



Shengmu Organic Milk

Case Study on China Shengmu Organic Milk Ltd Multi-Capital Accounting

With support from GoldenBee Management Consulting Co.

Business Context

Shengmu Organic Milk Limited, the largest organic dairy company in China, produces raw milk in a circular way integrating planting and cow raising in the Ulan Buh desert. The Company's business encompasses the entire dairy industry value chain, from forage planting and dairy cow breeding to raw milk production and the processing and production of premium liquid milk products.

Shengmu is on a mission to “revitalize agriculture, strive for excellence, and pursue common development,” with the vision of developing into a top brand in the organic milk industry worldwide. The company is dedicated to exploring a new ecological organic model in the animal husbandry industry, and to promoting harmony between the Company, the environment and society. The company is committed to supporting the United Nations Sustainable Development Goals and the *Paris Climate Agreement's* goal to limit the temperature increase to 1.5°C above pre-industrial levels. In line with the *Convention on Biological Diversity* and the Kunming-Montreal Global Biodiversity Framework, they have established science-based carbon targets to address global climate change.

As tangible actions, since 2009, Shengmu has been dedicated to produce and manage sustainably the Ulan Buh Desert ecosystem. Among other actions, the company planted 90 million diverse trees and shrubs to prevent wind erosion. 100% of the manure is organically recycled through composting to restore soil fertility (600,000 square meters of cow dung compost per year), replacing some of the chemical fertilizers used. Water-saving management practices through storing water in reservoirs allows irrigation while conserving water sources.

On the human side, Shengmu's goal is to create a diverse, inclusive and supportive work environment. They prioritize safety, promote health and offer career opportunities. On the social side, the company is dedicated to creating a prosperous industry system that benefits all parties as shareholders, suppliers and partners. Shengmu's activity has created jobs for local communities, boosting the local economy while improving local infrastructure in line with the *Nagoya Protocol's* principle of fair and equitable sharing of benefits.

Assessment

WHY? What was the objective of the assessment?

To externalize benefits, Shengmu has taken the lead in China for multi-capital accounting approaches, with the aim of incorporating comprehensive capital assessment results into business decisions. The primary objective and application of the assessment is to clearly assess the values of Shengmu's natural capital, human capital and social capital. The results provide information for corporate strategy, management and operational decisions.

WHAT? What was the scope of the assessment?

The baseline for evaluating the change in various capitals is Shengmu's situation on December 31, 2019. The temporal boundary of the assessment is three years through to December 31, 2022. The spatial boundaries include Shengmu headquarters, all subsidiaries, pastures and all production zones in the Ulan Buh desert ecosystem. The company applied multi-capital accounting to its direct operations to value the costs and benefits of its activities.

For the social-capital accounting section, farmers' and suppliers' upstream value chain, as well as processors' and consumers' downstream value chain have been considered. The value perspective is both from a business and societal perspective. The value used is a combination of qualitative, quantitative and monetary data.

Shengmu has assessed the materiality of their impact and dependencies across its value chain, identifying key links between the capitals.

Links with Shengmu's production and operation in the value chain		Dependencies	Impacts
Upstream	Planting of forage and fodder crops	Freshwater resources (natural) Land resources (natural) Forage resources (natural) Industry chain partners (social) Inclusive finance (social)	Climate regulation (natural) Rural revitalization (social) Sustainable industry chain (social)
Direct operations	Dairy cattle breeding	Freshwater resources (natural) Land resources (natural) Intellectual property (social)	Environmental compliance (natural) Waste discharge (natural) Greenhouse gas emissions (natural)



		Work (human) experience Skills and knowledge (human) Labor (human) availability	Animal welfare (natural) Product quality (produced) Employee training (human) Employee health and safety (human)
	Production of raw milk	Freshwater resources (natural) Land resources (natural) Intellectual property (social) Industry chain partners (social) Work (human) experience Skills and knowledge (human) Labor (human) availability	Greenhouse gas emissions (natural) Waste discharge (natural) Product quality (social) Employee training (human) Employee health and safety (human)
Downstream	Consumption of raw milk	Industry chain partners (social) Industry resources (social) Social recognition (social)	Food safety (social) Public welfare and charity (social) Sustainable industry chain (social) Industry development (social)

HOW? What was measured and valued?

After identifying priority impact drivers and dependencies, Shengmu measured and valued them in either quantitative or monetary terms. Among other, this entails:

Natural capital	
Impact	Energy efficiency, Waste discharge, scope 1 and 2 for Greenhouse gas emissions, SO2 and NOx emissions, water conservation, wind prevention
Dependencies	Water for irrigation, forage resource, land use

Human capital	
Impact	Work safety, occupational health, compensation, benefits, proportion of female employees, employee representative in employees' congress
Dependencies	Work experience (familiarity with breeding & pasture), skills and knowledge, labor availability

Social capital	
Impact	Quality inspection of milk, internal whistleblowing for corruption cases, audit, data transparency, animal welfare, food safety, rural revitalization (infrastructure, local economy, local procurement) supplier capacity building, charity donations
Dependencies	Sustainable finance, supply chain partners (customers, suppliers, cooperatives), trust, intellectual property

The details of the changes in capitals, the indicators, valuation methods, costs/benefits and corresponding results can be found in the longer report. In line with good practice, the company acknowledged where data is unavailable and where analysis is ongoing. Shengmu also documented the sources of the values used in the calculations.

It is important to note though, that the valuation approaches, calculations and results have not been independently verified due to time and resource constraints.

WHAT NEXT? What were the results of the assessment?

The aggregated results of the multi-capital accounting assessment show that Shengmu has increased benefits for nature, employees, and society generating a total benefit of CNY 6.94 billion (approximately €884 million under exchange rate of 1 CNY = 0.1274 EUR). This includes natural capital benefits of CNY 1.00 billion (€127 million), social capital benefits of CNY 5.67 billion (€722 million), and human capital benefits of CNY 0.28 billion (€35 million).

While these figures may seem very high, it is important to consider the context: Shengmu is the largest organic milk producer in China with annual revenues of over CNY 3.2 billion (€ 400 million). Given this scale, the magnitude of their impact across multiple capitals can be considered relatively proportionate. Moreover, the vast social capital valuation includes 'brand value' as a measure of 'social recognition' and the 'total value of milk sales * premium paid for organic milk (%)' as a proxy for 'food safety'. For a company of Shengmu's size, these both represent significant values. In addition, the human capital valuation includes the compensation of the company's 2850 employees as a proxy for 'employee wellbeing'. Disaggregated data on all the specific costs and benefits are available in the full report.



Following the mitigation hierarchy of 1) avoid, 2) reduce, 3) mitigate, 4) restore, Shengmu is pursuing solutions for each risk identified using a decision-making framework that adheres to nature-based solution principles.

The practical solution corresponding to each risk/opportunity is embedded in their management forward as: reduction of waste and gas emissions, improved pasture site selection, restoration of 200 square km of desert, soil fertility preservation, provision of equal employment opportunities through labor contracts, social security, paying more than the local minimum wage, improving risk management systems, better anti-corruption policies to create an atmosphere of integrity, and more inclusive and sustainable finance.

Shengmu discovered opportunities to reduce operational and financial costs, as their environmental governance has paved the way for easier access to green loans. The nature-based production also boosts their revenue as their organic milk sells for a 21.7% higher price than regular milk. They observed that their ecological value is being partially converted into brand value as their brand value increased from CNY 15 to 17 billion in three years.

For the next steps, Shengmu will incorporate both biodiversity and climate management into one system framework to strengthen understanding of the relationship between these two areas. The plan is to share the findings through the release of the report, disclosure and transparent communication with stakeholders. The multi-capital accounting assessment will be used to attract more sustainable investment as it paves the way to implement actions such as “carbon neutrality”, “gradual mitigation”, “internalizing externalities” and achieving ‘zero net loss of biodiversity’.