



# 2022 中国电子商务大会

CHINA E-COMMERCE CONVENTION

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# Value Chain Development via Internet Plus Agriculture

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# Background

## What is Internet plus?

- refers to the enhancement of rural economy through improved information and communication technology and infrastructure
- includes the use of mobile Internet, Internet of things, cloud computing, and big data along the food and agriculture value chain



# Overview

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- Agriculture value chains
  - Contract farming
  - ICT role in contract farming
- Internet plus agriculture covers four main areas:
  - Establishing **e-commerce** platforms
  - Streamlining agriculture **logistics**
  - Coordinating **farmers' participation** through provision of extension services
  - Enhancing the **traceability system** for product flow from 'farm to fork'
- Summary

# Agriculture Value Chains

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- Agricultural systems in the PRC are increasingly centered around **value chains, private sector agro-enterprises**.
- Agro-enterprises provide **storage** for oversupply during harvest season, **process** farm outputs for **increased shelf life** which reduces waste and **adds value**, and market farm outputs.
- Strengthening of **private sector processor-farmer linkages** through contracts provides significant socioeconomic benefits.
- **Contract farming** offers a means to efficiently link small-scale farmers and medium-scale agro-processing firms





# ICT in Agriculture Value Chains

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- ICT supported information exchange reduces contract farming transaction costs for quality standard and food safety compliance monitoring.
- Provides consumers with product information while producers get access to market information and production support services.

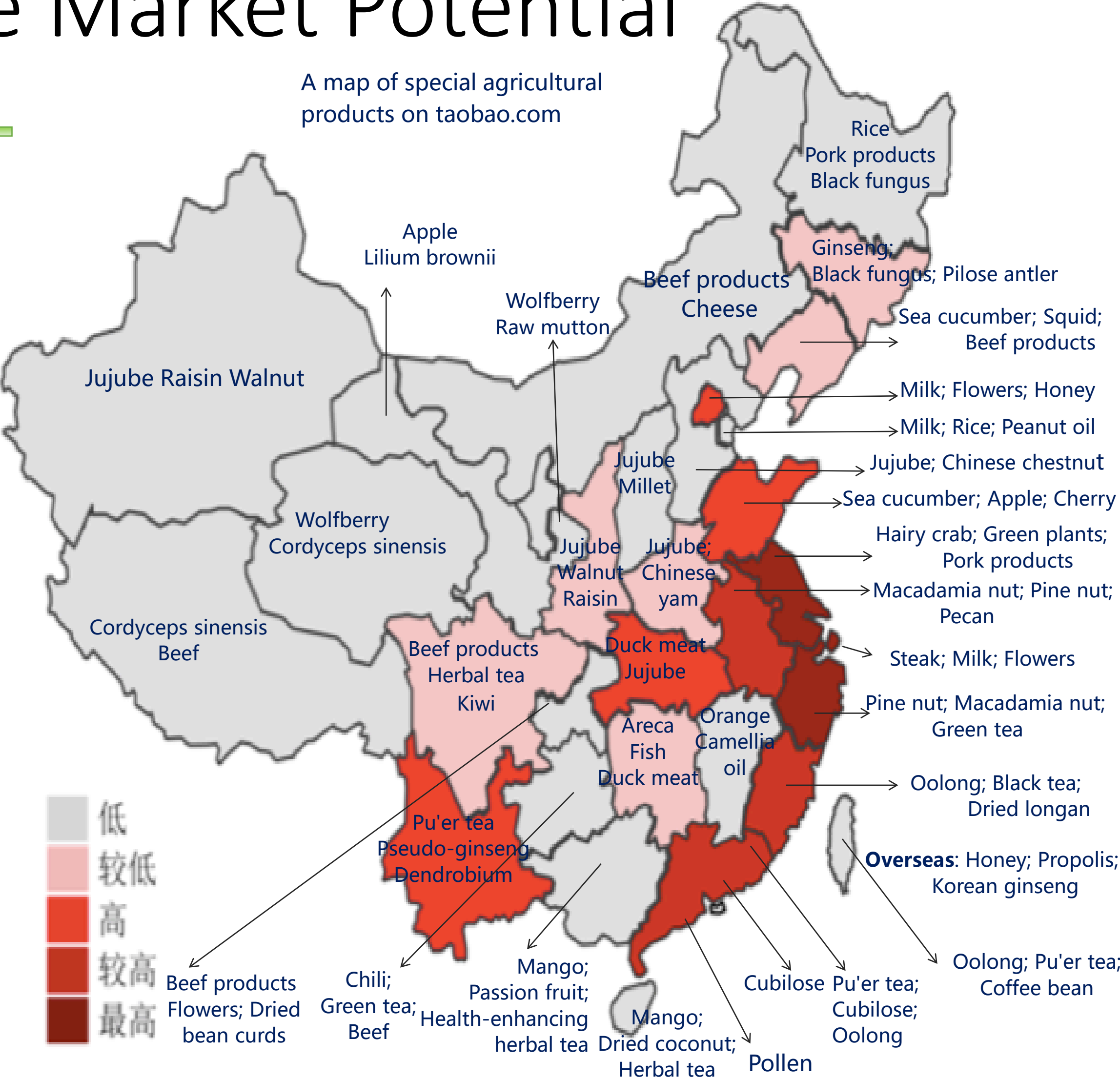
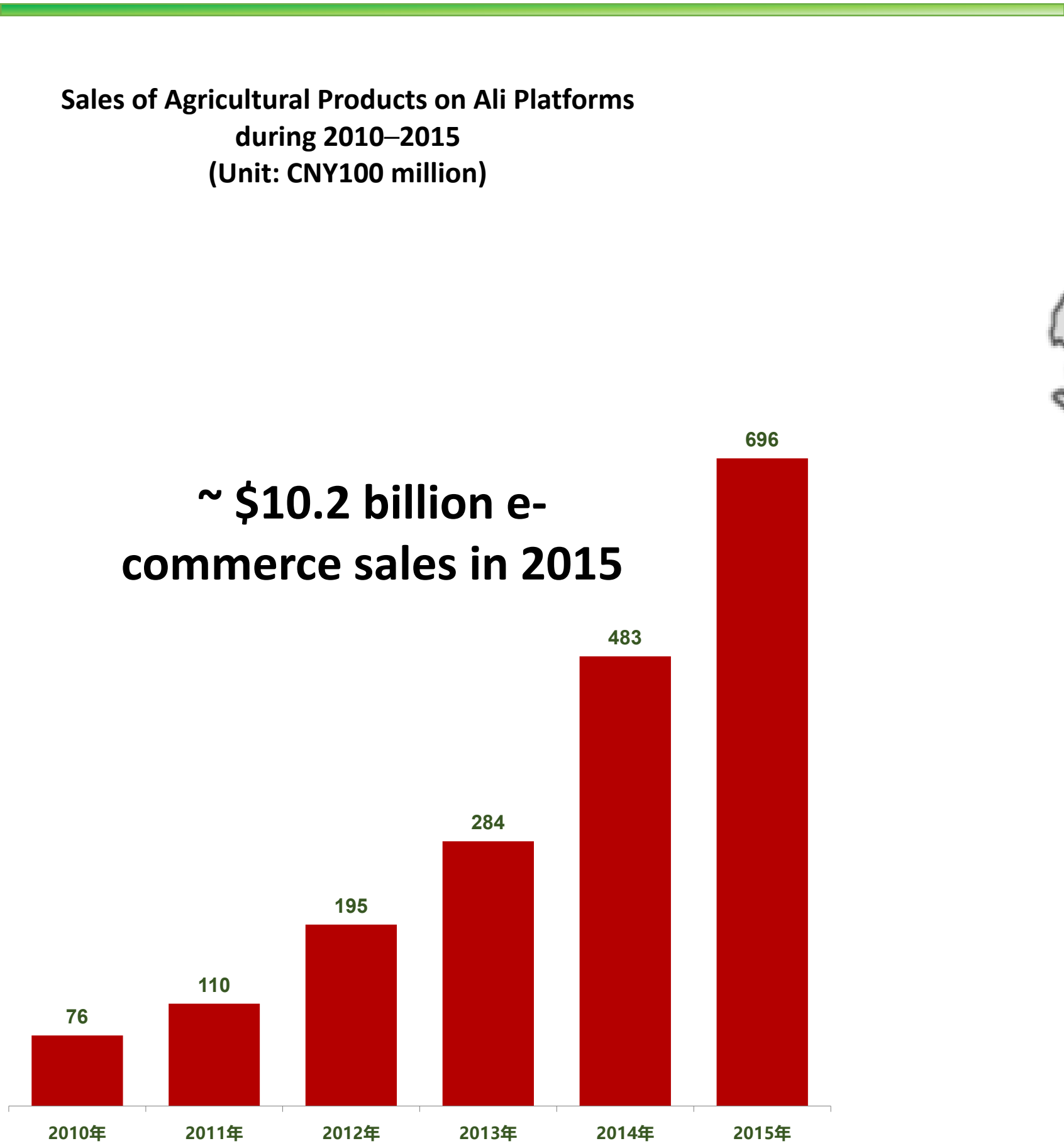


# Agricultural e-Commerce

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- The **most active part** of Internet plus rural economy
- A rapid increase in the quantity and sales of agricultural products sold online
- Farmers, cooperatives, and enterprises **rely on third-party platforms** (Taobao, Tmall, Jingdong, Suning, etc.)
- Alibaba and Jingdong are dominating the market with strict conditions for access and **high fees** for marketing activities

# Agricultural e-Commerce Market Potential





# Agricultural e-Commerce



**Agricultural  
Products Online  
Sales**



**Rural  
E-commerce**

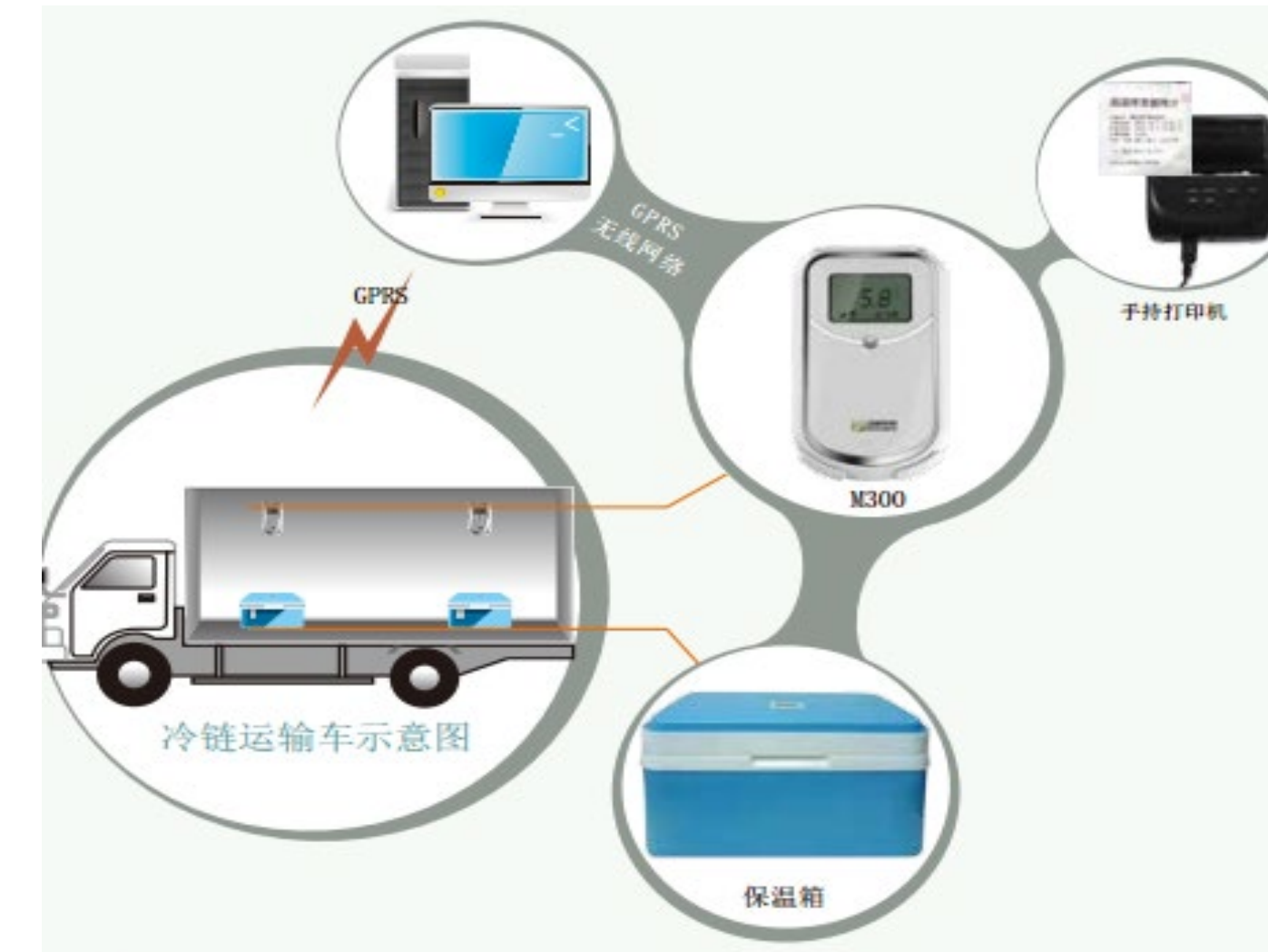


**Shopping Online**



# Agricultural Logistics

- Reliable agricultural logistics system is essential to integrate rural into wider economy
  - Cold chain technology
  - Packaging standards
  - Warehousing
- ICT applications increase efficiency of storage and logistics services
  - Farmers benefits from reduced food waste and better market prices



# Agricultural Extension Services

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- Access to e-commerce requires organizing small household farmers
  - Single farmer has insufficient capacity for packing, branding and marketing.
  - Setting up rural cooperatives or contract farming for enterprises
- Ministry of Agriculture and other agencies use online agriculture information platforms to effectively disseminate agriculture technology and market-related information.
  - Overcome the 'last mile problem' of extension services through information platforms targeting farmers' mobile phones.





# Internet of Things in Agricultural Extension Services

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**Application of IOT enables real-time quality control and provision of production management support**



**Automatic film rolling equipment**



**Modern greenhouse**



# Traceability

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- E-commerce together with IOT applications can **break information asymmetry** between trading partners
- Enables a **two-way automated information exchange** system between producers and consumers
- **Scanning of QR codes and RFID tags** along the food and agriculture value chain
- Customers can scan QR codes and receive real-time and credible source and process information about the final product.



# Public-Private Partnerships

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Partnerships opportunities in the area of 'agriculture internet plus' to support implementation of rural vitalization strategy:

- **Food safety** certification and **traceability** (blockchain application)
- **Building (food) brands**, incl. providing blockchain technology platform for traceability;
- Building **smart logistics platforms** to support efficient planning for logistic capacity investments and delivering cost-effective logistic services;
- Service provision to farmers (**technical extension on production management through internet of things**);
- Provide **financial/payment technology solutions**;



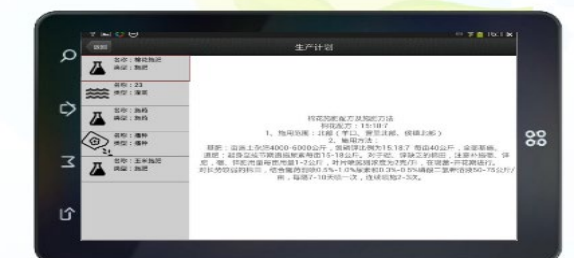
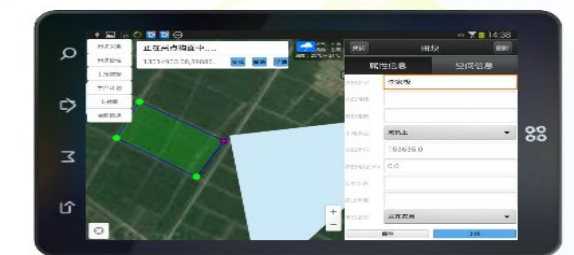
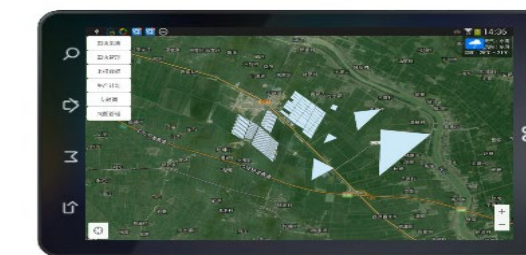
# Public Goods

## Improved food safety

- Traceability services from project supported ICT platforms through network connected sensors for farmers and processors to access e-commerce
- Reduced pesticide use through network connected sensor optimization

## Reduced environmental pollution

- Reduced fertilizer use network connected sensor optimization or chemical fertilizers and replacement of chemical with organic fertilizer
- Reduced GHG emissions
- Reduced non-point source pollution

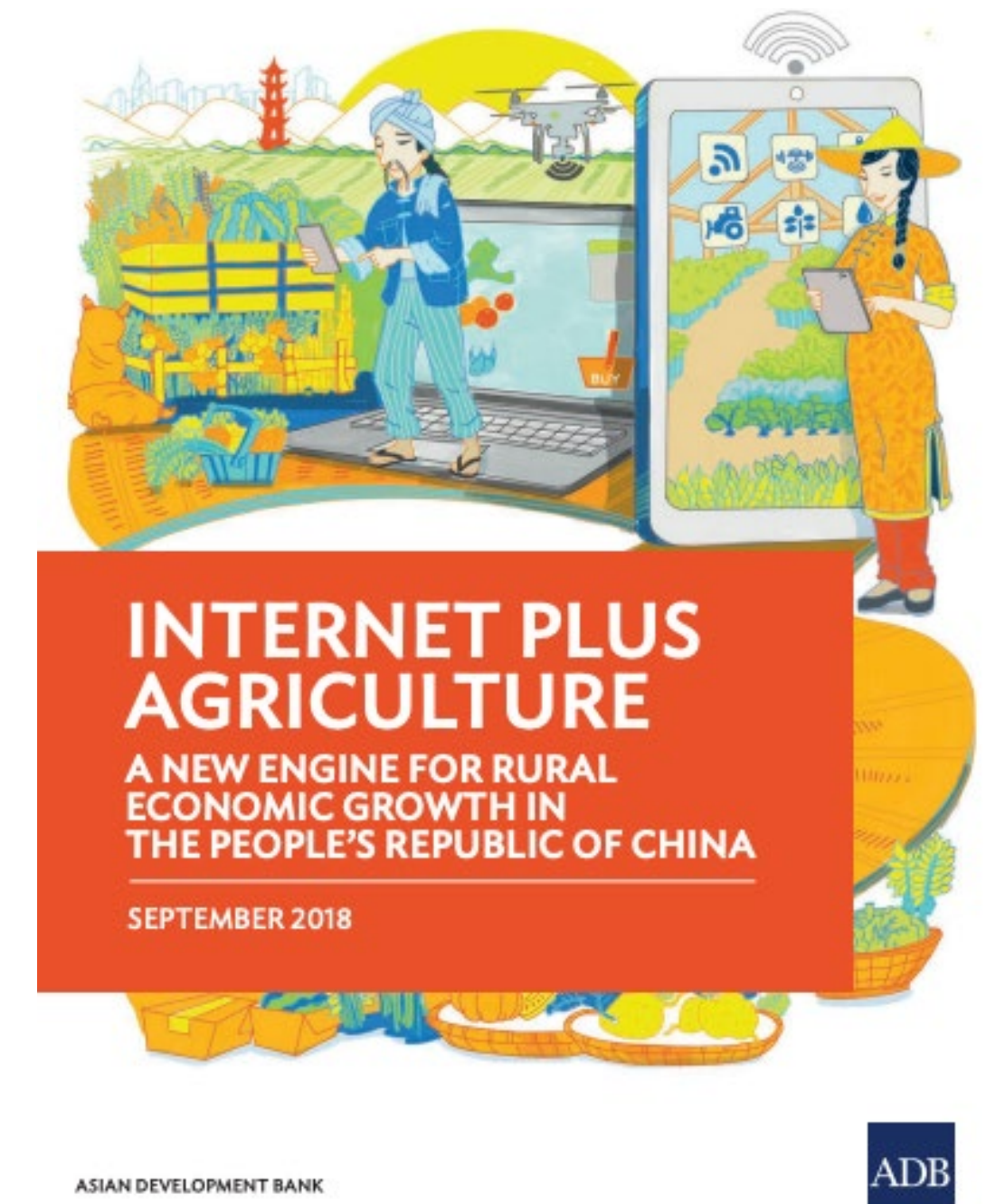


# Knowledge Sharing

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## Knowledge sharing

- Project preparation experience already published in Knowledge Product published: 'Internet Plus Agriculture: A New Engine for Rural Economic Growth in PRC'
- Agriculture internet-plus information platforms are designed to be scalable to other PRC provinces and Central Asian DMCs





# SUMMARY

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- **E-commerce** – the driving force for Internet plus economy – is **well established**.
- Access to e-commerce will require **public sector support for agricultural extension** services to standardize production, organize farmers, and build logistics capacity in remote and poverty-stricken areas. Good experience in project implementation through dragonhead agro-enterprises.
- Application of ICT and IOT offers high potential for **improved** traceability, **food safety** and **reduced non-point source pollution**. Additional **public sector support** in developing these systems is still required to enhance public good food safety.



**THANKS**