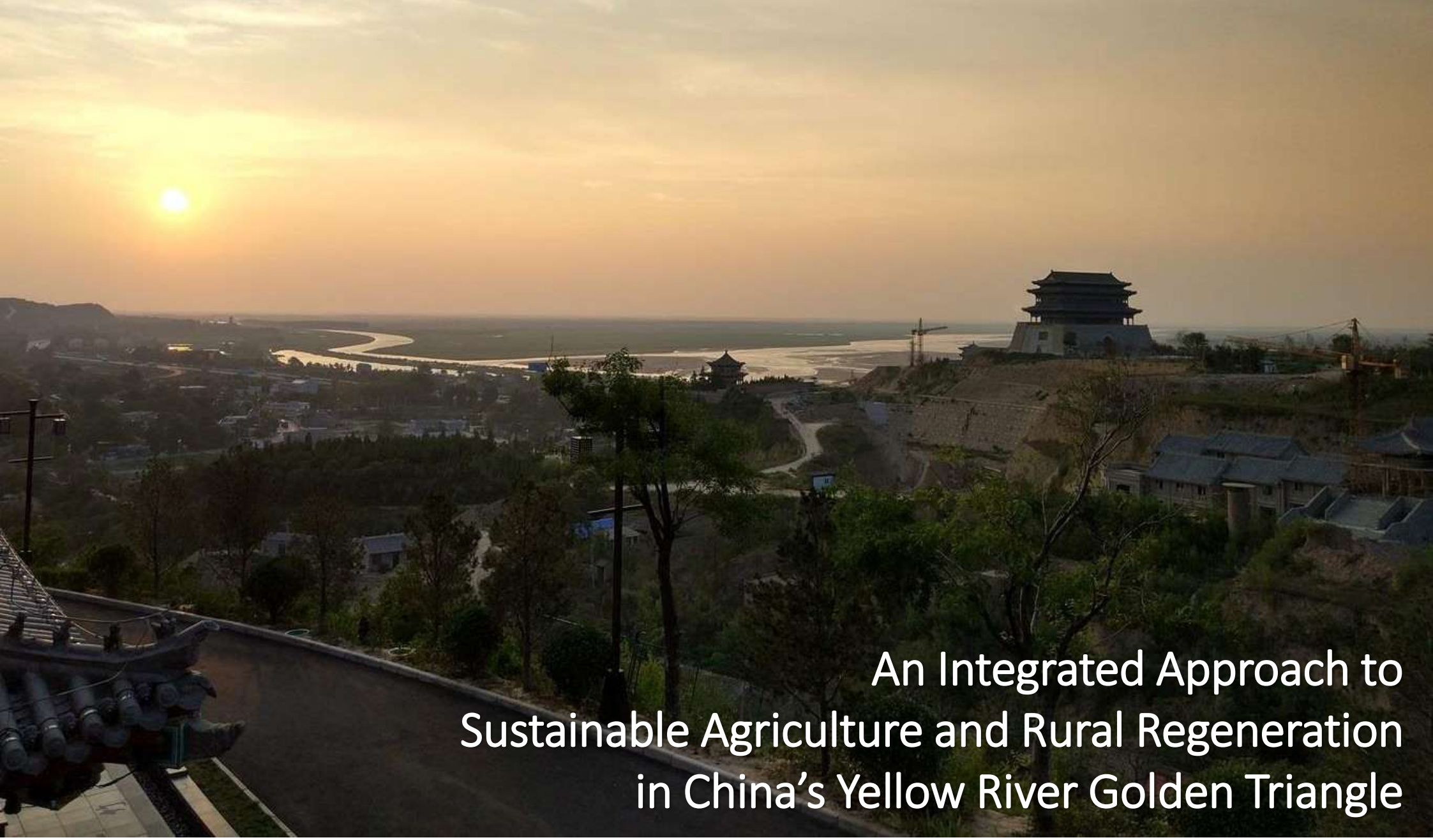

An Integrated Approach to Sustainable Agriculture and Rural Regeneration in China's Yellow River Golden Triangle

GIFT GLOBAL INSTITUTE FOR TOMORROW.

GLOBAL LEADERS PROGRAMME

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Executive Summary

Executive Summary (1/2)

Introduction

- China's 230 million smallholder farmers form the backbone of the rural economy. Yet despite the significant investments made in the agricultural sector, they remain marginalised in terms of economic and social development.
- The excessive use of chemical inputs has exhausted the land and compromised its fertility and productivity. Coupled with steep competition in the market for food, smallholder farmers find themselves in a debilitating cycle of poverty.
- As China aspires to become a moderately prosperous society and eradicate poverty by 2020, it is imperative that the country develop an inclusive and sustainable food production system in order to promote economic development for smallholder farmers and rural communities.
- Insights from the Puhan farming cooperative in Yongji, Shanxi have inspired a new model in which multifunctional cooperatives can play a crucial role in rural regeneration, linking the well-being of smallholder farmers with the growing demand for green and healthy food.
- The majority of cooperatives however are underdeveloped and require additional support to expand their services and develop a full farm-to-table value chain.

An Integrated Approach to Sustainable Agriculture and Rural Regeneration in Yellow River Golden Triangle (YRGT)

- The YRGT consists of parts of Shanxi, Shaanxi and Henan provinces on both sides of the Yellow River, namely the prefecture-level cities of Yuncheng, Linfen, Weinan and Sanmenxia. It covers an area of 57,800 km^2 with a population of 17.21 million, 68% of whom are smallholder farmers.
- Leveraging strong national support for building the YRGT region into a regional economic engine, this proposal describes an integrated approach involving the participation of city governments, investors, multifunctional cooperatives, enterprises and civil society organisations.
- It will involve the creation of:
    - The **YRGT Investment Company** to raise and manage an investment fund focused on rural regeneration via an innovative agricultural platform involving cooperatives,
    - Four **City-level Enterprises** with operational and managerial expertise to provide professional services to support cooperatives along the value chain, and
    - The **YRGT Green and Healthy Food Association** to award the "YRTG Green and Healthy Food" seal and oversee rural regeneration efforts.

Executive Summary (2/2)

- A **Cooperative Federation** will be formed to ensure that farmer cooperatives are represented on the boards of the YRGT Investment Company, the YRGT Green and Healthy Food Association and of the city-level Enterprises.
- The objective of the Enterprise will be to provide supporting services to cooperatives to create a full farm-to-table value chain, filling the gap in the market where smaller cooperatives have not yet been able to reach. It is proposed that the City-level enterprises be named **Shangshan**, for example Shangshan Weinan.
- The commercial viability and continued growth of the Shangshan Enterprises hinge on the expansion of each cooperative's membership base, trust from and active participation among smallholder farmers, and the development of local and urban markets for green and healthy food.
- A **Participatory Guarantee System** (PGS), a low-cost alternative and complementary tool to third-party organic certification, will be adopted as the quality assurance system. Producers certified through PGS will get a YRGT Green and Healthy Food Seal for their products.
- The **YRGT Green and Healthy Food Seal** requires meeting standards for farming systems, social development and environmental sustainability.

Sustainable Farming Technology

- Regional Technology Centres (RTC) will be established by the YRGT Green and Healthy Food Association and operated by each Shangshan Enterprise to promote the adoption of sustainable farming technology.
- RTCs identify local farming experts as well as experts from universities, government and the private sector as technology partners in order to create a go-to resource for sustainable farming technology and provide technical knowledge, training and advisory support to cooperatives and producers in the region. The vision is to create an institution for the development of sustainable farming.

Financial Highlights

- At a scale serving 2.75 million farmers in the YRGT Region (25% of 11 million total), **an initial investment of RMB 500 million (USD 77.3 million)** will be required to cover capital expenditures and expenses in the first 3 years. It is proposed that the investment be led by the government with selected private co-investors.
- After five years, all four City-level Shangshan Enterprises are projected to collectively generate a **revenue of RMB 21.5 billion (USD 3.3 billion) annually**, contributing significantly to the expansion of the local economy. The net profit is expected to reach RMB 3.6 billion (USD 556 million).
- The Shangshan Enterprises will also significantly improve farmers' income, lifting the rural per capita income in the YRGT above the average national level, promoting the retention of young talent and driving rural regeneration in the region.

Introduction and Background

Global Leaders Programme

The **Global Institute For Tomorrow (GIFT)** is an independent pan-Asian think tank providing content-rich and intellectually challenging executive education from an Asian worldview.

The **Global Leaders Programme (GLP)** is GIFT's flagship experiential learning programme designed for high potential managers from leading global companies and organisations to think critically about the drivers of change in the 21st century and develop new business models that address the defining challenges of our times.

Project Team

- A cohort of 22 participants from 12 companies and organisations representing 8 countries joined the 53rd GLP in Hong Kong and Shanxi, China, in August 2017.
- In partnership with **Puhan Cooperative**, a prominent multifunctional cooperative in Yongji, Shanxi and **Shijie Agricultural Technology Co.**, a pioneer in natural farming technology, participants produced a business plan to create an inclusive food system that supports rural regeneration and poverty alleviation, expected to benefit the 11 million smallholder farmers in the Yellow River Golden Triangle region.

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BSN
NEC
uniplan™
IDSMED
DOW
covestro
OCEANAGOLD
sojitz

Team of international executives propose an inclusive food system that supports rural regeneration

Scope of Project (1/2)

Programme Objectives

- Explore and gain deeper insights into rural China and the agricultural sector and the opportunities for rural regeneration and poverty alleviation amidst mounting environmental degradation and food safety concerns.
- Develop a business plan for the local governments of the YRGT, investors, cooperatives and agri-businesses in order to create an inclusive food system that supports rural regeneration and poverty alleviation and connects the well-being of smallholder farmers with the growing demand for green and healthy food among rural and urban consumers.
- Produce recommendations that take into account:
    - The balance between the commercial viability and social mandate of the business;
    - Country context including the social and economic factors that impact the agricultural sector;
    - Supply side of the food system including famers' organisation, technical knowhow, financing, service delivery platform, quality assurance, logistics, and recommendations for overcoming key challenges and concerns;
    - Demand side including market development, branding and promotion strategies;
    - The potential for replication and scalability in other parts of China.

Scope of Project (2/2)

The GLP is a two-week leadership programme combining classroom and field-base learning.

Methodology for Field Project

- Gain insights from key stakeholders including Shanxi Yongji Puhan Cooperative, Shijie Agricultural Technology Co., Henan Lingbao Hongnong Cooperatives Federation, Hongnong Cooperative, Hongnong Academy, Shaanxi Tongguan County Government, Tongguan Yongfengyuan Ecological Livestock Farming Demonstration Base, smallholder farmers and urban consumers through site visits, meetings and focus groups.
- Critically examine the opportunities and challenges in creating an inclusive food system that supports rural regeneration and poverty alleviation.
- Information gathering and analysis, business model generation and business planning sessions in–country.

Outcomes

- Development of a business plan with analysis of five key areas: Business Model & Governance; Value Chain Services & Marketing; Technology Transfer & Scalability, Public Services & Social Impact and Financial Analysis & Investment;
- Present the business plan to representatives from the government, local community, agricultural industry, universities and the media.

Project Partners

Puhan Cooperative

Established by Ms. Zheng Bing（郑冰女士）in 1998, Puhan Cooperative（蒲韩乡村联合社 "Puhan"）is a community-organised multifunctional cooperative covering Puzhou and Hanyang townships（蒲州镇及韩阳镇）in Yongji, Shanxi（山西省永济市）. Over the years, it has developed into an integrated platform serving multifaceted community needs to achieve sustainable agricultural production, community well-being and ecological balance.

Puhan has a membership base of 3,865 rural households, accounting for 58% of the population in the area who cultivate a total of 80,000 mu (5,333ha) of farmland. It is also developing its urban consumer network to strengthen rural-urban interaction and create a reliable market for its products. Since 2012, Puhan has developed 8100 urban consumer members in two nearby cities Yongji and Yuncheng.

Shijie Agricultural Technology Development Company

Shijie Agricultural Technology Development Co.（吉林世杰农牧技术有限公司 "Shijie"）was co-founded by Ms. Li Yunfeng（李云凤女士）and Mr. Li Shijie（李仕杰先生）in 2009. Shijie promotes natural farming and a system of circular farming which results in organic meat, vegetables and grains far exceeding the quality of industrialised agricultural produce.

The company invested in R&D and localisation of the Korean Natural Farming method introduced by Mr. Cho Han Kyu, the founder of the Janong Natural Farming Institute. It also developed proprietary enzymes that strengthen the immune system of livestock. In addition to supporting the operation of Yunfeng Cooperative in Changchun, Shijie had trained over 300 producers and cooperatives in the past 10 years. The zero-waste "Fermentation Bed" technology is its core technology for sustainable livestock farming.

Other supporting partners to be thanked include:

Lingbao Hongnong Cooperatives Federation, Hongnong Cooperative, Hongnong Academy, Luojia Village Committee, Tongguan County Government, Tongguan Yongfengyuan Ecological Livestock Farming Demonstration Base and Liangsuming Rural Reconstruction Center Talent Development Programme.

Country Overview: China

China's Development and the Agricultural Sector

- Since the country's reform and opening up in 1978, China saw a 75 fold increase in GDP. In 2016, the economic growth rate slowed to a 25-year low of 6.7%, but still remains one of the highest among the world's largest economies. The slow down comes as it transitions from an economy driven by exports and infrastructure investments to an economy led by internal consumption and services.
- A number of major policy initiatives since 2014 focus on the quality of growth in order to achieve a more balanced level of development that is conducive to the sustainable, long term prosperity of the country.
- Over 43 million people (3% of the population) are still living in poverty, many of whom are smallholder farmers. China hopes to eliminate poverty by 2020 through precise poverty alleviation measures.
- China is the world's largest producer, importer and consumer of food. To overcome structural imbalances, the Government is pushing forward agricultural supply-side reforms with a focus on quality over quantity to meet market demand for safe and high quality food and reduce chemical dependency.
- China has approximately 230 million smallholder households with an average land size of 5mu (0.3ha). Farm size in China is significantly smaller compared to other countries. It is fundamentally important to establish long-term mechanisms to give smallholder farmers a fair share of the agricultural sector's development.

Country Snapshot (2016)

- Population: 1.38 billion
- GDP: USD 11.2 trillion
- GDP per capita: USD 14,600
- GDP growth rate : 6.7%
- Inflation rate: 1.99%
- GDP composition by sector:
  - Agriculture: 8.6%
  - Industry: 39.8%
  - Services: 51.6%
- Urban Population: 57.4%

China is in the midst of a transition to achieve sustainable and long term prosperity

The Yellow River Golden Triangle (YRGT)

Overview of YRGT

- The YRGT consists of the parts of Shanxi, Shaanxi and Henan provinces on both sides of the Yellow River, namely the cities of Yuncheng, Linfen, Weinan and Sanmenxia. It covers an area of 57,800 square kilometers with a population of 17.21 million, 68% of whom are smallholder farmers. The four cities combined achieved a total GDP of RMB 506 billion in 2015.
- This important region of central China is also known as the cradle of Chinese civilisation. It has over 7 thousand years of agricultural history, accumulating invaluable knowledge which has shaped traditional sustainable agricultural practices in China.

Strategic positioning

- China aims to develop the YRGT into **a new regional economic engine** to act as an example of integrated, "leapfrog development" in an underdeveloped region.
- The government has called for **joint effort** in protecting ecological systems, promoting circular low-carbon development, improving resource utilization and providing basic public services.
- Below are the key areas prioritised by the government:

Agriculture
- Set up agriculture processing and production centers in the YRGT regions
- Promote rural development and alleviate poverty

Logistics
- Set up logistics centers covering the YRGT region by taking advantage of its geographical location

Tourism
- Become a major tourist attraction in China

YRGT region must build upon its rich agricultural traditions to lead sustainable rural regeneration

Current Situation & Challenges

China's Food System and the Sustainability Challenge

- The pressure associated with feeding a population of 1.38 billion means that the domestic agricultural industry is strategically important to the country's food security.
- In 2016, the primary industry of agriculture accounted for 8.6% of GDP with a value added of RMB 6.37 trillion (USD 936 billion).
- The growth of China's middle class and the country's increasing prosperity have resulted in increased consumption of meat and dairy products.
- Between 2005 and 2015, large-scale poultry farms grew from two-thirds to more than 90% of China's total and large-scale swine farms went from 16% to an estimated 50%.
- The growth of large-scale industrial farming and the overuse of chemicals present significant challenges to China's agricultural sector:

Overuse of Chemicals

China uses about one-third of the world's chemical fertilizers, and 2.5 times the average amount of pesticides used in developed countries. Excessive use of fertilisers and pesticides have polluted water sources, contaminated and degraded farmland and left pesticide residue on food.

Structural Imbalances

The separation of crop production and livestock farming in large-scale operations exacerbates pollution. Moreover, without a circular farming system, the growth of the livestock industry is driving the import of corn and soybean due to lower prices, causing stockpiling of corn produced domestically.

Food Safety

An oversupply of agricultural produce and the liberalisation of the food market has resulted in increased competition and reduced margins. To reduce cost and shorten production cycles, food safety has been compromised with chemicals and inappropriate additives. Food Safety ranks among the top five public concerns.

Social Disparity

The growth of large scale industrial agriculture often crowds out smallholder farmers. Due to the lack of capacity to enter a market dominated by large players, smallholder farmers are trapped at the bottom of the value chain, and often fail to capture a higher value for their products.

- Growing awareness around food safety, especially among the middle class, is expected to lead to a growing movement towards locally-grown organic food. This will have significant implications for the entire food system.

Improving China's food system must address ecological balance, food safety and social challenges.

Smallholder Farmers in Rural China

- As a country with a large population and limited land resources, China's agriculture has historically been characterised by smallholder farming. At present, 82% of the arable land is cultivated by smallholder farmers with an average landholding of 5mu (0.3ha).
- Smallholder agriculture often shows an impressive level of productivity. Many high-value crops that require labour-intensive farming such as fruit and vegetables perform better in well-developed smallholder agriculture than in other types of farming.
- While smallholder farmers play a vital role in agricultural production, a majority of smallholder farmers still live in relative poverty with low incomes. Many become migrant workers in cities during non-farming seasons to gain additional income. The average annual income of a farmer is RMB 12,363 (USD 1,892) in 2016 which is 2.72 times lower than an urban resident.
- Rural China also faces population ageing and a majority of the farmers are over 50 years old. Rapid urbanisation over the past three decades has attracted many young talent to the cities, oftentimes leaving the elderly, women and children back in rural villages.
- The exodus of young talent and a lack of public services negatively impacts socio-economic development and further exacerbates poverty.

"To build a well-off society in an all-round way is a solemn promise to our people. The government must make poverty alleviation the top priority, to ensure that all poor people live in a well-off society and enjoy essential social services by 2020."
– President Xi Jinping

Smallholder farmers are the backbone of China's Agricultural Sector and Rural Economy

Farmers' Cooperatives

- Smallholder farmers typically struggle to benefit from broad economic development due to: the small-scale nature of their production; limited capital; lack of technical knowhow in sustainable farming techniques and lack of market access. The high capital needed to modernize the agricultural sector and develop the associated logistical requirements (infrastructure, cold storage, etc.) is out of reach for most.
- The organisation of farmers into cooperatives provides a platform to channel value chain services, microfinance, technical knowhow and public services to help smallholder farmers overcome these hurdles.
- The number of agricultural cooperatives has increased rapidly since the launch of the Professional Cooperatives Law in 2007. There are currently close to 1.88 million registered cooperatives, covering 46.1% of smallholder farmers with an average membership base of 60 households.
- However, many cooperatives remain underdeveloped and lack the capacity and resources to adequately address farmers' needs.

Challenges faced by underdeveloped cooperatives

- Lack of leadership and community cohesion
- Lack of funding to support expansion and new initiatives
- Lack of market access
- Lack of technical knowhow and resources
- High market risk in single crop production
- Difficulty to retain members when economic cooperation fails
- Lack of public services to address local community needs
- Lack of management skills
- Lack of continuous learning as an organisation

The challenges faced by underdeveloped cooperatives highlight how a majority of smallholder farmers operate in a fractured value chain that prevents them from benefitting from the investments being made into the agricultural sector.

Support for cooperatives is critical to building an inclusive value chain

Insights from Puhan Cooperative

Multifunctional Services

- Starting as a farming supplies store in 1998, Puhan developed into a service oriented **multifunctional cooperative** under the leadership of Ms. Zheng Bing, with a strong focus on rural regeneration to create livable villages. It achieved a total revenue of RMB 80 million (USD 11.8 million) and a net profit of RMB 2 million (USD 294,000) in 2016 from the following key revenue streams: group sales, group purchasing and microfinance.
- Puhan developed its services by addressing the needs in the community. Often these needs are overlooked by cooperatives and agri-businesses driven solely by economic interests. Most of the services developed by Puhan, including public services, are revenue generating and self-sustaining. Initial capital came from mutual credit or Puhan's community fund.

3,865 producer members

80,000 mu (5333ha) under organic conversion

8,100 consumer members

Puhan Cooperative's Multifunctional Services

Public Services

- Elderly Care
- Children Education
- Handicrafts
- Women Education
- Cultural Activities
- Waste Management
- Healthcare

Ecological Farming Services

- Technical Education
- Technical Advisory
- Crop Protection
- Mechanized Farming
- Group Purchasing of Agricultural Inputs and household products
- Consolidated Sales of Agricultural Produce

Financial Services

- Micro-credit to support Agricultural Production and Household Needs
- Community Fund to support Public Services

Rural-Urban Integration

- Sales and Distribution
- Urban Consumer Stores in Yongji and Yuncheng
- Farm Visits for Urban Consumers
- Participative Guarantee System (PGS)

Organisation and Talent Development

- Puhan has a rigorous governance structure. The Board of Directors (35 members) and Supervisory Board (5 members) are elected by the Member Assembly every three years. The Executive Board is responsible for major decisions in the operations.
- Overseen by the Executive Director, Puhan's operation is run by **9 business units**, each with a business manager. In addition, Puhan divided 43 villages in Puzhou and Hanyang townships into **12 districts**, each managed by a district manager.
- There are also 18 **community organisers** who coordinate the delivery of services such as micro-finance, group purchasing and crop protection. They interact with the community regularly to address their needs and track progress.
- 80% of Puhan's 113 full time staff are under the age of 35. Working alongside farmers, the majority of whom are over 50, encourages intergenerational collaboration and learning. Rural ageing is a pressing issue nationwide and Puhan encourages younger generations to stay and contribute to village life.
- Puhan Cooperative has 180 producer groups each with 20 households, led by a skilled farmer. Forming a learning circle, weekly small group meetings and monthly trainings are conducted to improve farming skills and produce quality.
- As part of its talent development strategy, Puhan engages young farmers and university graduates through creating Youth Farms.

Public Services and Sustainable Living

In terms of public services, Puhan operates elderly centres, kindergartens, youth organic farms, artisan workshops, music studios and guest houses in each of the twelve districts. Public services enrich the daily life of villagers and bring the community together. Puhan places quality of life and community-wellbeing at the forefront of its activity and mission. A cohesive and mutually supportive community can enhance agricultural and economic development.

- 12 **Community elderly centres**（不倒翁学堂）were established since 2013, providing healthy senior villagers with a communal space to spend their days and organise cultural activities such as composing and singing folk songs, Chinese calligraphy, drawing, reading and dancing. The communal space and activities help lift the spirit of senior villagers and improve their general well-being. The cooperative also facilitates the organisation of in-house care for senior villagers who need assistance in daily care.
- 10 **kindergartens**（儿童私塾）were established across 12 districts for children aged 3-6. In addition to classroom activities, there are lessons in the field for children to be out in nature.
- Each district has a **handicraft workshop** where women and senior villagers can spend their free time to practice weaving. It is also a place where children in the community can come to learn and interact with the seniors.

Product Diversification and Circular Farming

Puhan promotes product diversification, intensive smallholder production and sustainable farming.

- **Product Diversification** – After experiencing high market risk in large scale monocultures of crops such as asparagus and apple, Puhan Cooperative encouraged its members to diversify their production. Diversification also spreads out planting and harvesting seasons, making intensive farming manageable for smallholder farmers. This is aligned with the agricultural supply-side structural reform pushed forward by the central government to meet market demand for safe and high-quality farm products and avoid over production.

- **Smallholder Production** – Puhan promotes intensive smallholder production and achieves economies of scale by offering services such as group purchasing of farming inputs, consolidation of sales, and coordination of mutual exchange of farming machineries and labour to support production.

- **De-chemicalisation** – After witnessing the impact of excessive chemical application in farming, Puhan started its organic conversion in 2006. Smallholder farmers participate by converting small parcels of land (1-2 mu) gradually. Compost made with animal manure is critical in providing low cost organic fertiliser. Traditional methods are blended with new technologies to support the transition and make this conversion attractive to farmers.

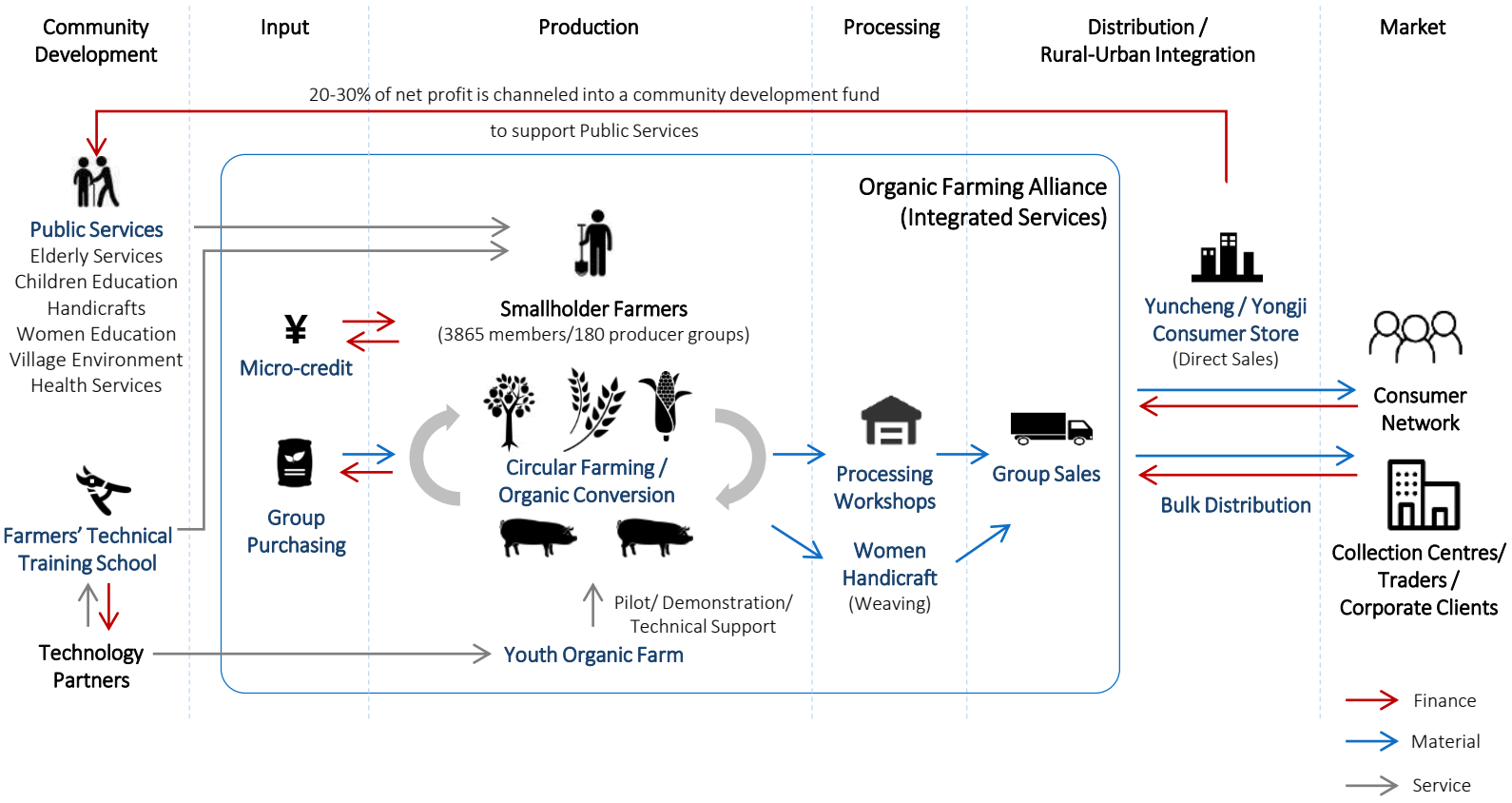
- **Circular Farming** – With the support of Shijie Company and Liangsuming Rural Reconstruction Center Talent Development Programme, a pilot pig farm was setup in 2016 to introduce the zero-waste "Fermentation Bed" technology to improve waste management and reduce labour in livestock farming. Compost made with fermentation beds is a good source of organic fertilizer for crops. Going forward Puhan plans to introduce the technology to 600 households, most of whom are elderly farmers between the ages of 55 and 70. The cooperative will provide farmers with microfinance and mechanised farming support. Part of the model's profit will go towards a retirement saving plan.

Circular farming promotes soil health through the management of micro-organisms and the symbiotic relationship between livestock and crops. 1 pig can provide fertiliser for 2 mu of land. Wheat is rotated with corn to produce animal feed.

Business Model and Value Chain

Puhan's business model realises the intrinsic values of rural communities and connects the well-being of smallholder farmers with the increased demand for high quality food. The integrated approach creates an inclusive food system that supports rural regeneration.

Business Model and Value Chain of Puhan Cooperative



- Puhan has a complete **farm-to-table** value chain. It operates its own consumer shops in Yongji (YJ) and Yuncheng (YC) (nearest cities) to connect with a consumer network of 8100 members.
- Currently only about 10% of the agricultural products in Puzhou and Hanyang townships, particularly those under organic conversion are sold through the Puhan sales channels.
- The main products are flour, cooking oil, soybean, egg, steamed bun, pork, chicken, mutton, honey, vegetables and fruits. Products under organic conversion are sold at 10-30% above market price.
- **Puhan's Market Segmentation**:
  - *1/3 Consumer members* (50% of the revenue with 30% profit margin)
  - *1/3 local community*
  - *1/3 local traders*

Key Learning for the YRGT Region

Key success factors from Puhan Cooperative can be applied to other cooperatives in the YRGT region. These include the following:

- **Community organisation** is fundamental to bring out the intrinsic values of rural communities and restore rural vibrancy.
- Cooperation among smallholder farmers goes beyond agricultural production. Mutual support in daily living and the delivery of **public services** goes a long way in building community cohesion which in turn enhances cooperation in agricultural production.
- Gaining understanding and approval from village committees and villagers is necessary to develop village-level services that **fulfill local needs**.
- **Community organisers** play an meaningful role in accompanying smallholder farmers in their endeavour to address their needs. They collect first hand information to help the cooperative understand service demands and minimise the risks associated with microfinance.
- **Education and talent development** are crucial to grow and retain talent in rural areas.
- **Technical training** and the organisation of learning circles are fundamental to lead the transition to sustainable farming and build a robust farming sector.
- Smallholder production can achieve economies of scale by **supporting services** such as **microcredit**, **group purchasing**, **group sales** and **mechanised farming**.
- A complete **farm-to-table value chain** helps retain profits across the value chain, and is central to building an inclusive food system that supports rural regeneration.

Insights from Puhan Cooperative can serve as a reference for other cooperatives in the YRGT region

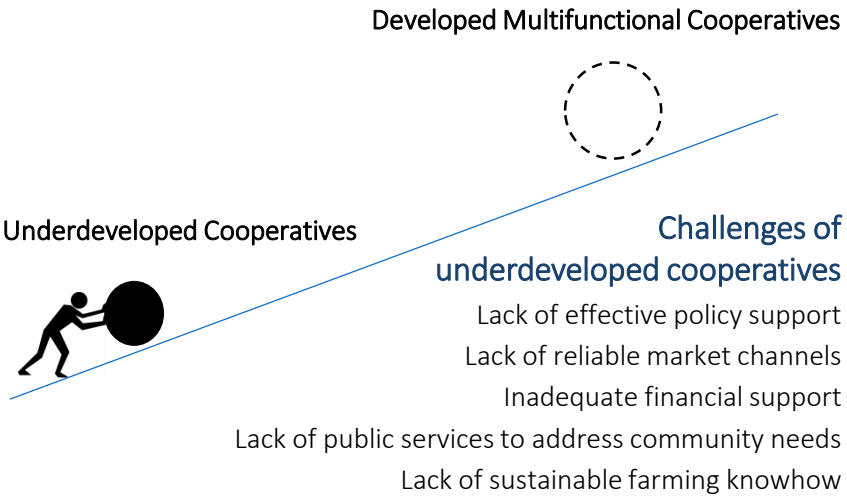
Business Model & Strategy

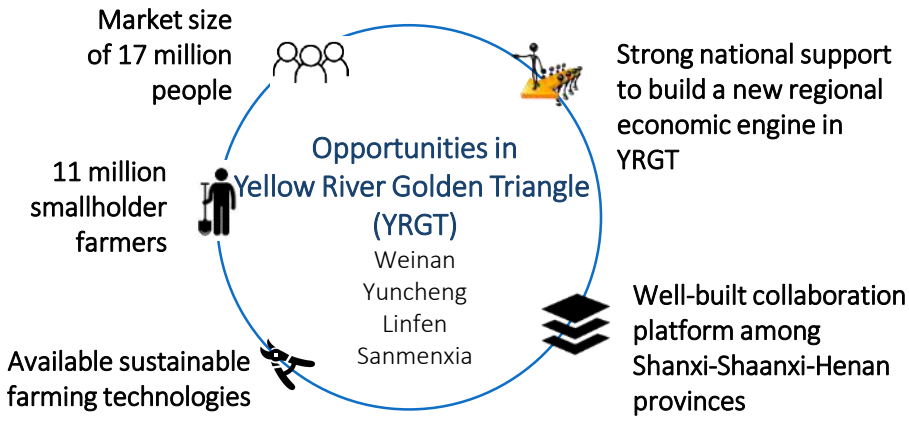
Summary

- Insights from Puhan Cooperative in Yongji, Shanxi have inspired a new model in which multifunctional cooperatives can play a crucial role to support rural regeneration efforts, by linking the well-being of smallholder farmers with the growing demand for green and healthy food.
- However, additional mechanisms, resources and structures are needed for the benefits of Puhan's model to reach more farmers, achieve scale and support a large-scale rural regeneration and development movement.
- This proposal describes an integrated approach that leverages the government's support to build the YRGT region into a regional economic engine and involves the participation of city governments, investors, multifunctional cooperatives, enterprises and civil society organisations. The proposal involves the creation of:
    - The **YRGT Investment Company** to raise and manage an investment fund focused on rural regeneration via an innovative agricultural platform involving cooperatives,
    - Four **City-level Enterprises** with operational and managerial expertise to provide professional services to support cooperatives along the value chain, and
    - The **YRGT Green and Healthy Food Association** to award the "YRTG Green and Healthy Food" seal and oversee rural regeneration efforts.
- The proposed business model for the **Enterprise** has three main revenue streams – aggregated group sales, group purchasing and wholesale credit for microfinance.
- The inclusive food system adopts the **Participatory Guarantee System** as its quality assurance system. Producers certified through PGS will get a YRGT Green and Healthy Food Seal for their products.

Rationale for Business Model

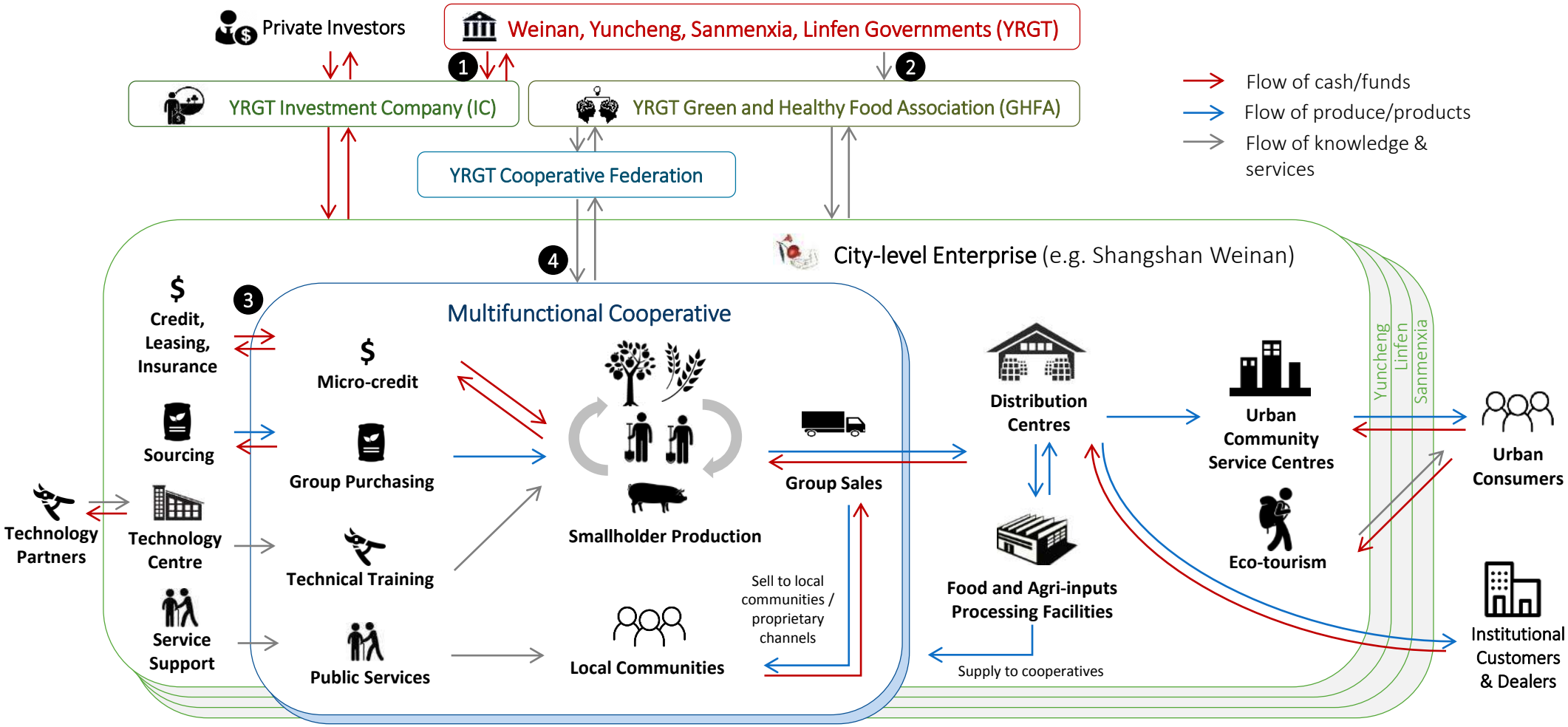
- China's 230 million smallholder farmers form the backbone of the rural economy. Yet despite the significant investments made into the agricultural sector, they remain marginalised in terms of economic and social development.
- The excessive use of chemical inputs has exhausted and contaminated the land, compromising its fertility and productivity. Coupled with steep competition in the market for food, smallholder farmers find themselves in a debilitating cycle of poverty.
- As China aspires to become a moderately prosperous society and eradicate poverty by 2020, it is imperative to develop an inclusive and sustainable food production system in order to promote economic development for smallholder farmers and rural communities.
- Insights from Puhan Cooperative in Yongji, Shanxi inspire a new model in which multifunctional cooperatives can play a crucial role in rural regeneration, linking the well-being of smallholder farmers with the growing demand for green and healthy food.
- The majority of cooperatives however are underdeveloped and require additional support to expand their services and develop a full farm-to-table value chain.
- The government is providing support and resources to transform the YRGT region into a new regional economic engine. By leveraging this support and bringing various stakeholders together, this proposal provides an integrated approach to create an inclusive food system. It also provides underdeveloped cooperatives with an opportunity to improve their members' farming techniques and livelihoods whilst overcoming many of the challenges that cooperatives typically face.





The YRGT region is well positioned to create an inclusive food system

Proposed Business Model



1. The **YRGT IC** is established with initial funding from the city governments as co-investors to invest in four city level enterprises to strengthen the value chain and support cooperatives. Private investors can participate as co-investors.

2. **The YRGT GHFA** is a multi-stakeholder industry association in YRGT responsible for awarding the "YRTG Green and Healthy Food" seal and overseeing rural regeneration efforts.

3. **City-level Enterprises** provide financing, product sourcing, marketing, logistics, technical training and social services support to cooperatives to establish farm-to-table value chains, linking producers to consumers.

4. **Multifunctional cooperatives** organise and support smallholder farmers in sustainable farming and living and form a federation at YRGT level.

Key Entities and Functions

YRGT Investment Company (IC)

- Raise and manage funds for the development of an inclusive food system in YRGT.
- Major funding to come from YRGT government with private investors as co-investors.
- Invest in value chain infrastructure, facilities and services.
- Provide funding to develop microfinance services.

YRGT Green and Healthy Food Association (GHFA)

- Responsible for awarding the "YRTG Green and Healthy Food" seal and overseeing rural regeneration efforts.
- Set production standards and oversee the implementation of the Participatory Guarantee System (PGS) for product quality assurance.
- Establish Regional Technology Centers (RTCs) to promote sustainable farming practices. RTCs to be operated by the Enterprise. Trainings will by conducted by technology partners.
- Ensure the accessibility of appropriate sustainable farming technologies.
- Conduct research and advocate for relevant public policies on behalf of the YRGT community.

City-level Enterprises

- Four enterprises to be established in the cities of Weinan, Yuncheng, Linfen and Sanmenxia respectively.
- Responsible for developing a market for green and healthy produce and provide professional services to support cooperatives along the value chain with operational and managerial expertise.
- As a social enterprise, 60% of its dividend will go back to its member cooperatives.
- A holistic brand approach will be introduced to promote green and healthy produce within the YRGT region.
- It is proposed that the City-level enterprises be named Shangshan, for example Shangshan Weinan.

YRGT Cooperative Federation / Multifunctional Cooperative

- Multifunctional cooperatives organise and support smallholder farmers with sustainable farming techniques. Together they form the YRGT Cooperative Federation.
- YRGT Cooperative Federation represents cooperative members in the YRGT GHFA to set production standard and develop guidelines through a multi-stakeholder process.
- Cooperatives follow the production standard set by YRGT GHFA to implement PGS and qualify for the YRGT Seal.
- Value chain services are delivered to farmers by cooperatives.

Introducing Shangshan Enterprise (1/2)

- A new brand – **Shangshan** – is proposed for the City-level Enterprise. It is designed to highlight the economic, social and environmental value of the enterprises and their mission.
- The logo combines the promotion of social value, cultural heritage, artisan crafts and sustainable farming practices in the community.

(Chinese brand) (Food segmentation)

Create a recognisable and trusted brand signifying rural regeneration and rural development

Introducing Shangshan Enterprise (2/2)

- The **"Shangshan"** brand can be used for the implementation of sales and marketing programmes, campaigns and activities.
- Meaning of the brand in Chinese:

尚膳

"上善若水"出自老子的道德经第八章，是中华美德的一种精髓，更是历来成为志士仁人崇尚的最高境界。我们选用了"上善"寓意了潼关，黄河金三角的文化底蕴同时也展示了一种积极的生活态度和自然的生活方式。

"尚"和"上"谐音 ，寓意高尚的品格，积极的生活态度。
"膳"和 "善"谐音，寓意膳食，民以食为天，我们取之自然，受于自然，反馈给自然。

- This brand name derives from a quote from Tao Te Ching which means "water is the finest element of all things" which reflects one of life's key spiritual components: to embrace the environment & the natural world.
- The characters mean "a place where the food is of superb quality and produced ethically"
- Key elements for this brand contain the key message as :
    - A unique life attitude towards green & healthy life
    - Consciousness regarding the protection of the environment
    - Brand from the Yellow River Golden Triangle, home to a unique culture & heritage

A new brand anchored in Chinese tradition to promote the YRGT's green and healthy food systems

Revenue Streams of the Proposed Business Model

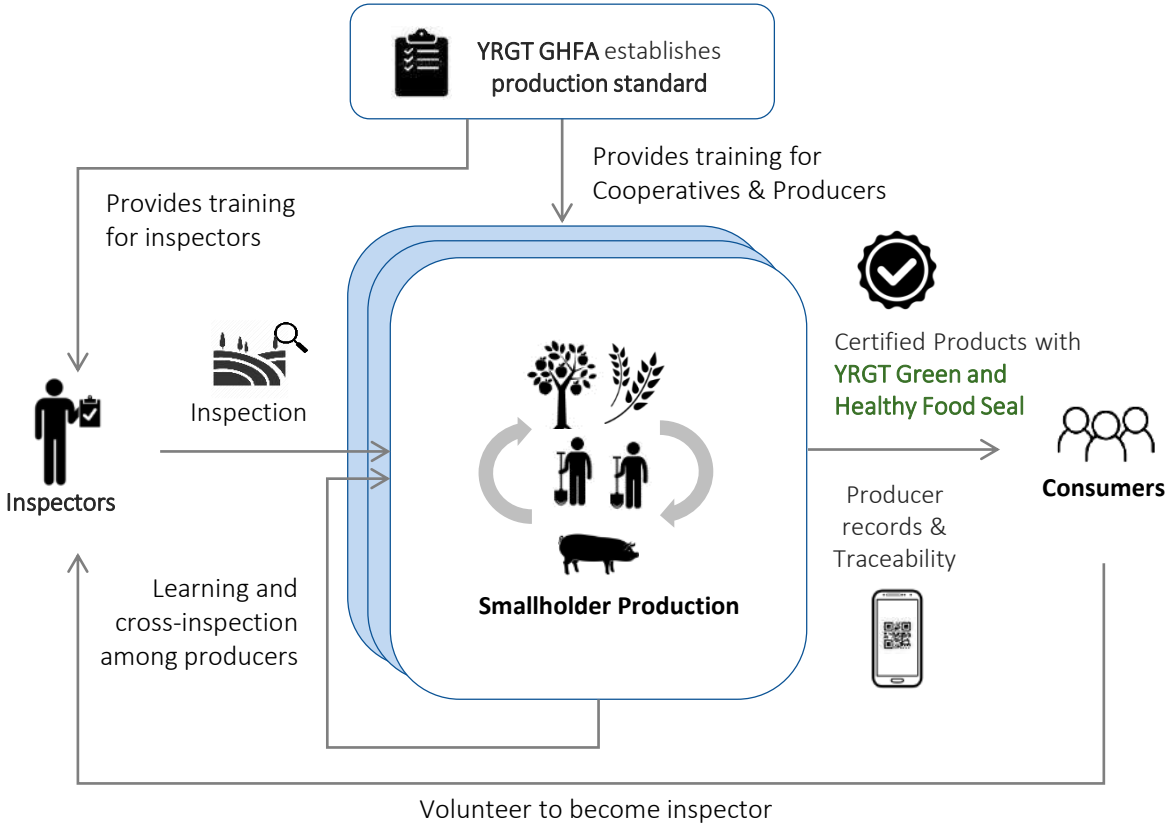
The proposed business model for the Shangshan Enterprise has three main revenue streams: aggregated group sales, group purchasing and wholesale credit for microfinance. The follow diagram shows the scale of the business in 2022. The four enterprises will achieve an estimated revenue of RMB21.5 billion (USD 3.33 million) and net margin of RMB3.6 billion (USD 557.2 million) in total.

(RMB million)

Revenue/ Gross Profit	1 Group purchase		2 Group sales		3 Wholesale Credit for Microfinance	Total
	Farming Inputs	Household Goods	Consumer	Wholesaler		
Revenue	2,064		12,212		7,226	21,501
Gross Margin	10%		37%		6%	-
Operating Profit (Before Tax)	4,117 (19% margin)					
Net Profit	3,606 (17% margin)					

Participatory Guarantee System (PGS)

- YRGT GHFA adopts the Participatory Guarantee System (PGS) as its quality assurance system. Producers certified through PGS will get a YRGT Green and Healthy Food Seal for their products.
- The development of an open and mutually supportive community ensures the supply of high-quality food. By incorporating PGS, producers, consumers, local technical experts will be trained as farm inspectors as part of the PGS certification.
- An online platform that keeps producer records and supports product traceability will further enhance the accountability of the PGS system.



*"**Participatory Guarantee Systems** are locally focused quality assurance systems. They certify producers based on active participation of stakeholders and are built on a foundation of trust, social networks and knowledge exchange."*

– The International Federation of Organic Agriculture Movements (IFOAM)

PGS is a low-cost alternative and complementary tool to third-party organic certification. It seeks to be inclusive in bringing smallholders into a system of sustainable agricultural production.

PGS builds trust between producers and consumers

YRGT Green and Healthy Food Seal

The YRGT Green and Healthy Food Seal is awarded by the YRGT Green and Healthy Food Association with requirements for the farming systems, social development and environmental sustainability as shown below:

YRGT Green and Healthy Food Seal

Farming Systems

- Implement circular farming
- Minimise waste and emissions from the farming system
- Reduce the dependency on non-renewable resources and close nutrient loops in production systems
- Promote product diversification
- Promote smallholder farming
- Avoid resource intensive large-scale industrial system
- Develop local farming inputs and seed varieties

Social Development

- Improve farmers' livelihoods
- Create social cohesion
- Create social benefit for cooperative members such as elderly and child care, retirement pension, etc.
- Preserve cultural heritage
- Embrace cultural diversity
- Retain young talent

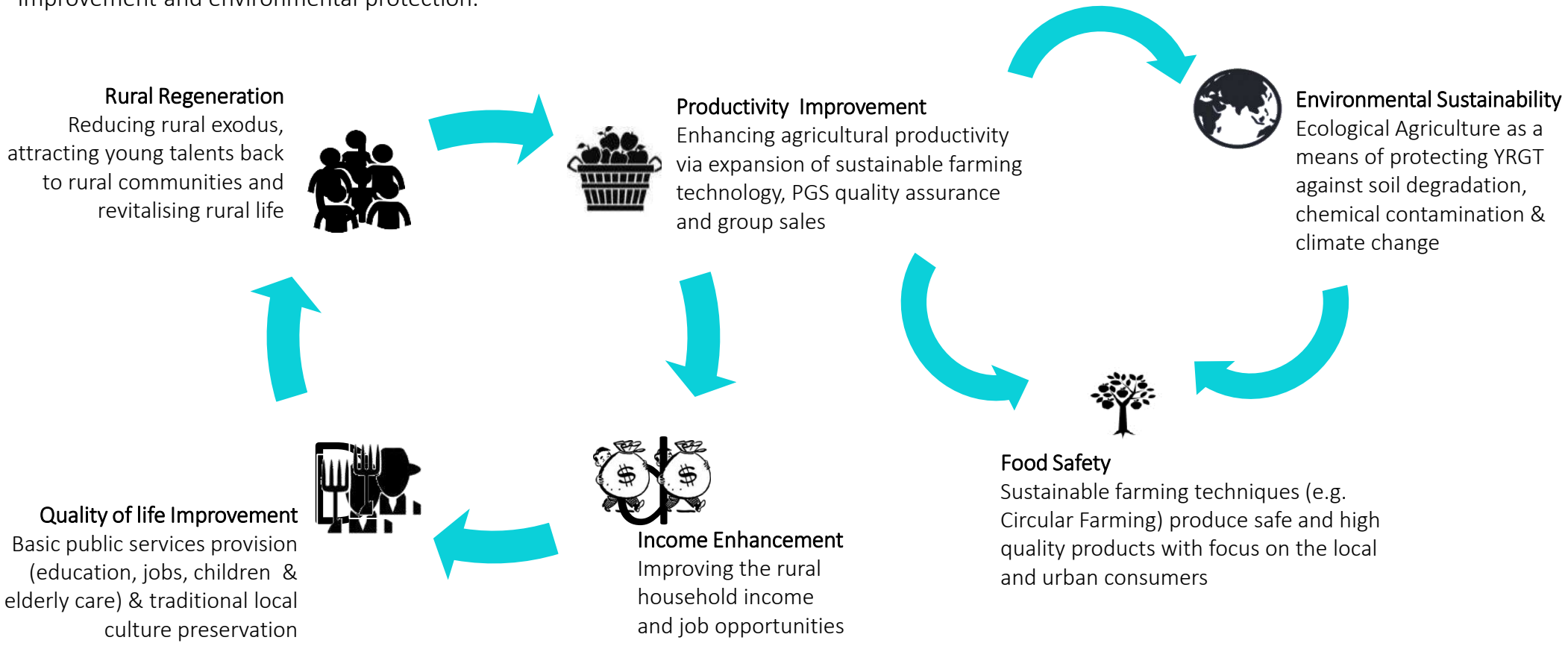
Environmental Sustainability

- Fulfill *China Pollution Free Agricultural Product Standard*
- Preserve & become stewards for biodiversity
- Protect the genetic diversity of crops and improve breeds of plant varieties and livestock suited to agroecological production
- Improve the health and resilience of the ecosystem
- Maintain and enhance water, air quality and soil fertility
- Contribute to reversing the effects of human-induced climate change

Only cooperatives who comply can have produce sold under the YRGT Green and Healthy Food Seal

Benefits of the Proposed Business Model

The proposed business model is expected to present a number of social, economic and environmental benefits at household, community and national levels. These benefits are connected to one another in a virtuous circle and highlight the connection between rural regeneration, livelihood improvement and environmental protection.



Business model alleviates poverty, improves productivity, improves food quality and protects environment.

Governance & Organisational Management

Summary

- Good governance is fundamental to establish a clear direction and ensure effective management of the organisation. The governance structure of the entities in the proposed business should be structured to meet the financial obligations whilst ensuring that the interest of different stakeholders and the social mandate are met.
- The YRGT Investment Company is responsible for the stewardship of financial resources to achieve objectives related to rural regeneration and the development of a sustainable and inclusive food value chain.
- The YRGT Green and Healthy Food Association (GHFA) is a multi-stakeholder industry association, aimed at providing guidelines to cooperatives and overseeing the implementation of the Participatory Guarantee System (PGS).As part of the PGS system, a "YRGT Green and Healthy Food" seal will be created to build consumer trust and ensure product quality.
- The board of each Shangshan Enterprise will include representatives from the Cooperative Federation, the YRGT Investment Company and the YRGT Government to ensure their interests are represented.
- A maximum of 60% of each Shangshan enterprise's yearly net profit would be directed towards the payment of dividends, to both the YRGT Investment Company and cooperatives. Another 20% is to be allocated to local community development, whilst the remaining 20% is to be reinvested into the enterprise for future development.

Governance Framework

The governance structure of entities in the proposed business should be structured to meet the financial obligations whilst ensuring that the interest of different stakeholders and the social mandate are met.

For each Enterprise, the following governance framework is proposed to ensure effective oversight, management and operations.

Objectives of the governance framework

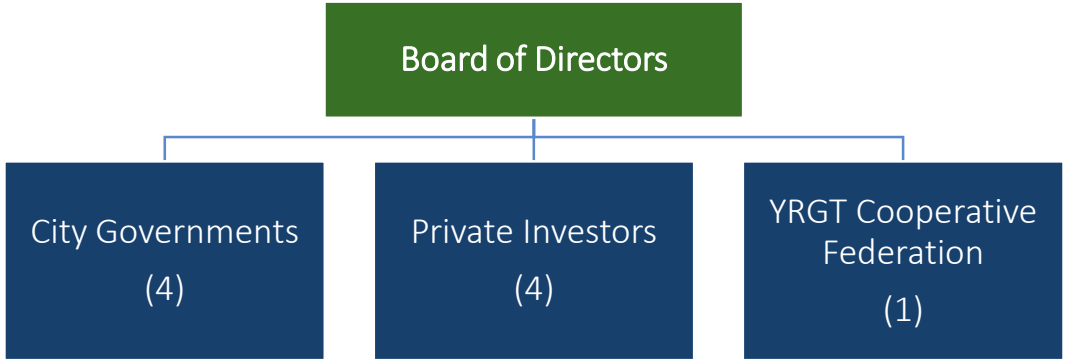
- Enabling alignment of interests, promoting mutual benefits and developing of a fair basis for profit distribution to shareholders which the majority of whom are the farmers.
- Ensuring a sustainable partnership with the government institutions and targeted cooperatives and farmers to make sure all activities of the business also benefit the local society.
- Being transparent to all stakeholders and ensuring farmers remain at the center of business model.
- Leveraging the expertise, experience and technology that helps lift the farming practice to increase production of green and healthy food product while alleviate poverty and promote rural development.

Guiding principles

- Compliance with all national and regional laws relevant to the business and those in the farming and food product sector.
- Fulfilling social obligations, including commitment toward partners and stakeholders, commitment toward community and food safety.
- Advocate and put in place management and financial transparency, accountability, and disclosure.
- Safeguarding of the interest of the organization and its various stakeholders from any unethical practices and misconduct.

Governance Structure of YRGT Investment Company

- The **YRGT Investment Company** will be established to raise and manage an investment fund focused on rural regeneration and the development of a sustainable and inclusive food system in YRGT.
- Appropriate disclosure and transparency are fundamental to ensure the ethical standards of the company are upheld.
- The **Board** is responsible for the overall strategic direction and monitoring of the company to ensure the stewardship of financial resources in achieving its commercial and social objectives.
- Below is the suggested governance structure of the investment company:



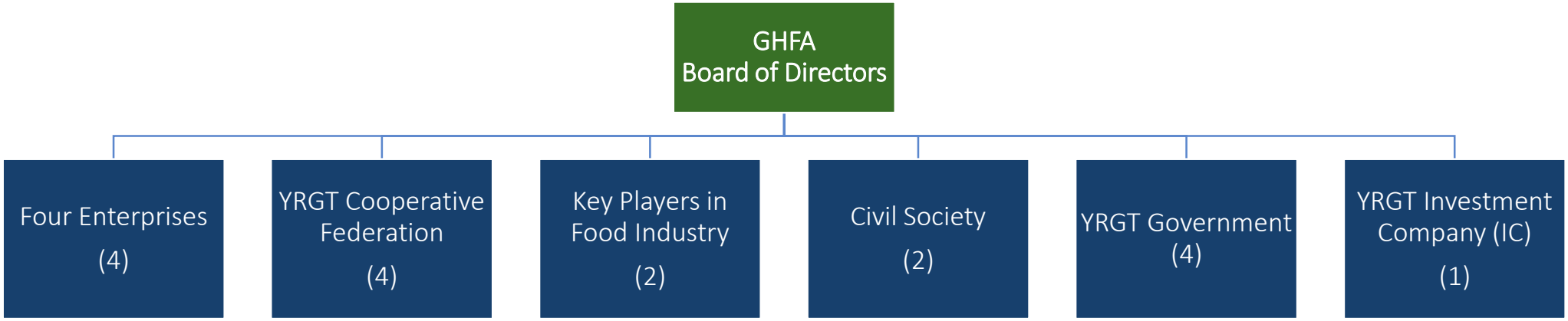
9 Board Members comprising:

- 4 representatives from YRGT Government
- 4 representatives from Private Investors
- 1 representation from YRGT Cooperative Federation

The YRGT Investment Company channels funding for rural regeneration

Governance Structure of YGRT Green and Healthy Food Association

- **The YRGT Green and Healthy Food Association (GHFA)** will be a multi-stakeholder industry association adhering to principles that are consistent with those considered best practice in the sector. A robust governance framework provides transparency and accountability not only to the GHFA's members but also to external stakeholders and the general public.
- The GHFA will provide guidelines to cooperatives and oversee the implementation of the **Participatory Guarantee System (PGS)**.
- As part of the PGS system, a **"YRGT Green and Healthy Food" seal** will be created to lead activities on building consumer trust and ensuring product quality.



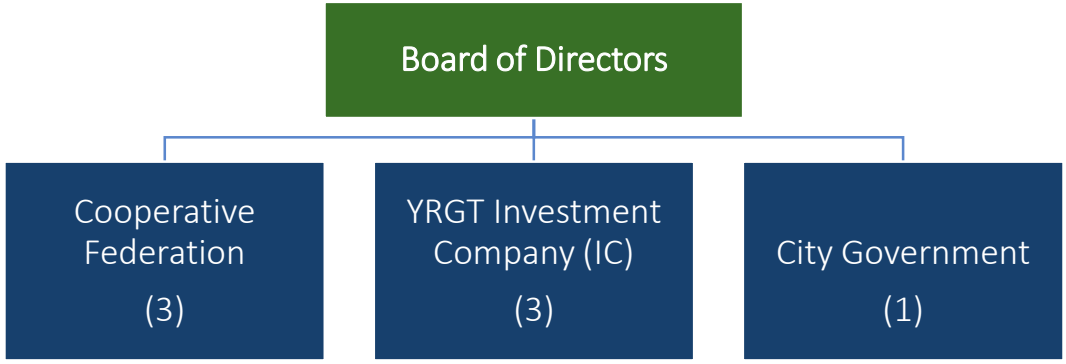
17 Board Members comprising:

- 1 representative from each City-level Enterprise (total 4)
- 4 cooperatives representatives from four cities, elected by YRGT Cooperative Federation
- 4 representatives from four YRGT City Governments
- 2 representatives from key food producers and agricultural companies established in YRGT area
- 2 representatives from civil society (such as NGO, university)
- 1 representative from YRGT Investment Company (IC)

Governance structure ensures that the association represents the broad interests of its membership

Governance Structure of Shangshan Enterprise

- A **City-level Shangshan Enterprise** will be established in each of the four main cities in the YRGT area: Weinan, Yuncheng, Linfen and Sanmenxia.
- Emphasis will be placed on creating transparent processes for leadership and decision-making. The governance framework should be free from undue influence of individual members and decision makers should act in the best interest of the enterprise.
- Below is the suggested governance structure of each Enterprise:



7 Board Members comprising:

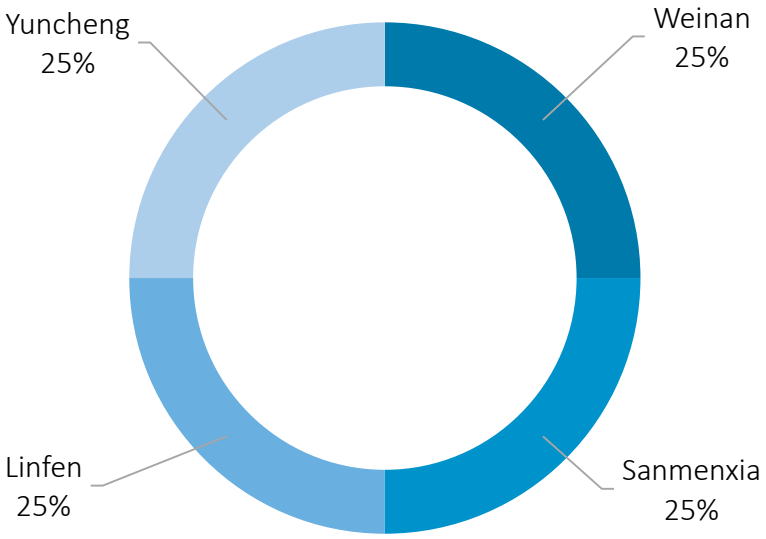
- 3 representatives elected by Cooperative Federation
- 3 representatives from YRGT Investment Company
- 1 representatives from YRGT Government

Structure ensures a productive relationship between board and representatives

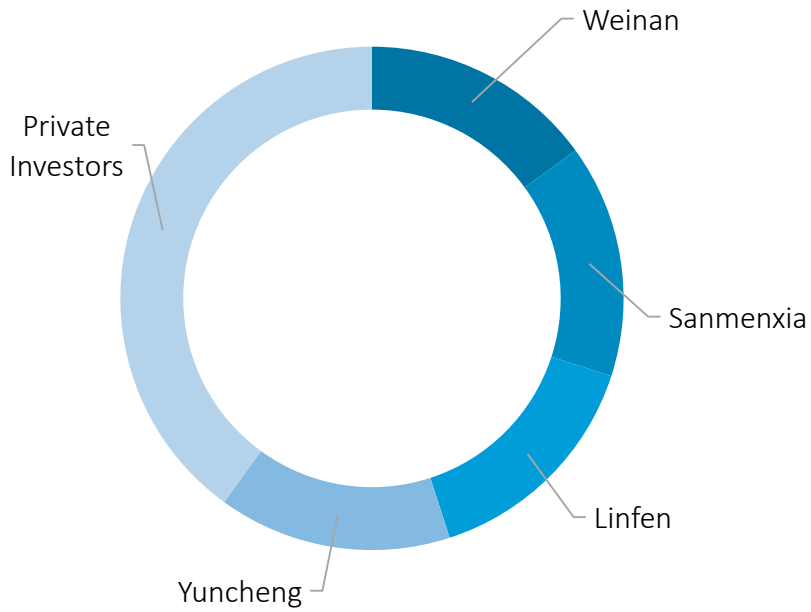
Proposed Shareholding Structure of YRGT Investment Company

- YRGT Investment Company is a Government-led entity at the initial stage.
- In order to get the commitment from all four cities, the proposed investment company will receive initial funding from all four cities who would receive equal share (25% each) in the investment company.
- Future investments could come from private investors, as the business presents significant opportunities for investors wishing to support a key economic sector in China whilst promoting social development in the country's rural areas. Additional due diligence and the repartition of shares should be negotiated and discussed amongst all parties when needed.

Proposed Shareholding Structure of YRGT Investment Company at the initial stage



Proposed Shareholding Structure of YRGT Investment Company in the future

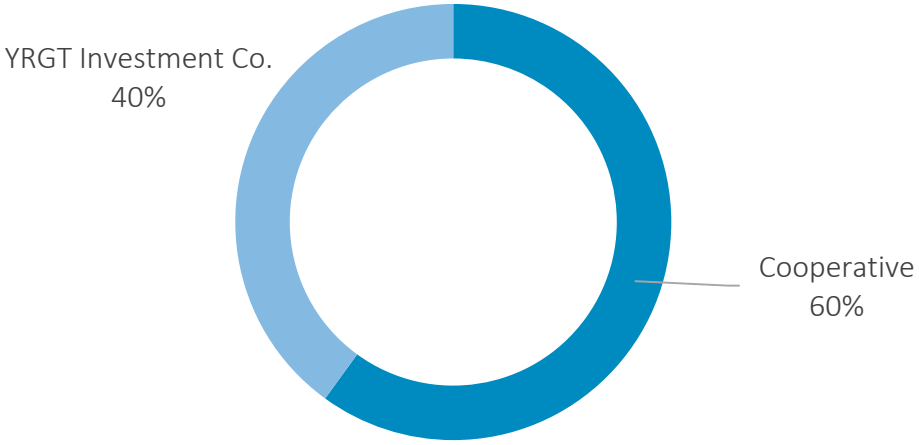


YRGT Investment Company presents investment opportunities for private investors in the future

Proposed Shareholding Structure of Shangshan Enterprises

- In order to align the interests of all stakeholders, ensure the Enterprises' operational excellence and guarantee transparency and accountability in regards to decision making processes, farmer cooperatives and the YRGT Investment Co. will be joint shareholders in each enterprise.
- It is proposed that 60% of shares will be offered to the cooperatives and by extension to individual farmers, relative to their land size and total transaction value, by means of "sweat equity". This is designed to ensure that farmers receive a portion of profit commensurate with their critical role and contribution, thereby supporting the viability and sustainability of the community and the enterprise.
- Cooperatives' level of involvement can be discussed and negotiated as needed, such as the right to obtain relevant information on the enterprise, participate and vote in general meetings and/or become part of the decision making process.

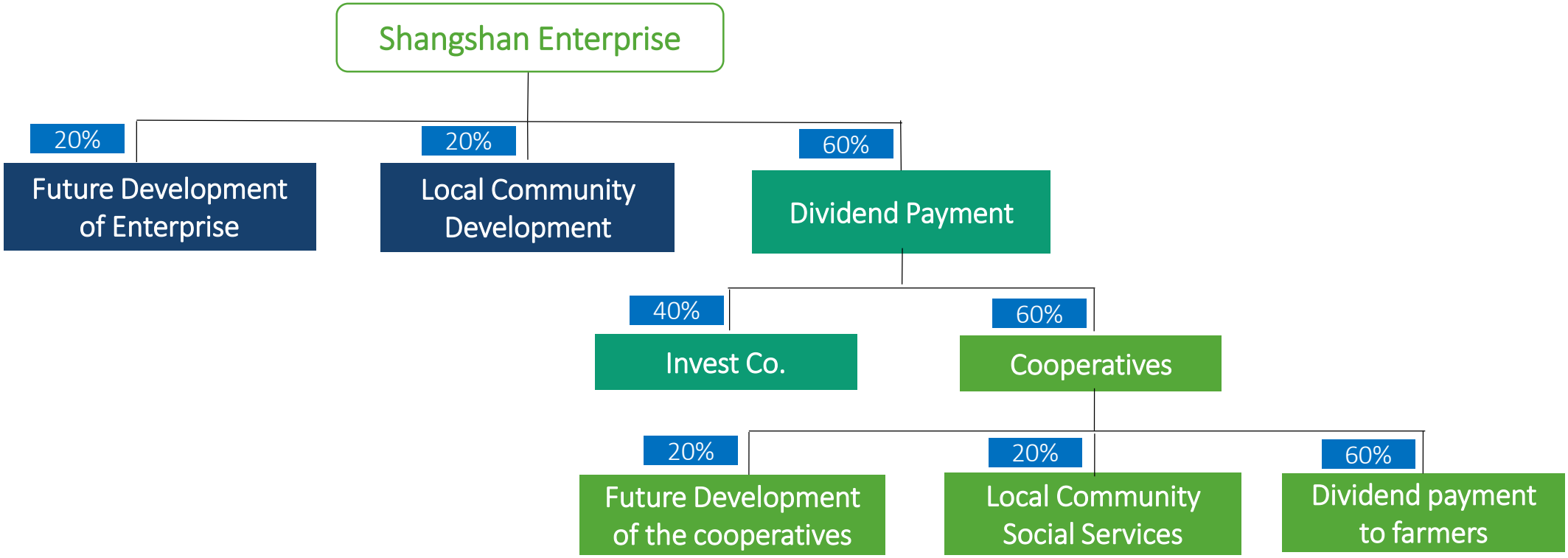
Proposed Shareholding Structure of Shanshan Enterprise



Cooperatives are incentivised to contribute to the enterprises' overall performance and success

Profit Allocation Structure of Shangshan Enterprises

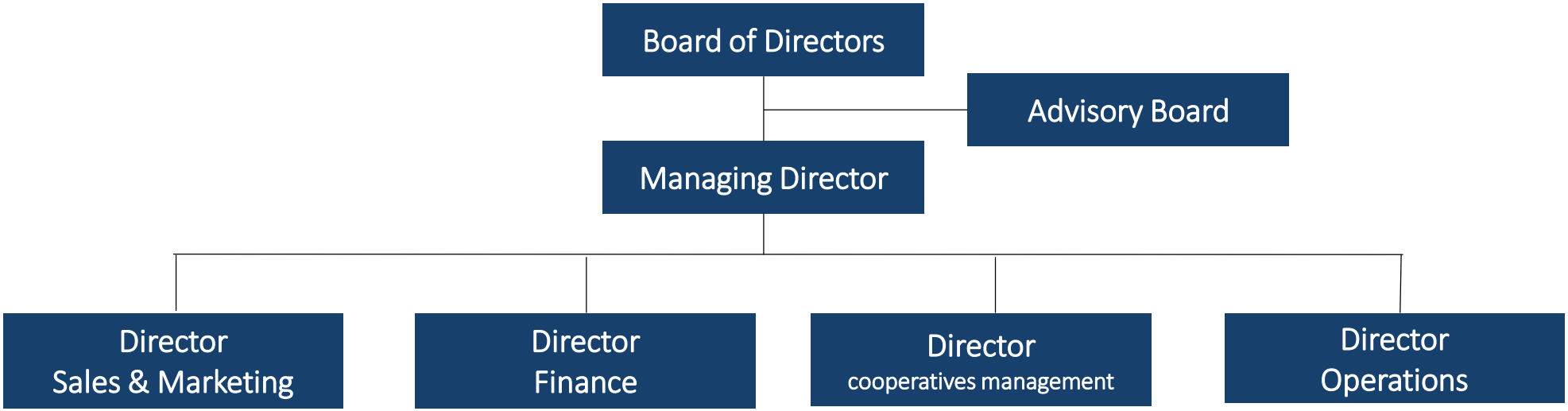
- It is suggested that the allocation of profit from the Shangshan Enterprise be shared to meet the needs and interests of its various stakeholders.
- A maximum of 60% of yearly net profit would be directed towards the payment of dividends, to both the Investment Company and cooperatives. A suggested 20% would support local community development and the remaining 20% would be reinvested into the enterprise for future development.



Profit allocation model balances financial returns and social development

Organisation Structure of Shangshan Enterprises

It is proposed that the Shangshan Enterprise be run by a core management and operational team and governed by a Board of Directors.



- The **Board of Directors** is the main governance body of the Enterprise. It is responsible for setting the organisation's strategic direction, and for monitoring the allocation of financial resources to achieve the company's objectives.
- In order to ensure the independence of the **Advisory Committee**, representatives include external advisors who provide oversight and advice to the Board of Directors by providing industry knowledge and up-to-date insights on trends and opportunities in the food and agriculture sectors.
- The **Managing Director** is responsible for the daily operations of the business. He/She works towards executing the Board's decisions to achieve the company's objectives and targets, and to ensure the overall management and performance of the company.
- **Departments** will be in charge of: Sales and Marketing of the produce, brand and reputation; Finance; Management and partnership with Cooperatives; and Operations.

Key Roles & Responsibilities

Key roles and responsibilities of the management team of Shangshan Enterprise:

ROLES	RESPONSIBILTIES
Managing Director	• Responsible for strategic direction and overall performance of the Enterprise • Manage key stakeholder and partner relations • Report to the Board of Director
Director of Finance	• Primarily responsible for managing financial risks of the Enterprise • Responsible for financial planning, record keeping, and financial reporting to the MD • Ensuring compliance with best practices locally and regionally
Director of Operation	• Responsible for driving overall operations of value chain services
Director of Cooperative Management	• Responsible for developing services to support cooperatives. Develop management system and guidelines to ensure operation excellence and coordinate with cooperatives to ensure compliance. Organise trainings for cooperatives staff.
Director of Sales & Marketing	• Responsible for developing marketing plan including pricing strategy, segmentation, promotion, and drive implementation to maximize value to the Enterprise.

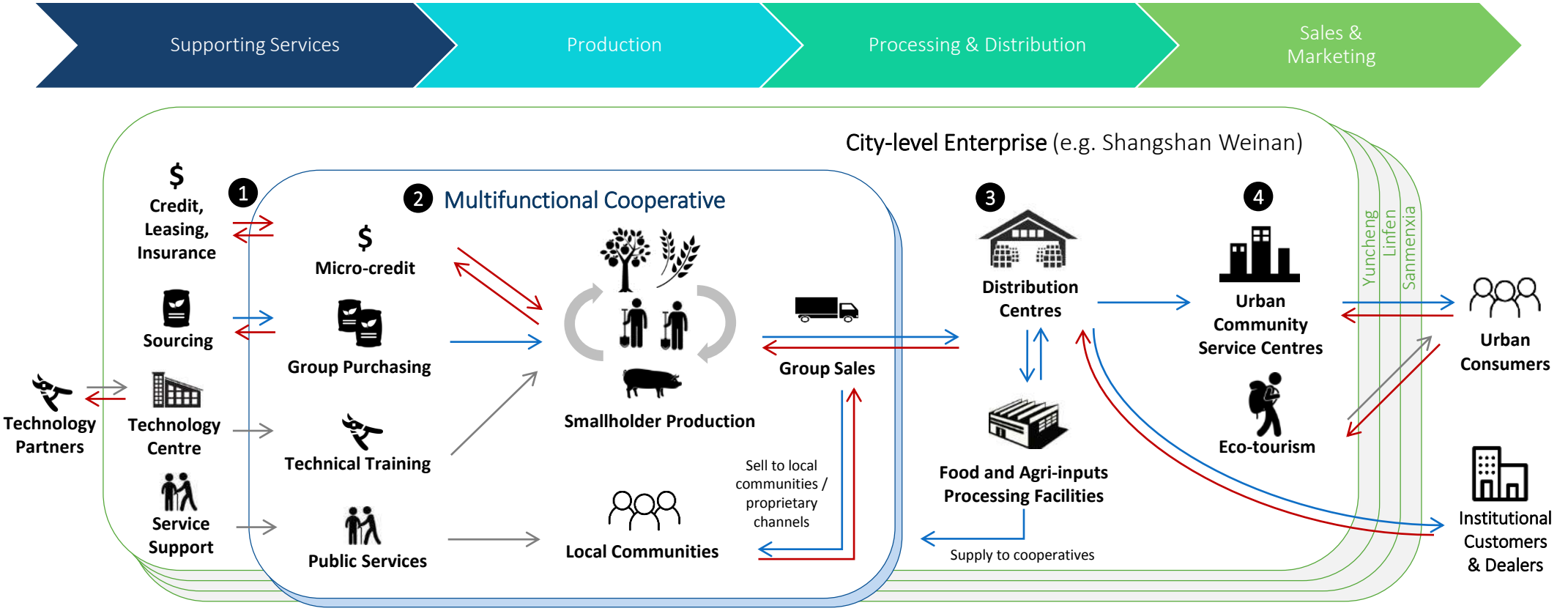
Value Chain Services & Marketing

Summary

- Inspired by the **Puhan cooperative model**, the proposed model for an inclusive food system involving farmers' cooperatives supports rural regeneration efforts in the region. It seeks to connect the well-being of smallholder farmers with the increased demand for green and healthy food among urban consumers.
- City-level enterprises – branded as **Shangshan** – provide supporting services to farmers' cooperatives and create a full farm-to-table value chain. Smallholder farmers organised through cooperatives are responsible for the production of high quality food.
- The YRGT Green and Healthy Food Association delivers a food certification seal – **the YRGT Green and Healthy Food Seal** – to cooperatives and producers that successfully meet its rigorous standards and quality guidelines. Cooperatives can then opt to sell their produce under the Shangshan brand and access a broader market, in both rural and urban areas.
- The **Yellow River Golden Triangle** has a population of 17 million people: 11 million rural population and 6 million urban population. The primary market for produce certified under the YRGT Green and Healthy Food Seal will be local markets in the YRGT region.
- An e-commerce platform could eventually support the Enterprises' sales and market reach to larger cities such Xian, Zhengzhou, Luoyang, Beijing, Shanghai, Shenzhen and Guangzhou.

Value Chain of the Inclusive Food System

Inspired by the Puhan model, an inclusive food system involving cooperatives supports rural regeneration



1. Shangshan Enterprise provides supporting services such as wholesale credit, machinery leasing, insurance, product sourcing as well as technical and public services training and support to multifunctional cooperatives.

2. Smallholder farmers organised through multifunctional cooperatives are responsible for the production of high quality food through an integrated approach that places improved community well-being and ecological balance at its core.

3. Shangshan Enterprise establishes and operates distribution centres to coordinate the delivery of products to urban community centres and other commercial customers. Shangshan Enterprise also establishes food and feed processing facilities to create added value in the value chain.

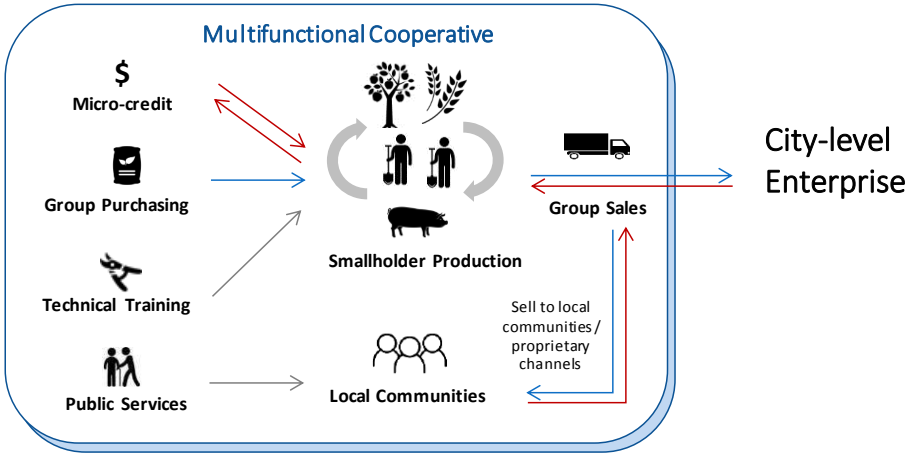
4. Shangshan Enterprise establishes Urban Community Service Centres to develop local urban consumer market, completing the farm-to-table value chain and creating an inclusive food system that supports rural regeneration.

→ Flow of cash/funds
→ Flow of produce/products
→ Flow of knowledge & services

Key Value Chain Services: Multifunctional Cooperative

The following value chain services are delivered by multifunctional cooperatives:

$ Micro-credit	Provide micro-credit between RMB2,000 – 20,000 (USD 310 – 3,100) with an interest rate of 0 to 1.5% per month to support farming and household needs. Sources of funding include mutual credit from members and wholesale funding from Shangshan enterprise.
Group Purchasing	Organise group purchasing of farming inputs and household items to reduce cost to farmers.
Technical Training	Provide technical training and organise learning circles to support farmers with sustainable farming practices (See page 61 for details)
Public Services	Provide public services and facilities such as elderly centers, kindergaten, handicraft workshops, health checkups for the community (See page 71 for details)
Production Services	Provide services such as leasing of farming equipment and machinery, allocation of labour during harvest season, crop protection, etc. to support production
Group Sales	Organise sale of agricultural produce. Target market include local community, local traders and nearby urban consumers and other properietary channels developed by the cooperative.



Multifunctional cooperative provides services to meet the needs of the community

Key Value Chain Services: Shangshan Enterprise

The following key services are delivered by the Shangshan Enterprise to strengthen the value chain and support cooperatives:

Credit, Leasing, Insurance

- Provide wholesale credit to cooperatives to support microfinance.
- Provide funding to incubate new techniques such as Circular Farming, as well as machine leasing.
- Enable participating farmers to save into a retirement fund.

Sourcing

- Handle the sourcing of farming inputs and household items (such as consumer products) to negotiate lower prices for bulk orders and provide a system to support cooperatives with group purchasing.

Technology Centre

- Operate the Regional Technology Centre to provide systematic education for farmers along with technical support on the field.

Service Support

- Distribute 20% of its profit to local community development. Support cooperatives to develop social services including children education, elderly care and culture perservation to improve the quality of life of rural areas, create jobs and attract talent. Subsidise cooperatives staff's salary at initial stage to develop professional staff.

Distribution Centres

- Operate wholly-owned or joint venture distribution centres to provide logistical support, including cold chain for the distribution of product and build a wider market to sell agricultural products. Cooperatives can choose to sell all or a selection of their products through Shangshan Enterprise.

Processing Facilities

- Extend the enteprise value chain by entering into the processing business supported by investment from the YRGT Investment Co, and joint venture with other food processing companies.

Urban Community Service Centres

- Operate Urban Community Service Centres (UCSC) to develop urban consumer networks. Take orders from urban members and organise regular product delivery. Organise workshops for urban consumers to improve urban-rural interaction and deepen their understanding of green and health food.

Eco-tourism

- Work with cooperatives to develop eco-tourism activities for urban consumers to experience rural life and meet producers. This aims to nurture a deeper understanding of how food is produced, as part of the PGS quality assurance process.

Shangshan Enterprise creates an inclusive value chain by providing services to support cooperatives

Value Proposition: Smallholder Farmers

Increase income of rural households
Higher farm gate price and additional income from dividends of Shangshan Enterprise

Expanding market linkages and channels
Access to a larger market base via Shangshan Enterprise

Brand building
Building and maintaining a recognised and trusted brand collectively via the YRGT Association

Sustainable Farming Training
Receive training and best practice know-how on sustainable farming practices

Access to Financial & Social Services
Access to financial institutions social services providers via the YRGT professional enterprises

The YRGT professional model connects smallholder farmers to wider markets

Value Proposition: Consumers

- Access to safe, high-quality locally produced food provided by an established and recognised brand
- Online service and e-commerce platform providing traceability and verification of all products
- Eco-tourism activities to visit farms to get first hand experience in the production process. Expand knowledge about sustainable farming. Enhance urban-rural interaction.
- Supporting local agricultural industry and smallholder farmers

The YRGT professional model benefits consumers and the local community at large

Market for Green and Healthy Food in China

The great potential for green and healthy food in China is supported by the following trends:

- More and more Chinese **consumers are becoming health conscious**. The rising middle class in particular is looking for a healthier lifestyle, and demand for more high quality food.
- With increased information and an awareness about food scandals and the impact of health and the environment, **consumers are more cautious and inquisitive about food sources**, traceability, use of chemical and impact on the environment.
- **China's green food market showed impressive double digit growth** between 2012 and 2016. Sales revenue grew by 44% between 2012 and 2016 to reach a value of USD 70.9 billion, and is expected to reach a value of USD 98.3 billion by 2020.
- **Farmers are more conscious about protecting the environment** and are attempting to improve their practices through soil pollution control and reducing the use of chemicals and gradually converting to sustainable farming.

With 2/3 of China's rural population, including in the YRGT region, living off farming, forestry and/or fishing a growing market for sustainably farmed produce presents a host of economic, social and environmental benefits with far-reaching impacts for local economies, communities and livelihoods.

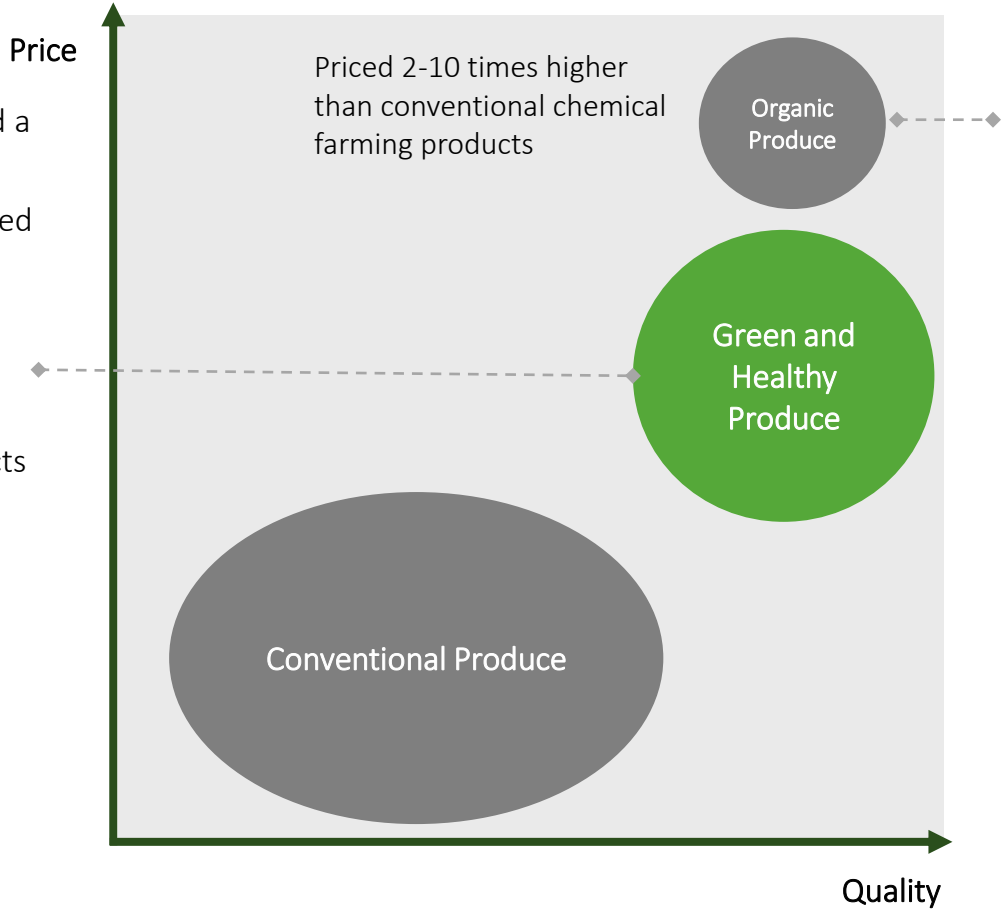
The Yellow River Golden Triangle region has productive agricultural land and a history of good agricultural practices that can be enhanced to address the current demand for green and healthy food.

China's food industry is moving towards becoming healthier and more natural

Positioning of Green and Healthy Food

The following diagram shows the market positioning of products from different farming methods and how green & healthy food should be positioned.

- Green & healthy food command a higher price in the market
- Can be priced lower than certified organic products due to their lower production cost
- Production cost similar to chemical farming
- Uses local inputs and by-products
- Affordable to consumers
- Higher return for farmers



- Most organic farms can only target high-end markets at a high price due to their high production costs
- High certification cost
- Uses external organic inputs which are expensive
- Mainly large commercial farms
- Too expensive for smallholder farmers

Green and healthy food has a competitive advantage by being more affordable than organically certified food

Target Market for YRGT Green and Healthy Food

- The Yellow River Golden Triangle has a population of 17 million people: 11 million in rural areas and another 6 million people living in urban areas.
- The primary market for certified YRGT Green and Healthy Food will be the local markets in the YRGT region. Individuals and households living close to the cooperatives as well as urban dwellers living in the cities where the Shangshan Enterprises are located, are the main target consumers.
- Consumers in larger cities such as Xian, Zhengzhou, Taiyuan, Luoyang, Beijing, Shanghai, Shenzhen and Guangzhou are supplementary markets and could eventually be reached through an e-ecommerce platform.

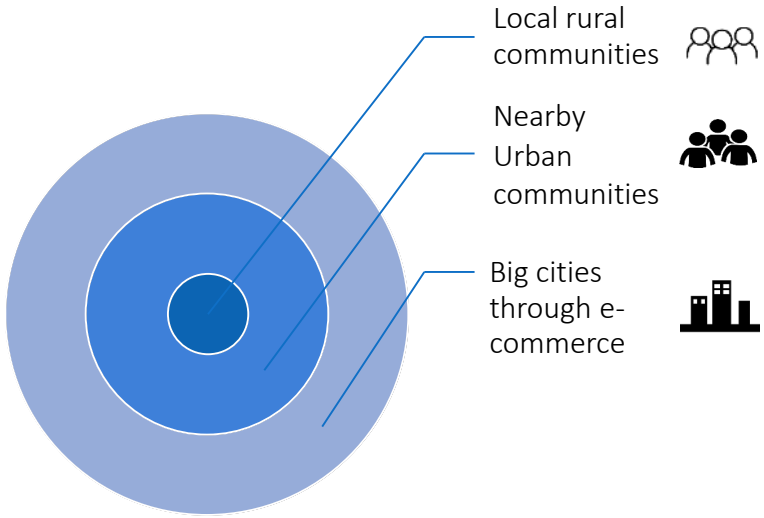
YRGT population and scale

Weinan: 5.36 million
2 districts
2 county level cities
7 counties

Yuncheng: 5.05 million
1 district
2 county level cities
10 counties

Linfen: 4.43 million
1 district
2 county level cities
14 counties

Sanmenxia: 2.25 million
2 districts
2 county level cities
2 counties



Geographical Segmentation

Customers wishing to pursue a healthy lifestyle

Psychological Segmentation

Local Rural Community

Urban middle class families

Demographical Segmentation

The primary market for certified YRGT Green and Healthy Food will be the local YRGT market

Diversified Promotion Channels

Word-of-mouth marketing

- Continue to promote cooperatives' existing use of "word of mouth" and increasing the number of household visits to spread the word about the enterprise, healthy produce and sustainable farming techniques
- Create more visibility and brand awareness of both the "Cooperative & Enterprise" partnership, as well as the "YRGT" green and healthy food approach
- Promote the brand amongst other farmers, cooperatives, enterprises, consumers, etc.

E-commerce & Online promotion

- Boost the enterprise's online presence through e-commerce platforms such as JD.com and douguo.com
- Develop and introduce the enterprise's own website and social media platform to raise brand awareness and promote events, activities, philosophy and produce
- Consider developing an online app for the "Cooperative/Enterprise" and "YRGT green and healthy food"
- An estimated 1-5% of sales will go through the online platform to reach urban consumers across China

Promotion by "word of mouth" to be enhanced through online platforms and e-commerce.

Creating Higher Value through Food Processing

- Food processing and food by-products are one way to add value to farmers' produce, enhance profitability, and at the same time reduce the wastage of perishable food. Examples of processed food include: vinegar, wine, enzyme, soy sauce, jam, traditional sweets and cakes, etc., all of which can be derived from a variety of fruit and vegetables.
- The use of Shangshan brand and YRGT Green and Healthy Food Seal on processed food can help build brand recognition.
- Local specialty food, for example the famous Chinese hamburger （肉夹馍） originated in Tongguan can also be leveraged to increase brand awareness.

Processed foods and by-products provide an opportunity to add value to produce

Promotion of Social & Cultural Heritage

The integrated approach also provides tourists with an opportunity to experience and contribute to the preservation of the region's social and cultural heritage. Activities include:

Handicraft Demonstration Centers

- Allow tourists to experience the YRGT's unique culture and immerse themselves into its vibrant and rich historical culture.
- Invite tourists to interact with local communities to produce the handicrafts.
- Provide insights into the region, visual inspiration, ideas, and tutorials

Expansion of the existing **Circular Farming Training Center**

- Allow tourist to see circular farming practices
- Promote environmental awareness and protection

Social value promotion by showcasing cultural heritage, artisan crafts and sustainable farming practices

Promotion to Potential Producer Members

In order to scale up sustainable farming and expand the membership base of smallholder farmers, Shangshan enterprises can help cooperatives attract new members by creating learning opportunities for farmers.

Roadshows & workshops

- Organise road shows and workshops on sustainable farming with partners working on sustainable agriculture and rural development
- Potential partner: Liangshuming Centre for Rural Reconstruction, Hongnong Academy

Demonstration Farms

- Organise workshops and short courses to introduce sustainable farming
- Manage and facilitate exchange programmes with demonstration farms to bring in people from different communities and regions to create a greater understanding of sustainable farming through sharing of experience

Story telling

- Promotion through personal success stories.

Marketing through learning opportunities and generating interest amongst potential members

Technology Transfer & Scalability

Summary

- The YRGT region has over **7,000 years of agricultural civilisation** and has led to a wealth of traditional knowledge regarding sustainable farming and ecology. Bringing this knowledge into today's world and combining it with contemporary technological advances in the agricultural sector is needed to ensure that traditional practices with proven benefits for farming communities and the environment are not lost but rather developed to meet today's needs and challenges.
- **Sustainable farming technology** is essential to restore the environment, produce healthy food and give smallholders a competitive edge as conventional products lose their value in a saturated market and the demand for healthy produce is on the rise.
- There is a lack of opportunities for smallholder farmers to learn about sustainable farming skills. A shortage of facilities, of training resources and capital hinder the expansion of sustainable farming techniques.
- It is proposed that **Regional Technology Centres (RTC)** be established by the YRGT Green and Healthy Food Association and operated by each Shangshan Enterprise in their respective regions to promote sustainable farming technology in rural communities. It is aimed to provide farmers with a continuous learning centre for sharing best practices in sustainable farming and honing farming skills.
- RTCs identify local farming experts as well as experts from universities, government and private sector as technology partners to build themselves into a "go to resource" for sustainable farming technology and provide technical knowledge, training and advisory support to cooperatives and producers in the region.
- Technology transfer at the grassroot level will be conducted by cooperatives with the support of Technology Centres and technology partners.

Sustainable Farming Systems

The YRGT region has historically been home to relevant farming knowledge and techniques that can be applied to counter-balance the current industrialisation and chemicalisation of the agricultural sector.

With increasing concerns over food safety, a growing awareness about the environment and farmers' livelihoods, and a greater appreciation for healthy lifestyles, the need for sustainable farming practices is ever more pressing. Traditional practices can help replenish soils and at the same time revitalise communities economically.

A Sustainable Farming System has the following characteristics:

- Preserving & stewarding biodiversity
- Protection of genetic diversity and improved breeds of plant varieties and livestock suited to agro-ecological production
- Reduction of dependency on non-renewable resources and closed nutrient loops in production systems
- Improvement of ecosystem health and resilience
- Improvement of productivity (yield and nutrient quality)
- Maintenance and enhancement of water, air quality and soil fertility
- Contribution to reversing the effects of human-induced climate change

Key focus areas include:

- The crop-livestock circular farming system
- Plant and animal nutrition
- Microbial fermentation bed technology
- Soil rehabilitation
- Irrigation and ecological water treatment
- Integrated pest management
- Inter-cropping
- Application and utilisation of agricultural by-products
- Seed conservation
- Passive design for farming facilities
- Eco-design principles
- Artisan food processing

Current Initiatives by Cooperatives in the YRGT

Below are initiatives taken by Puhan and Hongnong Cooperatives to introduce new technologies and develop new farming systems. Both of them begin with pilot farms to test out any new technology. The pilot farms also serve as a demonstration site for farmers in the community to learn about the new technology before adoption.

CASE 1: PUHAN COOPERATIVE

- Puhan setup Youth Organic Farms to engage young farmers and university graduates to practice organic farming. The Youth Organic Farms are also pilot sites for testing new technologies and optimising local practices for wider adoption. The farms produce a mixed variety of fruits, grains, vegetables and livestock.
- The farms also serve as demonstration bases for local farmers. After gaining some experience, the young farmers will be able to share lessons learned with the community and provide technical support. This can be a fee based service which provides additional income.
- Learning from other farming experts is critical for the growth of these young farmers. They often seek guidance from experienced farmers in the community, and participate in external trainings or learn from external experts who visit Puhan.
- The introduction of circular farming technology from Shijie is an example of engaging external experts to improve farming system and product quality.

CASE 2: HONGNONG COOPERATIVE

- Similar to Puhan, Hongnong Cooperative in Lingbao has setup pilot farms to test out new technologies before scaling up across the village.
- They have introduced external technologies such as high-yield apple variety, apple-geese circular farming, apple-chicken circular farming, and fermentation bed technology for chicken.
- The cooperative is also introducing a fermentation bed for pigs to produce enough organic fertilizer for apple orchards and mitigate any soil degradation problems. Organic apples also provide farmers with an opportunity for higher returns as the conventional apple market is saturated.

Key Challenges and Opportunities for Scaling Up Sustainable Farming

Challenges

- After decades of chemical farming, famers have gotten used to the convenience and specificity of using chemical inputs such as pesticides and fertilizers to manage their crops. Sustainable farming on the other hand requires a holistic understanding of the farming system and mastery of new skills.
- Farmers' willingness to invest in sustainable farming technology is low due primarily to a lack of understanding of how it operates and its advantages. Despite the low uptake, many smallholder farmers are willing to learn and are open to new ways to improve the quality of their produce.
- Yet there is a lack of learning opportunities for smallholder farmers on sustainable farming skills.
- Farmers are primarily concerned with the size of initial investment required and the marketability of green and healthy produce as market channels are not readily available.
- Only a few progressive cooperatives are actively promoting sustainable farming systems and techniques and thus the scale of expansion has been limited.
- A shortage of facilities, training resources and capital for farming communities hinder the expansion of sustainable farming technologies.

Opportunities

- Many smallholder farmers are realising the severity of environmental degradation caused by chemical farming as yield drops due to degraded soil and contaminated water sources.
- Farmers are more aware of the negative impacts of pesticides and herbicides on their own health.
- Food safety concern among consumers is increasing and creating a new market for green and healthy food.
- Sustainable farming technology is essential to restore the environment, produce healthy food and give smallholder farmers a competitive edge as conventional products lose their value in a saturated market.
- Technical training is one of the most sought after service among cooperatives.
- Both traditional sustainable farming techniques and technology based on modern scientific knowledge are available from local farming experts, industry, government, universities and research institutes.
- Building a technology centre for training and development calls for collaborative support from multiple players.
- Smallholder farmers are receptive to new technologies when they have the opportunity to see how they operate at a pilot farm.

A platform for exchange of knowledge and technical training is essential to scaling up sustainable farming

Regional Technology Centre (RTC) and Key Stakeholders

- Regional Technology Centres are to be established by the YRGT Green and Healthy Food Association and operated by each Shangshan Enterprise in the respective region to promote sustainable farming technology in rural communities.
- Each RTC will serve as a resource centre for cooperative members to learn about both traditional and contemporary sustainable farming technologies.
- Each RTC will identify technology partners locally, across China and internationally. Knowledge and resources can also be shared among RTCs to help build a database of best practices.
- Technical partners may come from the following sectors:
  - Local farming experts and artisans
  - Government
  - Universities
  - Private sector
  - Cooperatives
  - NGOs
- Each RTC will also serve as the training center for PGS inspectors with the support of YRGT Green and Healthy Food Association.
- In addition to providing technical training, the RTC will invite Puhan and other rural development organisations to become training partners for cooperative management and rural talent development.

Role of Key Stakeholders

Government	• Government of Weinan, Yuncheng, Linfen and Sanmenxia to provide incentives such as land, facility or financing • Channel resources for sustainable farming through the RTC
Technology Partners	• Provide technical knowledge, training and advisory support to cooperatives and producers in the region
Cooperatives	• Work with RTC and technology providers to incubate pilot farms • Organise farmers to participate in technical trainings
Shangshan Enterprise	• Provide initial funding to operate the RTC and incubate pilot farms • Derive revenue from trainings and technical advisory to cover costs

A collaborative platform for knowledge building and exchange

Regional Technology Centre (RTC): Knowledge Transfer

Technology transfer at the grassroot level will be conducted by cooperatives with the support of Technology Centres and technology partners

Weinan Technology Centre

Sanmenxia Technology Centre

Linfen Technology Centre

Yuncheng Technology Centre

Technology Partners

Technology Centres identify local farming experts as well as experts from universities, government and the private sector in order to build itself into a "go to resource" for sustainable farming technology.

It supports local cooperatives in incubating pilot farms and provides the training facility for technology partners to conduct trainings for local farmers.

Scaling up technology at Cooperative Level

Incubation of Pilot Farms

Work with selected farmers to apply a new technology at a pilot farm. Technology Centre to incubate and provide necessary technical and financial support to the pilot farm.

Training of Skilled Farmers

When a technology is identified to be suitable for wider adoption, a selected group of skilled farmers will be trained to master the technology.

Scaling up through skilled farmers and learning circle

The trained skilled farmers will each lead a group of 10-20 smallholder farmers to implement the new technology, and form a learning circle for mutual support.

Community organisers at the cooperative will work closely with farmers to track progress and provide microfinance. The pilot farm will serve as a local resource for field training and technical support.

Building Regional Training Centres is the key to scaling up sustainable farming technology in the YRGT region

Example of Technology Partner: Shijie Company

Co-founded by Ms. Li Yunfeng and Mr. Li Shijie in 2009, Shijie Company has been promoting **Natural Farming and the System of Circular Farming**. Circular farming involves integrating crop and livestock into a closed loop self-supporting system with zero waste. Shijie is an integrated multi-crop and livestock solution provider.

Application of Microbes in Natural Farming

- Within this system, microbes play an essential role in producing nutrients for plants and animals through fermentation, for instance digesting animal waste into compost and synthesizing enzymes.
- Microbes such as the fungi Mycorrhizae used in Natural Farming help crops absorb nutrients more effectively by forming a symbiotic relationship with plant roots. This also reduces the susceptibility of crops to diseases.
- Natural Farming stresses the importance of cultivating indigenous microorganisms (IMO) from the local environment rather than using commercial microorganisms imported from elsewhere. In addition to being more effective, it is also cost efficient for smallholder farmers.

Livestock "Fermentation Bed" technology

- Zero-waste "Fermentation Bed" technology is the core technology used by Shijie for sustainable livestock farming. The fermentation beds are made of locally sourced materials such as risk husk, saw dust, corn stalk and soil. Manure are digested in the fermentation bed creating an odourless zero waste discharge system. The bedding which is turn into compost can be used as fertilizer for crops. Heat produced from fermentation eliminates the need for external heating in winter and conserves energy.
- The technology is suited for multi-typed manure with wide spectrum of application across Northern China.

Complimenting local farmers' know-how with professional scientific techniques

Example of Technology Partner: Hongnong Academy

Hongnong Academy（弘农书院）in Lingbao, Henan was founded in 2013 by Prof. He Huili, Vice Dean of College of Humanities Development, China Agricultural University. One of its goals is to promote traditional knowledge that contributes to the creation of an ecological civilisation, and this includes sustainable agricultural practices, artisan crafts and cultural heritage.

Hongnong Academy has been identifying local sustainable farming and artisan craft practitioners, and is supporting them to develop their ventures.

An example is Ms. Zhang Xueqin（张雪勤）who produces persimmon vinegar using a traditional artisan method.

Preserving and promoting traditional knowledge

Regional Technology Centre Case Study

Korea Goseong County "Living Environment Agriculture" Research and Training Centre

In 2008, Goseong County in South Korea instituted a regional "Living Environmental Farming" programme which promotes natural farming practices across the county. In addition to the promotion of organic rice cultivation, it aims to achieve 50 percent conversion of its cattle farmers, doing away with antibiotics and applying natural methods based on microbiology, fermentation and herbal medicine. The Goseong government is in full support of natural farming practices to promote a competitive and sustainable farming industry.

A research and training centre was established under the advisory of Mr. Cho Han Kyu, the founder of the Janong Natural Farming Institute. It also serves as a service centre to provide farming supplies and technical support to smallholder farmers. It organises regular trainings for farmers in the county and have trained farmers in 50 villages. Produce are sold through a cooperative in local market with organic certification.

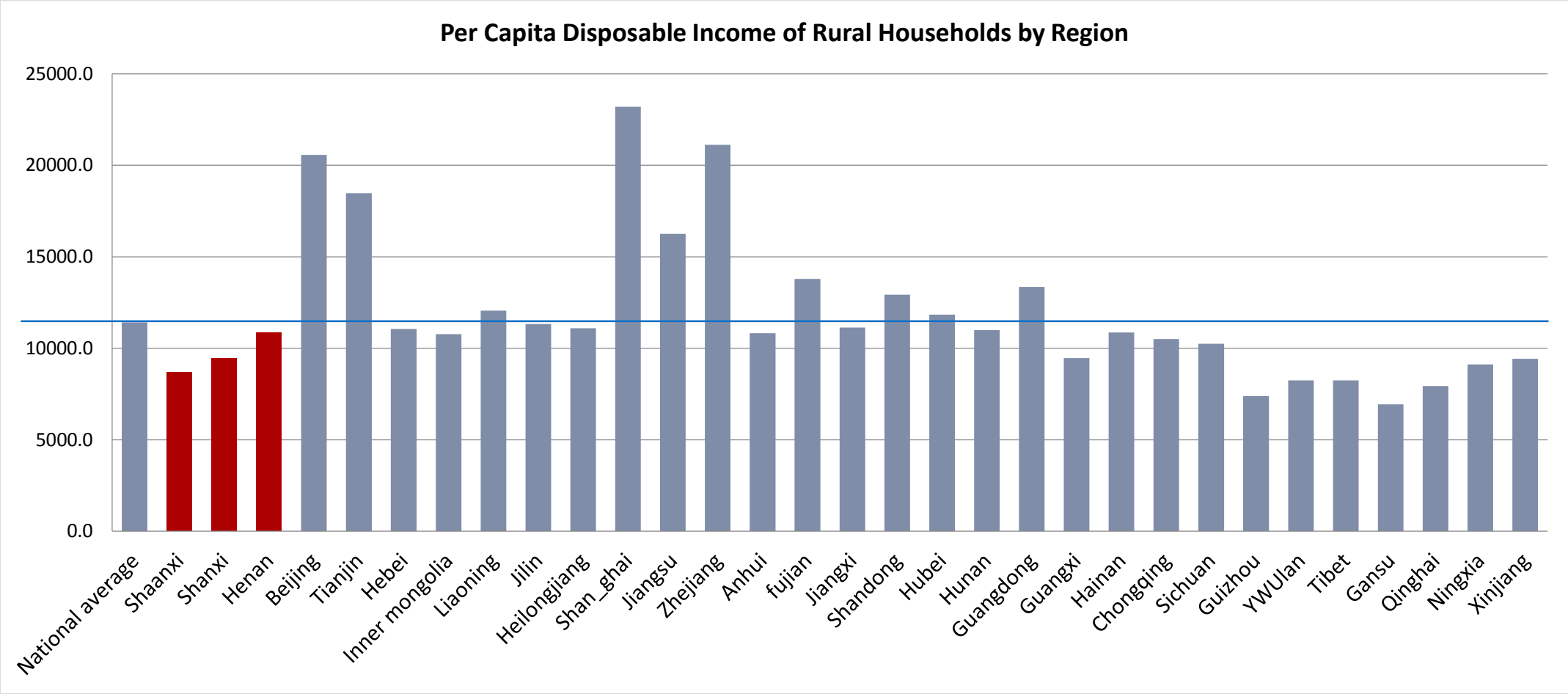
The Goseong Country Research and Training Centre shows an example a regional technology centre

Public Services & Social Impact

Summary

- The potential **social and environmental impacts** of an inclusive food system in YRGT region are significant for members, communities and the public at large.
- Since poverty, migration from rural to urban areas and environmental pollution have hindered development in rural communities, the public services proposed in the business plan focus on improving quality of life, community building, and rural revitalization.
- The model builds on the strengths of **farming cooperatives,** which across the YRGT region, have already launched many successful examples of delivering social services and impact. Cooperatives are also best suited to facilitate sustainable production methods.
- The proposed **social impact measurement methodology** will capture social and environmental outcomes generated by the proposed business model. Social impact reporting can serve as an efficient and effective management tool for cooperatives and governments, a powerful marketing tool for enterprises, and a credible guarantee system for consumers seeking sustainable food.

Key Social Challenges – Income



- Poverty in the YRGT region is a key area for concern of the government. (Poverty rates in YRGT 4-13%)
- Per capita disposable income of rural households in YRGT regions is below the national average (11421.7 RMB).
- 60% of local households are smallholder farmers.

Need to increase rural household income to ensure long-term social stability

Key Social Challenges – Rural Migration

The realities of rural life have lead to rural migration in China:

- Lack of employment & income generation opportunities
- Underdeveloped basic infrastructure (energy, water, sanitation, housing, etc.)
- Inadequate education opportunities and insufficient health care
- Lack of recreational activities to enhance community ties

42% of families in rural areas across China have left the countryside to seek better opportunities in cities over the last 30 years

40 million elderly people have been left behind in rural China

20% of elderly people in rural areas have incomes that fall below the official poverty line

37% of people who are left behind in rural areas show signs of depression

Opportunities exist to revitalise rural areas thus making them more attractive and reducing migration

Social Benefits

BETTER FOOD

Business model enhances availability & quality of safe food for people in rural and urban areas of YRGT

RURAL REGENERATION

Approach will make rural areas vibrant. It will restore land quality, result in better land use and ensure proper development in line with ecological balance

POVERTY REDUCTION

Rural farmers will ultimately realise better market prices and higher incomes as well as improved employment opportunities. It will strengthen social cohesion and reduce the migration of young talent to the city

SUPERIOR SOCIAL SERVICES

Establishment of more farming cooperatives and improved income in rural areas will deliver better services around elderly care, child care, insurances, etc. It will also preserve the YRGT region's rich culture.

Business Model creates essential social value for the people of YRGT region

Impacts of Rural Regeneration

Without Rural Regeneration

- More young people will seek to leave for the cities in order to secure employment opportunities. Cities will continue to expand and result in increasing social problems.
- Elderly people will be left in rural areas, causing strain on government resources for the provision of elderly care services.
- Heath & Education infrastructure in rural areas will continue to deteriorate and become more inefficient (high costs, fewer people)

With Rural Regeneration

- Farming in rural areas becomes attractive as farmers can earn higher incomes
- Cooperative-driven model ensures value creation and self-sustaining social services for people in rural areas (Elderly Care, Child Care, Schools, Basic Healthcare, etc.)
- Enterprises will offer microloans, retirement funds and insurance schemes to boost local economic activities

Integrated approach to rural regeneration creates virtuous circle

Examples of Public Services

The following social services and activities inspired by Puhan Cooperative can be replicated by other cooperatives.

Retaining Young Talent

- Retain young talent as cooperative's staff
- Accepting college student volunteers
- Youth Organic Model Farm with training & technical support run by youth

Increase the number of young people in the village

Cooperative

Environmental Clean-up

- Organise local community to clean up litter.

Keep village environment clean

Community building

Rural & Urban Relationship

- Summer camps with support from college students

Create opportunities for children from rural & urban areas to interact

Entertainment & Culture

- Centre for opera and musical performances
- Dance activity for women in the village

Encourage community interaction and preservation of cultural traditions

Elderly Care

- Communal space for elderly residents to spend their days together & organise cultural evets or activities to promote physical activity for the elderly

Healthy living for the elderly

Children's Education

- Classroom Activities & Field Activities for 3-6 years old children

Promote learning platform from a young age

Handicraft centres

- In Handicraft workshops, elderly people can spend their free time and teach children handicraft

Intergenerational exchange and collaboration for vibrant rural communities

An active multifunctional cooperative will inspire a region and strengthen the community

Monitoring and Measuring Social and Environmental Impact (1/2)

- Monitoring and measuring social and environmental impacts are necessary to support the government with policy change and implementation. Having clear indicators and reporting mechanisms can also be used as a marketing tool for investors to know the outcome of funded projects and as a way to raise public awareness. Reporting of social and enviromental performance should be done and made available to investors, stakeholders & the general public.

- The United Nations Sustainable Development Goals (SDG) can be used as a platform by Shangshan and the Association to measure social and environmental impacts. Quantitative methods will be applied and data can be collected by provincial universities and research institutes.

- Reduce poverty rate
- Increase job opportunities
- Improve rural household income

- Enhance basic public service
- Enhance quality of life
- Strengthen Cooperatives' functions

- Promote technologies for sustainable agriculture
- Ensure land productivities

Socio-economic indicators	Public service indicators	Environmental indicators
• Proportion of population below poverty line • Employment rate in rural communities • Growth rate of income of rural households	• Proportion of population living in rural households with access to basic services • The level of satisfaction of life and cooperatives' performance can be reflected in **Community Score Card** • Good credit worthiness of borrowers	• Growth in number of farmers adopting sustainable agriculture technologies and practices • Growth rate of agricultural land productivity

Measuring socio-economic impact will determine effectiveness of implementation

Monitoring and Measuring Social and Environmental Impact (2/2)

- Another tool to monitor the effectiveness of public service delivery is the **Community Score Card**, a participatory tool conducted at the local level and uses community as the unit of analysis.

- Third parties such as NGOs, university students, etc. can use this tool to assess the impact of the integrated approach and its services over time. The results can be used by the YRGT Association, the YRGT Federation, the Government, non-government organization, and Cooperatives to determine the quality and efficiency of public services provided and help define new activities and improvements.

Example: Scoring Matrix

Group Name:	Location			Date:	
Indicator	Score				
	Very Bad =1	Bad=2	Ok=3	Good=4	Very Good=5
Access to health care					
Children education					

The Community Score Card will help you…

Identify how SERVICES are being EXPERIENCED by the uses and providers

REPORT on quality of services to government

INFORMED Decision--making is assured

TRACK if services and programs are progressing well

INVOLVE the community and stakeholders in joint decision-making and planning processes

SHARE responsibilities for monitoring the quality of public service

PARTICIPATION, TRANSPARENCY, ACCOUNTABILITY, RESPONSIBILITY,INFORMED DECISION-MAKING

A Community Score Card increases participation, transparency and accountability

Financial Analysis & Investment

Summary of Financial Analysis and Investment

Findings

- The proposed business model presents an excellent opportunity for the government, cooperatives, farmers and investors to participate in rural agriculture development with a goal to improve farmers' livelihood and production of green and healthy food.
- The proposed business will generate revenue of **4-21 billion RMB (USD 560 million - 3.3 billion)** annually over 5 years, supporting the expansion of the local economy.
- The proposed business will also improve farmer's income, lifting the rural per capita income above the average national level.
- Initial investment requirement, to be lead by the government, will be **RMB 501 million (USD 77.5 million)** to cover capital expenditures and expenses in the first 3 years.

Approach

- This section includes the base case financial projections for the YRGT joint venture enterprise for the first five years of operation as well as a sensitivity analysis highlighting a more conservative scenario.
- The financial projections are based on data from Puhan Cooperative which is currently one of the most successful agricultural business model in YRGT region.

Key Figures

	Metrics	Figures
Investors	Initial Investments	RMB 501 million (USD 77.5 million)
Enterprises	Revenue	RMB 21.5 billion (2022) (USD 3.33 billion)
	Net Profit	RMB 3.6 billion (2022) (USD 560 million)
	Net Profit Margin	16.8% (2022)
Farmers	Household Income	To increase 80% in 5 years
	Dividends from cooperatives	60% of dividends belongs to Cooperatives members

Proposal contributes to an increase in local GDP and improvement in farmers' livelihood.

Key Financial Assumptions

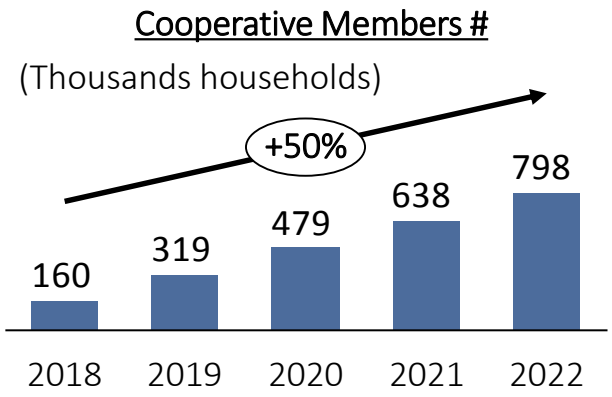
	Assumptions	Figure	Rational
Revenue	• No. of cooperatives members out of total households in the region	• 5% (2018) → 25% (2022)	• Puhan Cooperative: 58% in 2016
	• Revenue growth rate for group purchase and credit business	• Same as the growth rate of Cooperative members	• Revenue driven by the number of members
	• Revenue growth rate for group sales	• Growth rate of Cooperative members + 5%	• Brand strategy supports higher growth rate
	• Sales proportion of online, cooperative partnerships, Urban Community Service Centres, wholesale	• Online channel: 1% →5% • Cooperatives: 30% →50% • UCSC: 10% →30% • Wholesales: 59% →15%	• Major proportion of sales go to the local market to provide benefit to local communities
Cost	• Gross margin of Group purchase, Group sales and Credit business	• Group Purchase: 10% • Group Sales (Online): 50% • Group Sales (Cooperatives): 10% • Group Sales (UCSC): 30% • Group Sales (Wholesales): 4% • Credit business: 6%	• Same as Puhan except online and sales in partnership with cooperatives • Sales in partnership with cooperatives margin low for sharing margin to cooperatives
	• Base yearly salary	• RMB 30 million	• Including subsidising cooperatives staff's salary at initial stage
	• Dividend	• 60% of Net Profit	• Same as Puhan cooperatives
	• Marketing and selling expenses	• 5% of Group sales (2018) → 2% of Group sales (2022)	• Refer to listed consumer companies
	• Capital expenditures for the business	• 10% of revenue (2018) → 4% of revenue (2022)	• Refer to listed agriculture companies
Investment	• Initial Investment lead by the government	• RMB 501 million	• To cover the net cash flow loss in the first 3 years

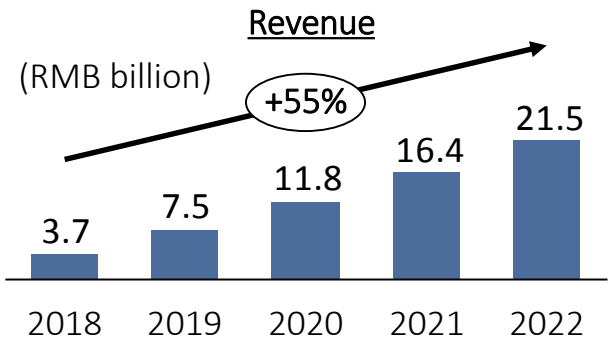
Financial Projections

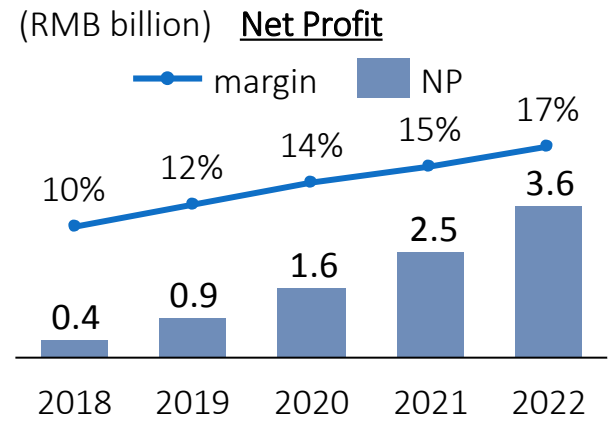
P/L (RMB million)

	FY2018	FY2019	FY2020	FY2021	FY2022
Revenue	**3,696**	**7,501**	**11,776**	**16,434**	**21,501**
growth %	-	103%	57%	40%	31%
Group purchase	517	826	1,239	1,652	2,064
growth %	-	60%	50%	33%	25%
Group sales	1,734	3,785	6,202	9,002	12,212
growth %	-	118%	64%	45%	36%
Credit Provision	1,445	2,890	4,335	5,780	7,226
growth %	-	100%	50%	33%	25%
COGS	3,086	6,110	9,364	12,764	16,320
Group purchase	466	743	1,115	1,486	1,858
Group selling	1,262	2,650	4,174	5,844	7,670
Credit (Financial cost)	1,358	2,717	4,075	5,434	6,792
Gross Profit	**610**	**1,391**	**2,412**	**3,670**	**5,181**
margin %	17%	19%	20%	22%	24%
Group purchase	52	83	124	165	206
margin %	10%	10%	10%	10%	10%
Group sales	472	1,135	2,028	3,158	4,541
margin %	27%	30%	33%	35%	37%
Credit Provision	87	173	260	347	434
margin %	6%	6%	6%	6%	6%
SG&A	228	482	766	811	1,064
Staff labor	136	283	442	613	797
Marketing and selling	87	189	310	180	244
margin %	5%	5%	5%	2%	2%
Operating profit	383	909	1,646	2,858	4,117
margin %	10%	12%	14%	17%	19%
Tax	-	-	-	357	515
tax %	0%	0%	0%	13%	13%
Net Profit	**383**	**909**	**1,646**	**2,501**	**3,603**
margin %	10%	12%	14%	15%	17%

Key Figures

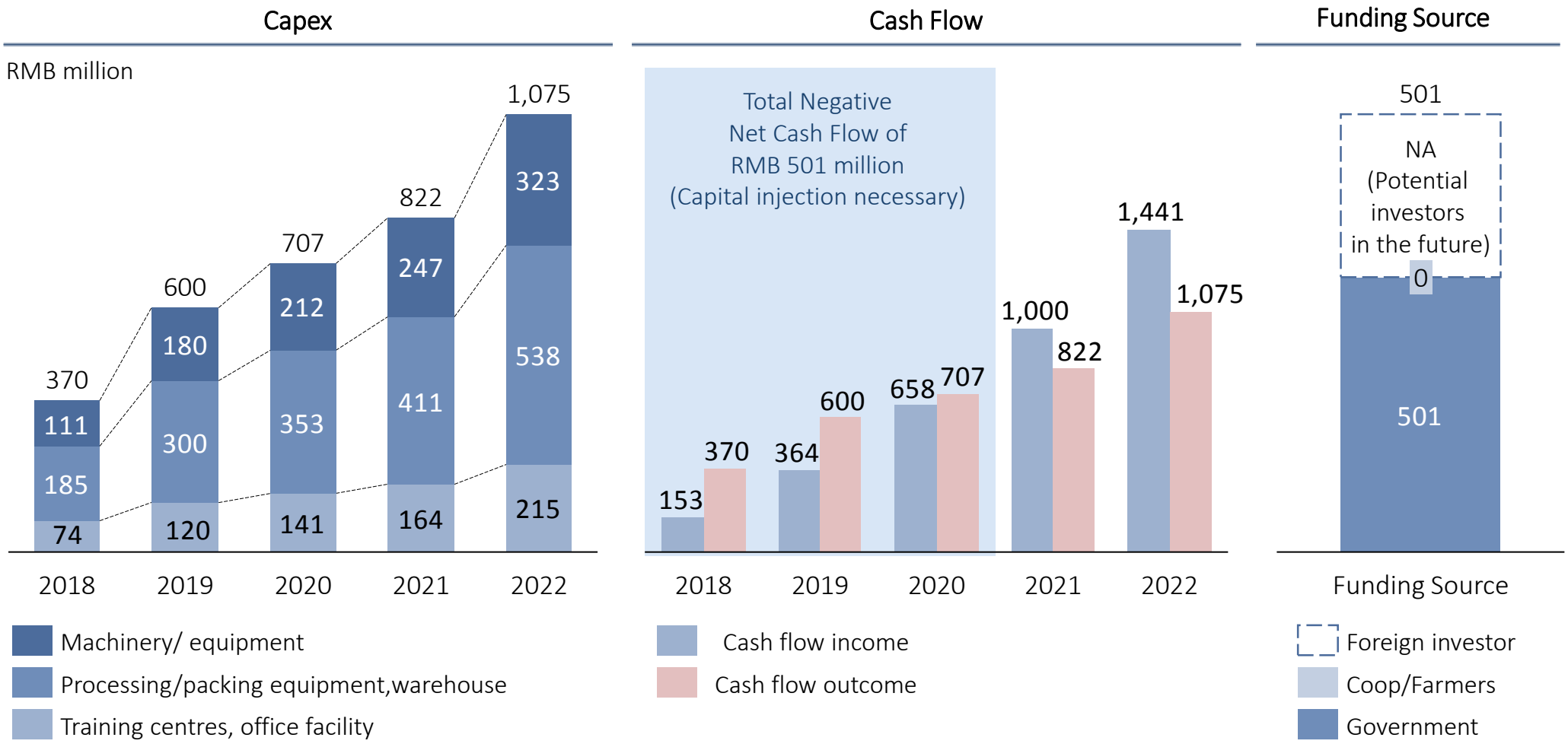






Capex, Net Cash Flow, and Capital Injection

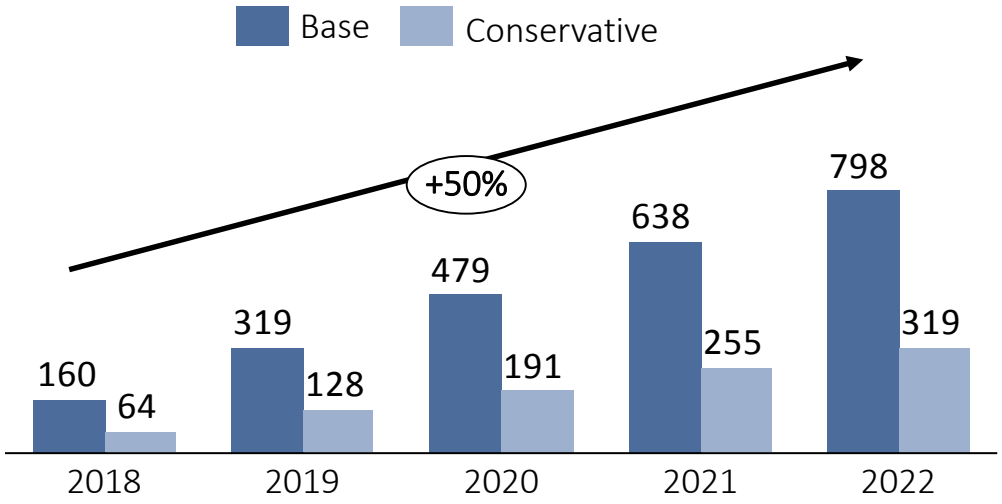
- RMB 501 million of initial capital injection required to cover the investment (negative net cash flow) in the first 3 years.
- The main funding source will be the government. Suggested potential to invite foreign investors in the future.



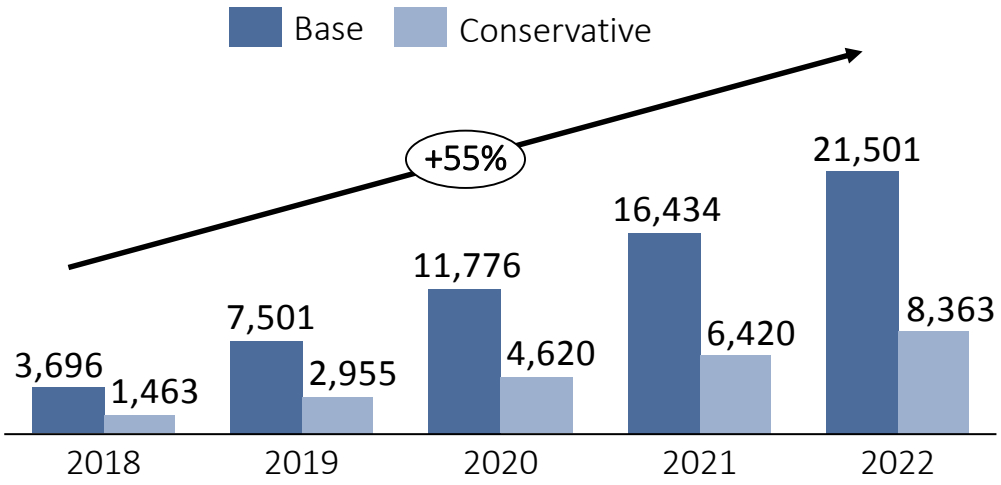
Scenario Analysis

Conservative case reflecting lower rate of membership penetration (10% instead of 25%), higher marketing expense (10% of sales instead of 5%) and lower group sales contribution by the Urban Community Service Centres channel (10% of group sales instead of 30%).

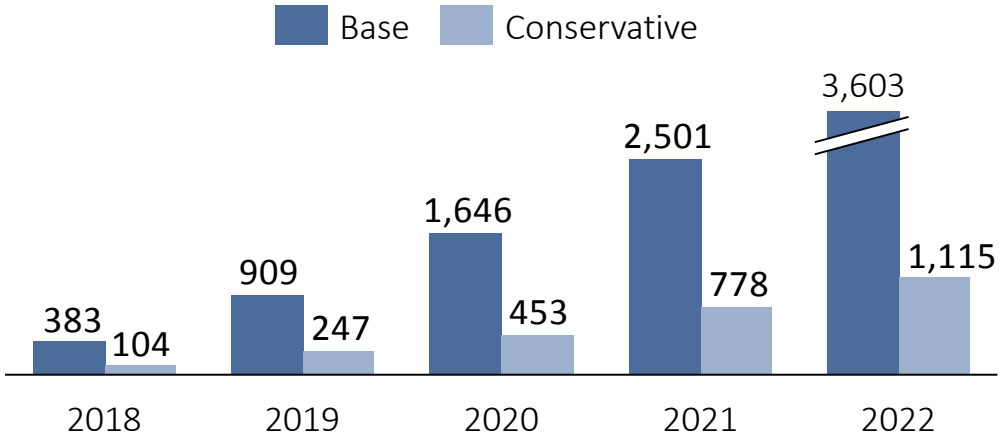
Cooperative Members # (thousands households)



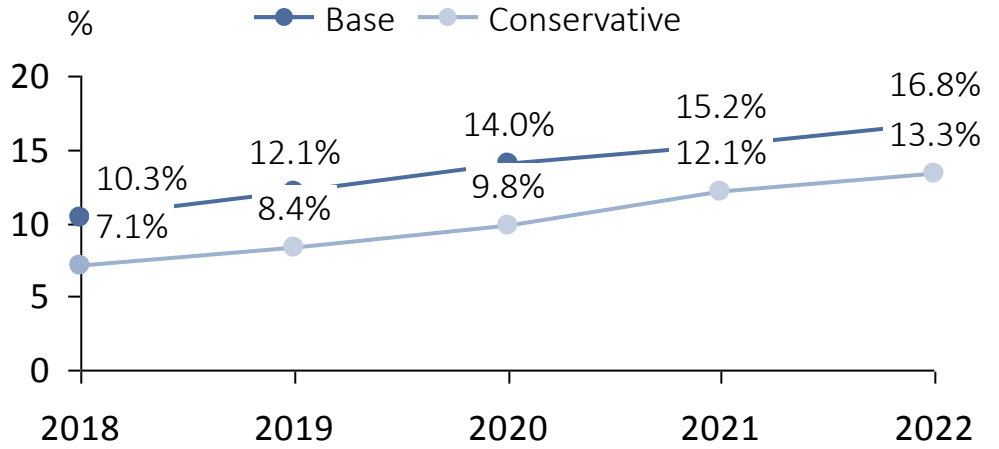
Revenue (RMB million)



Net Profit (RMB million)

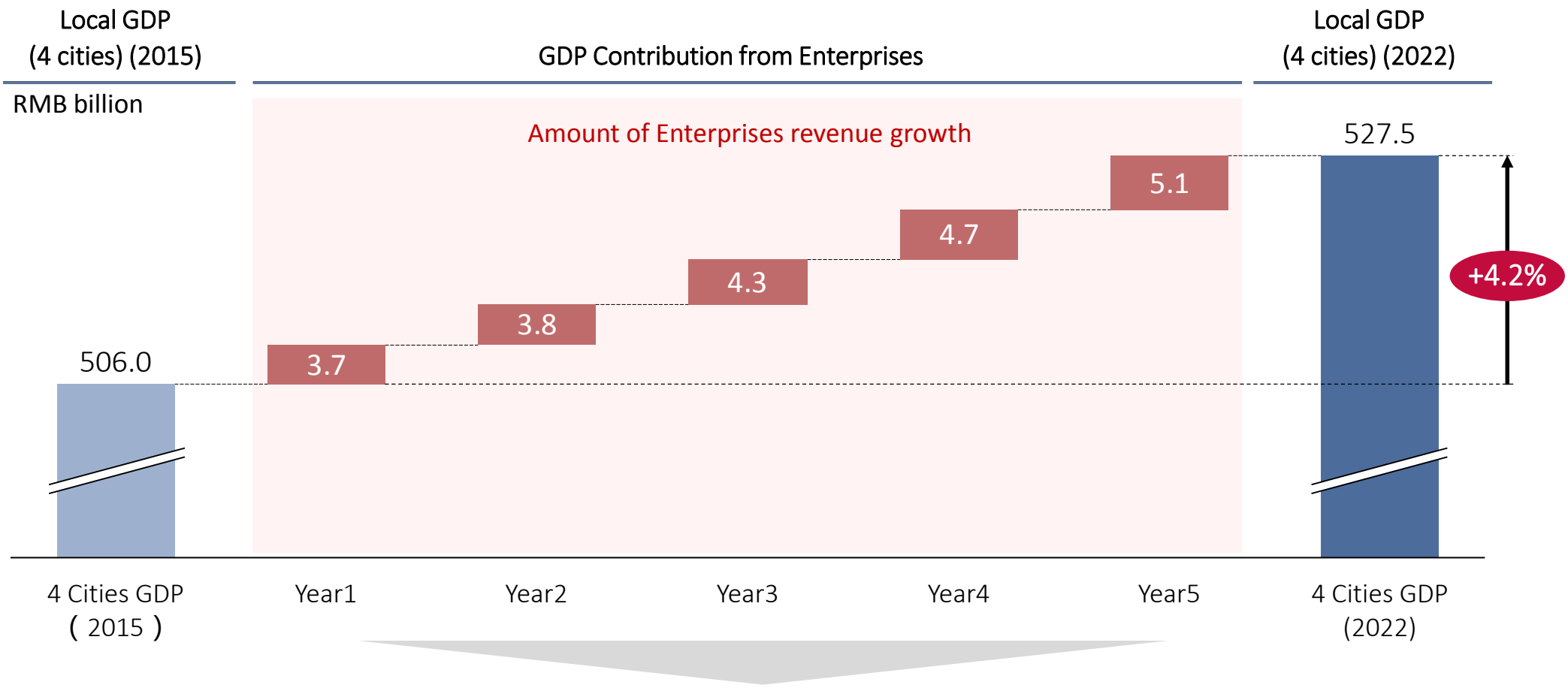


Net Profit margin



Economic Benefits (GDP contribution)

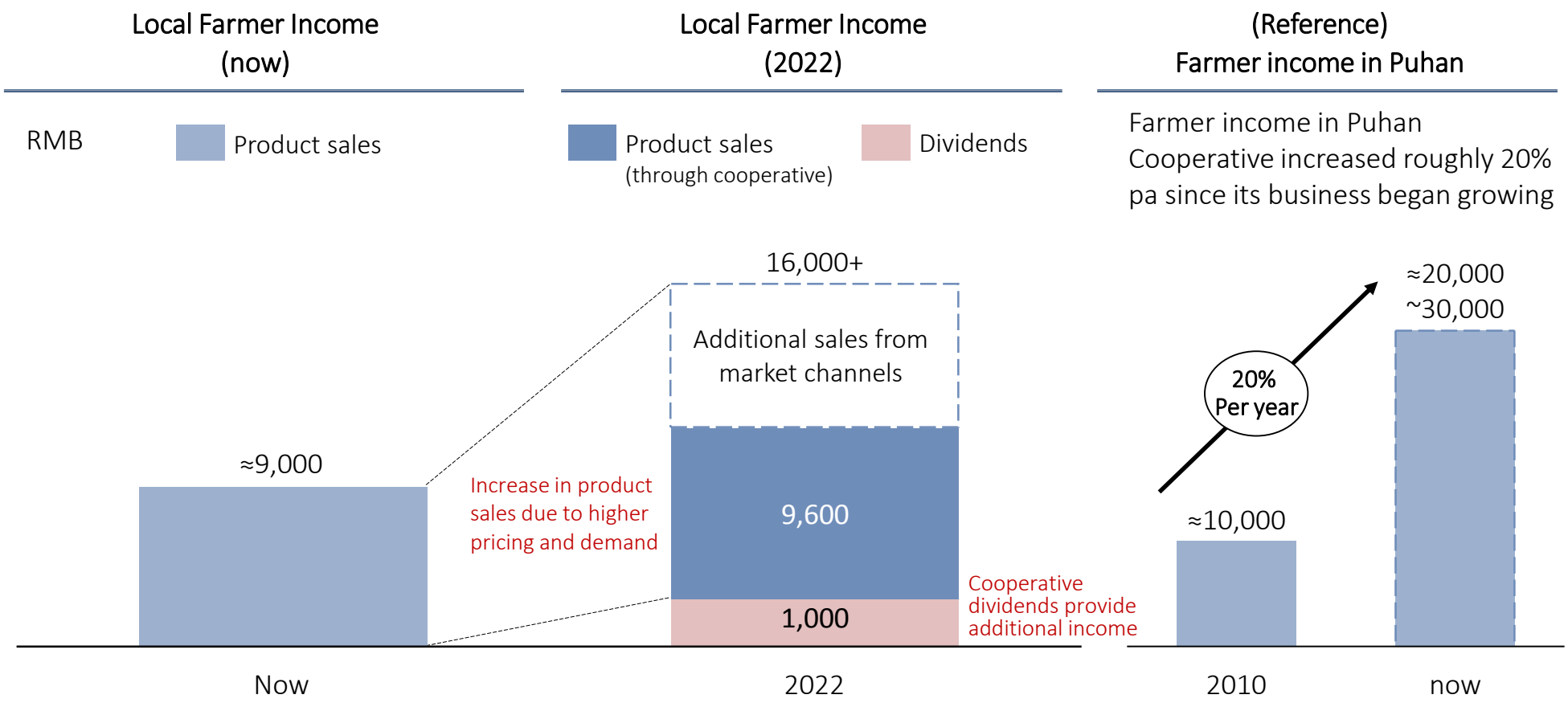
- Current combined GDP of the 4 cities (Yuncheng, Linfen, Weinan and Sanmenxia) is approximately RMB 506 billion (USD 78.3 billion)
- Through the proposed business model, the Enterprises will contribute approximately 4-21 billion RMB (USD 560 million - 3.3 billion) over the next 5 years, providing significant economic benefits to the local society.



4.2%+ Contribution to the local GDP

Economic Benefits: Increase of local farmer incomes

- Currently, the average rural income per capita of the 3 Provinces (Shanxi, Shaanxi and Henan) is well below the national average.
- Through the proposed business model, farmers' household income is likely to increase, lifting the income level above the national average. This will be driven by higher sales at farm level, higher productivity and the reduced costs associated with chemical inputs.



Farmer income will increase around 80% by 2022

Implementation Timeline

Implementation Timeline

Focus Area	Phases	Year 1				Year 2				Year 3				Year 4				Year 5			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Governance, Org. Structure & HR	Establish the YRGT Investment Company, YRGT Green and Healthy Food Association and YRGT Cooperative Federation																				
	Secure key management of Investment Company, Association and Cooperative Federation																				
	Formulate policies and operating procedures																				
	Establish Enterprises																				
GHFA	Develop PGS product standard																				
Cooperative Federation	Recruit cooperatives																				
Value Chain Services	Support and supervise cooperatives																				
	Develop distribution centres and logistic system																				
	Develop institutional customers																				
	Develop processing facilities																				
	Develop eco-tourism activities																				
Regional Technology Centres	Establish Technology Centres																				
	Develop technology partners and training programmes																				
Marketing & communication	Develop feature products																				
	Develop marketing & promotion strategy for products & offerings																				
	Work with urban community partners to promote sustainable farming products to urban consumers																				
	Negotiate and finalize agreement with E - commerce partners																				
Monitoring and Measuring of Social Impact	Pre-measuring current conditions																				
	Conduct social impact measurement																				
Finance	Secure investors and funding																				
	Financial reporting for Shangshan Enterprise																				

Risk Analysis & Mitigation

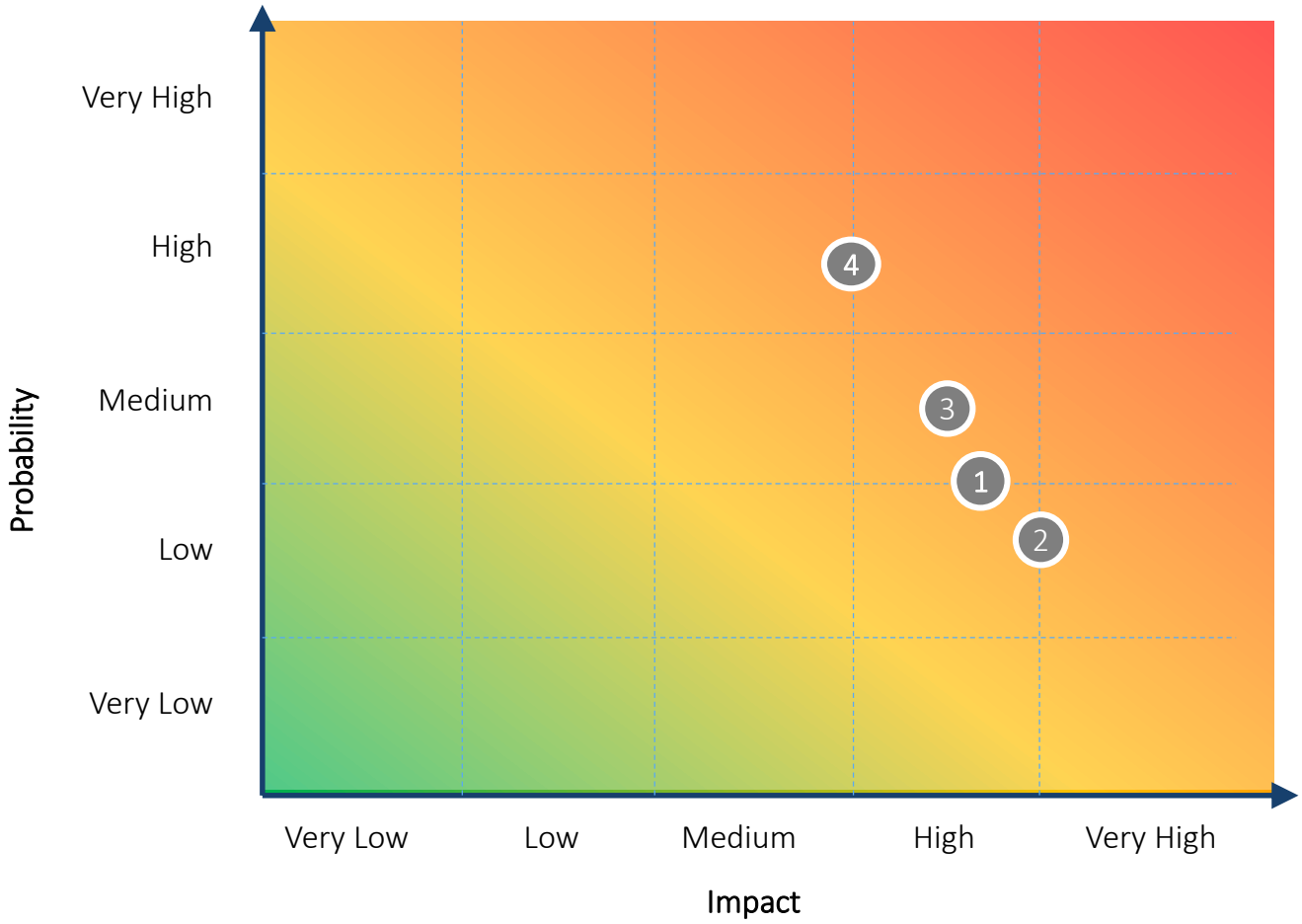
Business Model & Governance : Risk Analysis & Mitigation

1. **Risk**: Lack of cooperative engagement
   Mitigation: Understand community's needs and develop associated services to gain their support.

2. **Risk**: Conflict of interest among stakeholders in the food system
   Mitigation: Before establishing the investment companies, Shangshan enterprises and YRGT Green and Healthy Food Association, sufficient negotiations and public hearings will be held to clarify the interests of all stakeholders.

3. **Risk:** Weak Enterprise management
   Mitigation: Ensure experienced management team is in place.

4. **Risk**: Cooperatives have different levels of maturity and social economic objectives
   Mitigation: The YRGT Association to collect data on development issues of different cooperatives and research ways to support cooperative development.



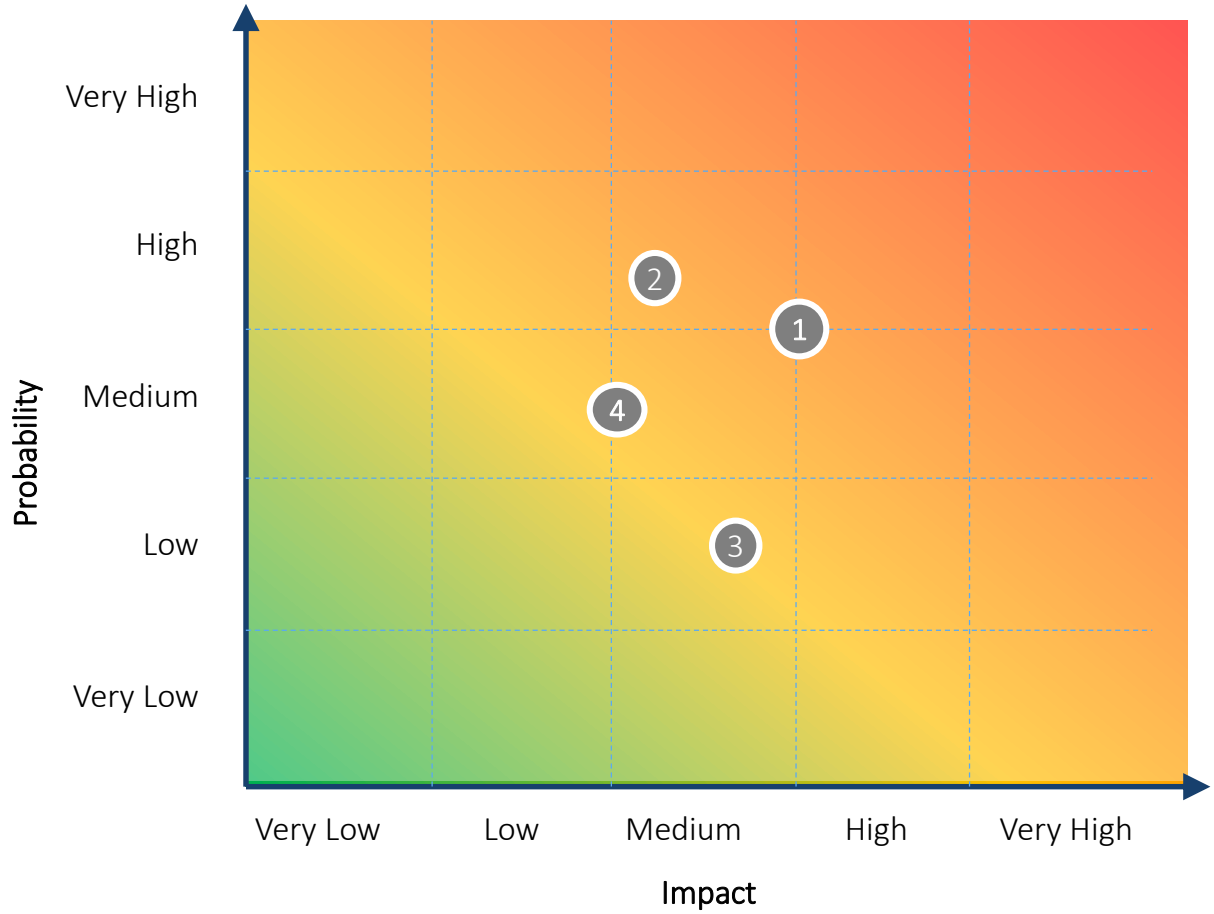
Technology Transfer & Scalability: Risk Analysis & Mitigation

1. **Risk**: Farmers face difficulty in adopting new technology
   Mitigation: Cooperatives to support smallholder farmers by organising learning groups. RTCs can provide additional support.

2. **Risk**: Slow uptake of technology by farmers
   Mitigation: Conduct regular training workshops for farmers.

3. **Risk:** Difficulty in localising current technology
   Mitigation: Continuous R&D to improve the existing technology.

4. **Risk:** Competition from large commercial farms in sustainable farming
   Mitigation: Develop consumer network and a full farm-to-table value chain to build a robust value chain.



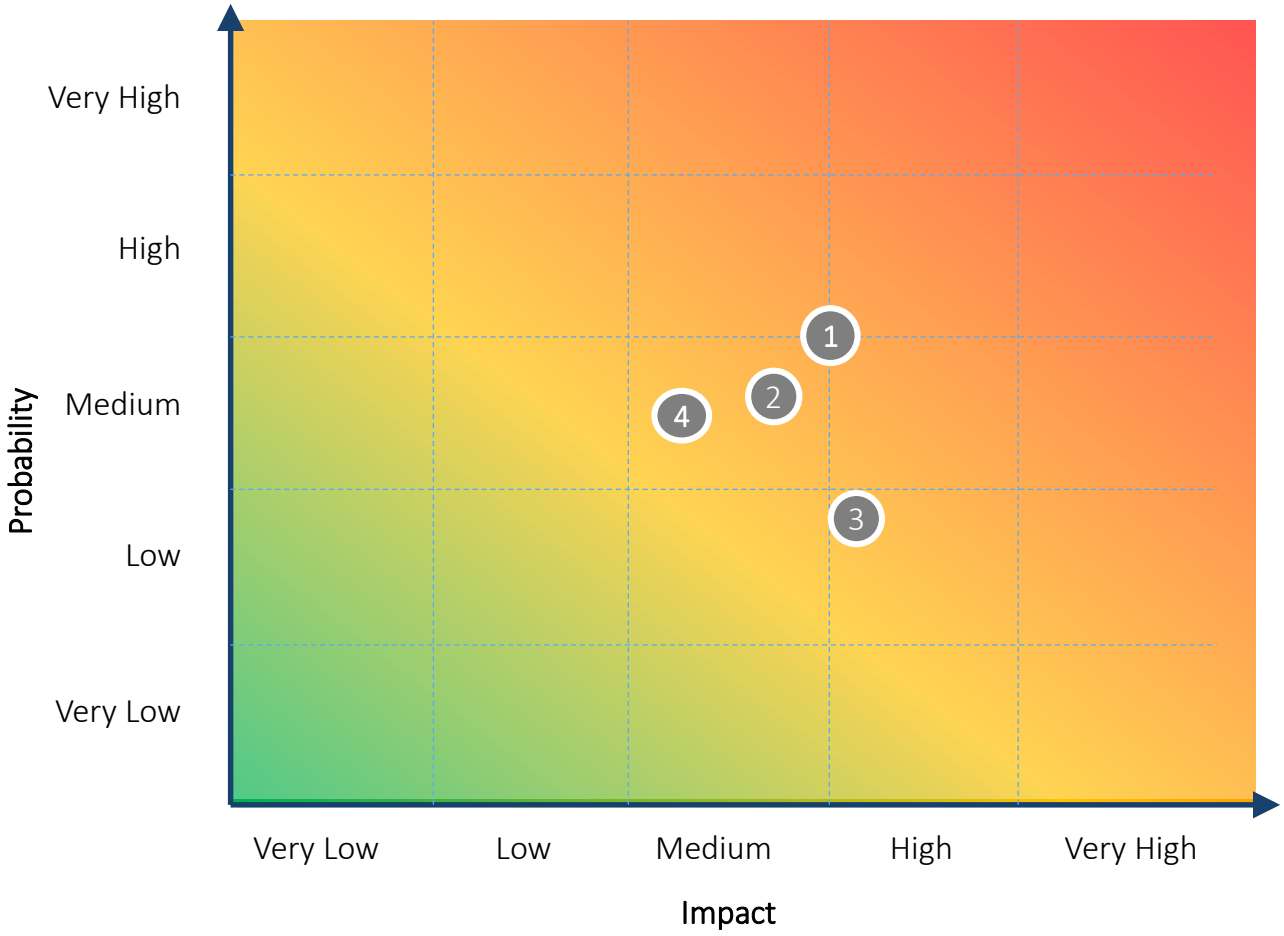
Value Chain Services & Marketing: Risk Analysis & Mitigation

1. **Risk**: Weak logistical capacity constrains sales
   Mitigation: Work with logistic partners to develop logistical infrastructure.

2. **Risk:** Lack of awareness of green and healthy food among consumers
   Mitigation: Build stronger connection with consumers and engage them in farm visits to build brand awareness.

3. **Risk**: Contamination of farming inputs
   Mitigation: Develop comprehensive measures in product sourcing.

4. **Risk**: Food wastage in the value chain
   Mitigation: Develop integrated solutions such as utilisation of byproducts and secondary processing.



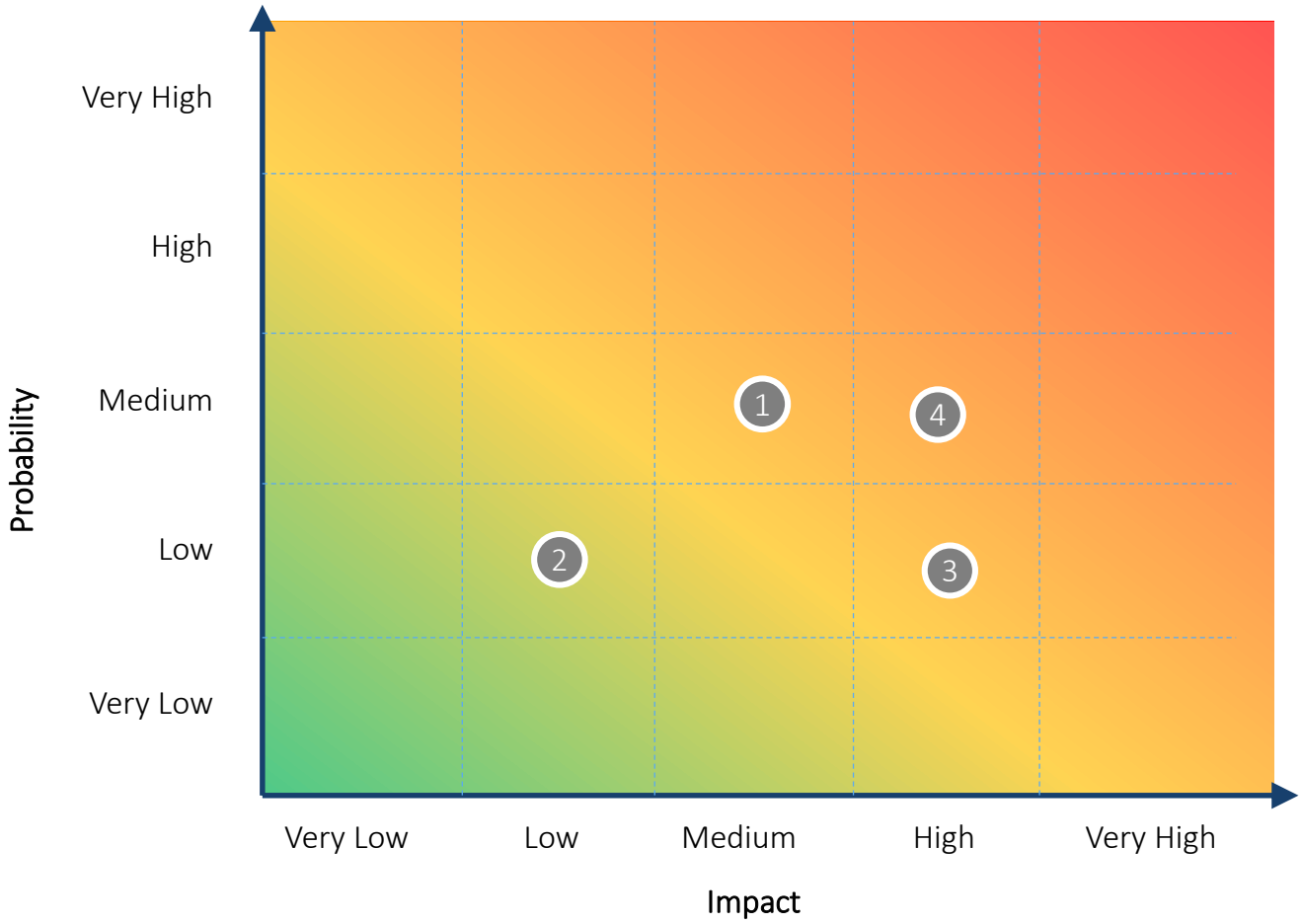
Financial Analysis & Investment: Risk Analysis & Mitigation

1. **Risk**: Increase in default rate in loan repayment
   Mitigation: Strengthen the training of community organisers in cooperatives to build a closer relationship with the community to understand the risk associated with each household.

2. **Risk:** Increase in funding costs leading to lower margin of credit business
   Mitigation: Seek additional funding partners.

3. **Risk:** Shortfall in revenue projection
   Mitigation: Develop and market higher value products.

4. **Risk:** Unreliable financial and accounting information
   Mitigation: Strengthen internal controls.



Conclusion

Critical Drivers for Success

- The proposed inclusive food system in the YRGT region is well-positioned to meet the increasing demand for green and healthy food, scale up sustainable farming and improve the well-being of smallholder farmers. Through an integrated approach with strong cooperative–enterprise linkages, Shangshan Enterprises facilitate multifunctional cooperatives to expand business scope and extend value chains. It supports the integrated development of primary, secondary and tertiary industries in the YRGT region.
- A quality assurance system based on the Participatory Guarantee System (PGS) helps ensure product quality.
- Leveraging the expertise of supporting partners (like Shijie Company and Puhan Cooperative) on sustainable farming technologies and best practices in cooperative management helps align the proposed inclusive food system initiatives to local contexts.
- The commercial viability and continued growth of the Shangshan Enterprises hinge on the growth of the cooperative membership base, the trust from and active participation of smallholder farmers, and the expansion of local and urban markets.
- Besides being a financially viable business, the YRGT inclusive food system has the potential to have direct and immediate social impact providing public services to smallholder farmers and local residents, creating job opportunities, attracting young talent back to the countryside, enhancing environmental sustainability, contributing to rural revitalisation and encouraging community building.
- Several key drivers for success include:
  - Strong focus on improvement of well-being of smallholder farmers and rural regeneration and financial stability without compromising profitability
  - Strong and long-term collaboration with three provincial and four city-level governments
  - Create a recognised brand and multiple marketing channels for the YRGT food products to promote public awareness of green and healthy food in China.
  - Encourage smallholders and consumers to actively participate in PGS to increase the accountability of the inclusive food system
  - Make sustainable farming technology accessible to smallholder farmers.
  - Identify risks and develop action plans to address them effectively

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