Media
- Qingtian RFC World
- Agricultural Heritage
- Conservation Center
- Consumers

Economic actors: farmers’ cooperatives, enterprises, other businesses
<table>
<thead>
<tr>
<th>Species</th>
<th>Varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat Winter</td>
<td>Laohongmai, Mazhamai, Ganmai 23, Shannong 184, Feimai, Wudu 5, Zhongyin 2, etc</td>
</tr>
<tr>
<td></td>
<td>Spring: Shuwan 751, Shuwan 761, Gaoyuan 338, Jin 2418, Linnong 14, Weichun 1, Mianyang 11, Mianyang 12, Ke 13, Pingliang 36, etc</td>
</tr>
<tr>
<td>Highland barley</td>
<td>Local: long-bearded highland barley, Dulihuang, Aiganqi, etc</td>
</tr>
<tr>
<td></td>
<td>Introduced: Liuleng, Zanglan, Mudan (yellow highland barley), Aiganqi, Ziqingke, Ganqing 2, Ganqing 3, Ganqing 4, Ganqing 5, Kangqing 3, Aqing 4, Kunlun 14, Kunlun 15, Beiqing 9, Zangqing 2000, Zangqing 13, etc</td>
</tr>
<tr>
<td>Corn</td>
<td>Local: Jinhuanghou, Xiaojinhuang, etc</td>
</tr>
<tr>
<td></td>
<td>Introduced: Zhongdan 2, Yedan 4, Yuyu 22, Jinsui 2, Shendan 16, Jinhuang 828, etc</td>
</tr>
<tr>
<td>Millet</td>
<td>There is only one variety.</td>
</tr>
<tr>
<td>Buckwheat</td>
<td>Sweet and bitter varities.</td>
</tr>
<tr>
<td>Broad bean</td>
<td>Local: Baimaya, Hongmaya, Yangyan, etc</td>
</tr>
<tr>
<td></td>
<td>Introduced: Linxia Dabaican, Chuncan 12, Chuncan 14, Lincan 5, Lincan 6, Lincan 7, Chunlin 6</td>
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<tr>
<td>Potato</td>
<td>Local: Yuejin, Kangji 1, Sijinhuang, Xiaobaihua, etc</td>
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<tr>
<td></td>
<td>Introduced: Qingshu 9, Longshu 10, Longshu 3, Daxiyang, Zihuabai, Sijinhuang, etc</td>
</tr>
<tr>
<td>Pea</td>
<td>Local: big and white pea, spotted colored pea, etc</td>
</tr>
<tr>
<td></td>
<td>Introduced: Yinwan 2</td>
</tr>
<tr>
<td>Rape</td>
<td>Local: Xiao Youcai, Aoluo Youcai, Huangjie, 78J-1, 78J-2, 78J-3 (Gannan 1), etc</td>
</tr>
<tr>
<td></td>
<td>Introduced: Qingza 4, Qingza 5, Huaxie 1, Gannan 4, Gannan 5, Haoyou 11, etc</td>
</tr>
<tr>
<td>Radish</td>
<td>Green radish, water radish, etc</td>
</tr>
<tr>
<td>Tomato</td>
<td>Introduced: Jiafeng 10, Zhongshu 4, Jinpeng 3, etc</td>
</tr>
<tr>
<td>Cucumber</td>
<td>Introduced: Hangkong 10, Taishan 10, etc</td>
</tr>
<tr>
<td>Species</td>
<td>Breeds</td>
</tr>
<tr>
<td>---------</td>
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</tr>
<tr>
<td>Cattle</td>
<td>Wild yaks, wild dzos, yellow cattle</td>
</tr>
</tbody>
</table>
| Sheep   | Local: Mountain-Valley Tibetan sheep, Green Goat  
Introduced: Oura-type of Tibetan sheep |
| Horse   | Mostly Hequ horses |
| Pig     | Local: Juema Pigs  
Introduced: Min County black pigs, Changbai pigs |
Eco-function

- Cold, Arid and Ecologically Vulnerable Area
- The Upper Reaches of the Watershed of the Yangtze River and the Yellow River
- Priority Area for Biodiversity Conservation
- Important Area for Water Conservation

The System

- Providing local residents with diversified and quite a full array of material products.
- Playing an important role in maintaining regional ecological balance and security through biodiversity, water and soil conservation.
Indigenous Knowledge

- Knowledge of Traditional Farming
  - Crop rotation and land retirement systems
  - Production and management experience of “weather-dependent” alpine agriculture
  - Traditional farming methods
- Prevention and Control of Diseases and Insect and Wildlife Pests
- Compost Fertilization
- Knowledge of Grazing Management
Adaptive Technologies

- Highland Barley Farming Technologies
  - Land preparation, Fertilization, Sowing preparation, Sowing, Field management, Harvest and storage

- Agriculture-Forestry-Animal Husbandry Integration Technologies
  - Agriculture-forest integration
  - Agriculture-animal husbandry integration
  - Forest-animal husbandry integration
Agro-Culture

Water Mills

Losar festival
Welcome to Zhagana!