



2nd Stakeholder Consultation Report

**The Economics of Ecosystem and Biodiversity (TEEB): Promoting a
Sustainable Agriculture and Food Sector
Implementation in China**

【Deliverable 4.4】

May 18-20, 2021, Tengchong, Yunnan, China



**International Ecosystem Management Partnership
国际生态系统管理伙伴计划**



CONTENTS

- Meetings with local stakeholders
- Survey to local agriculture businesses and households
- List of participants

Meeting with local authorities

In the morning of May 18, 2021, the 2nd local stakeholder consultation meeting of TEEBAgriFood China was conducted at the Bureau of Agriculture and Rural Affairs of Tengchong. At the meeting, a dialogue was held between the project implementation team and government officials in charge of livestock and plantations, which are the main pillars of Tengchong's agriculture system and focal areas of the TEEBAgriFood study. Based on the information collected from the 1st local stakeholder consultation meeting in October 2020 and the Scoping and Scenario Setting report reviewed and approved by the Project Steering Committee in February 2021, the purpose of this dialogue was to further understand the current status and trends of Tengchong's beef cattle and plantation industries from perspectives of spatial analysis, capitals and value chain assessment, and to explore the possibility of data-sharing.



Photo 1. 2nd local consultation meeting in Tengchong

Key points regarding beef cattle industry:

- Tengchong's beef cattle industry development will follow the "1+3+6" model, that is to establish at least 1 **standardized cattle farm** in each village; each with around 300 heads in stock, and 600 mu (40 ha) of forage crop nearby.
- Currently, of the 221 villages, 184 have standardized beef cattle farms under construction and are expected to be completed by the end of 2021.
- Each standard cattle farm covers an area of 10 mu construction land and is equipped with standard manure collection pipes and sedimentation tanks for composting. Cattle manure is to be composted into organic fertilizer and sold for local plantation use.

- The area that can develop standard cattle farm is under strict regulation. The three zones planning designates suitable, restricted and prohibited areas, and newly established cattle farms must all located in suitable areas.
- Tengchong has 2 **eco-ranches**, each with an area of more than 10,000 mu. Due to the mountainous terrain, the area of eco-ranches in Tengchong cannot be further expanded.
- Under the rural habitat improvement program, the **small scale traditional free-range** is being phased out. In its place are **family farms** with 50-100 heads of stock, and this model will coexist with the standardized cattle farm planned under the “1+3+6” model.
- In terms of sales, currently Tengchong can only consume one-third of the beef cattle breeding output by itself. The rest is sold outside the city in forms of live cattle and roughly processed products. The city plans to build a slaughtering and processing industrial park depending on the success of investment attraction.

Key points regarding plantations

- Tengchong has 1,234,000 mu of arable land (of which 688,000 mu of paddy land and 546,000 mu of dry land) and 127,800 mu garden. The crops planted include rice, corn, barley, potatoes, rape, marigold, tea, fruits, medicinal herbs and so on.
- The problem is that the opportunity cost of labor is rising and farmers are less motivated to plant. One solution is to use small scale agricultural mechanization. About 500,000 mu of arable land in Tengchong are available for land leveling and small-scale mechanized operations. Another solution is to develop moderate scale production – in the future, more agriculture associations and family farms will be formed and operated.
- **Cut the use of chemicals** will continue through approaches such as use of biological or physical control measures against pests (yellow board for example) and circular use of manure from livestock and crop straw as fertilizer.
- Plantation of **endemic species** (ersi rice) is limited and will not expand unless with policy support; this is due to a lack of market demand and enough alternative products.
- Tengchong has 150,000 mu of **tea plantation**, of which 80,000 mu pollution-free, 27,000 mu green and 11,600 mu organic. Till the end of the 14th Five-Year Plan, all the 150,000 mu of tea plantation will turn environmental friendly (i.e. pollution-free, green or organic). The total area of tea plantation will not change.
- **Medicinal herbs** can only be grown on mountain slopes or in the forest (the so-called near-wild plantation). Currently, the planting area of medicinal herbs is 302,000 mu (include marigold). By 2025, the area will grow to 356,000 mu and by 2035, 406,000 mu. Near-wild plantation will be promoted for species such as sealwort (*Polygonatum sibiricum*), polyphylla (*Paris polyphylla*), gastrodia (*Gastrodia elata*), magnolia officinalis (*Houpoa officinalis*) and ginkgo (*Ginkgo biloba*).

- There are plenty forest areas available for near-wild plantation of medicinal herbs in Tengchong. The main constraints for its application lie in research and development of products and brand-building.

In addition to the consultation meeting held at Bureau of Agriculture and Rural Affairs of Tengchong , on May 19 2021, the project team visited different government authorities (Bureau of Natural Resources of Tengchong, Bureau of Forest and Grassland of Tengchong and Tengchong Branch of Baoshan Ecology and Environment Bureau) to collect data available for the subsequent scenario analysis.

Data collected from local authorities:

- 1) Display of livestock and poultry breeding restricted and prohibited areas
- 2) Distribution of beef cattle farms under the development of “1+3+6” model
- 3) Report on the quality level of arable land in Tengchong City 2019
- 4) Tengchong’s medicinal herbs planning map
- 5) Meteorological data 2000-2020 (monthly)
- 6) Main crop production methods and material inputs
- 7) Certain nature reserves and protected areas
- 8) Macro level forest survey results
- 9) Locations of pasture and grassland

Survey to local agriculture businesses and households

From May 18-20, 2021 the project implementation team was divided into three groups to do interviews with businesses, agricultural cooperatives and farmer households in the beef cattle industry and plantation industry. The interviews revolved around four aspects – i) basic information, ii) construction, operation and maintenance, iii) products and sales, iv) social and human capitals. In total, 8 companies, 1 agricultural cooperative and 12 farmer households were interviewed.

1. Interview with Dongshan ranch of Hengyi Agricultural Development Co. & Bafule Penang River Buffalo Breeding Co.



2. Interviewing medicinal herbs plantation: Yunnan Dendrobium Health Manor Biotechnology Co. & Tengchong Bencao Yuan Biotechnology Co. & Tengchong Qingliang Herb Planting Cooperative.



3. Interviewing with farmer households



List of participants

	Name	Affiliation	
1	YANG Ying-li	Deputy Director, Tengchong Branch of Baoshan Ecology and Environment Bureau	Government officials
2	CHA Zheng-xiong	Officials, Tengchong Branch of Baoshan Ecology and Environment Bureau	
3	ZHANG Cheng-Quan	Deputy Director, Bureau of Agriculture and Rural Affairs of Tengchong	
4	FENG Huai-Si	Officials, Bureau of Agriculture and Rural Affairs of Tengchong	
5	PENG An-Fa	Officials, Bureau of Agriculture and Rural Affairs of Tengchong	
6	XU Hai-Lin	Officials, Bureau of Agriculture and Rural Affairs of Tengchong	
7	HOU Zheng-Bang	Officials, Bureau of Agriculture and Rural Affairs of Tengchong	
8	HUANG Sheng-Yan	Officials, Bureau of Agriculture and Rural Affairs of Tengchong	
9	LIU Yun	Dongshan ranch of Hengyi Agricultural Development Co.	Interviewee
10	DU Pin	Bafule Penang River Buffalo Breeding Co.	
11	LING Bi-Qing	Tengchong Cong Rong Co.	
12	HUANG Chun-Chao	Yisheng Breeding Co.	
13	PENG Wen-Tao	Tengchong Lusifu Bio-Industry Co. & Tengchong Bencao Yuan Biotechnology Co.	
14	Ms. GONG	Yunnan Dendrobium Health Manor Biotechnology Co.	
15	Mr. HUANG	Tengchong Yijian Biotechnology Co.	
16	Mr. YANG	Tengchong Qingliang Herb Planting Cooperative	
17	YAN Zi-Dong	Farmer household	
18	YANG Yong-Sheng	Farmer household	
19	YANG Ying-Hu	Farmer household	
20	JIN Shen-Fa	Farmer household	
21	SUN You-Zao	Farmer household	
22	YU Ping-You	Farmer household	
23	PU Yu-Long	Farmer household	
24	CHEN Shao-Xiang	Farmer household	
25	YANG Mao-Ming	Farmer household	
26	YANG Ji-FAN	Farmer household	
27	XIE En-Xue	Farmer household	
28	DUAN Jia-You	Farmer household	
29	SUN Ming-xing	Assistant Professor, UNEP-IEMP	Project implementation team
30	LI Li	Assistant Professor, UNEP-IEMP	
31	BAI Yun-Li	Associate Professor, UNEP-IEMP	
32	HE Jia-lin	Programme officer, UNEP-IEMP	
33	CAO Yue-Ming	PhD candidate, UNEP-IEMP	
34	ZHOU Tian-Hao	PhD candidate, UNEP-IEMP	
35	GUO Na-Liang	PhD candidate, UNEP-IEMP	
36	WANG Yu-Tao	Professor, Fudan University	

37	YU Hua-Jun	PhD candidate, Fudan University	
38	XIE Wei	PhD candidate, Fudan University	
39	KONG Lin	PhD candidate, Fudan University	
40	LONG Xin-Yi	PhD candidate, Fudan University	