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# Digital Empowerment of County-Level Characteristic Agriculture: A Study on Smallholder Value Co-Creation and Benefit-Linkage Mechanisms Business Plan

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***Abstract:*** The project aligns with rural revitalization, common prosperity, digital villages and the unified national market. County characteristic agriculture still suffers a weak smallholder voice, loose linkage, superficial digital empowerment and fragile assistance, so the project studies how digital platforms reshape relations among farmers, cooperatives, villages, platforms and processing firms, building an integrated solution of model, tool, templates and pilot.

County agriculture now drives incomes, yet most smallholders only produce, and processing, brand and channel gains rarely return. Digital support is largely traffic selling; contract farming and share cooperation show weak contracts, vague dividends and low participation; governments lack simple measurement, so incomes fall once aid ends.

The project builds a three-stage model of production coordination, benefit co-linkage and value co-creation, defining each party's rights, and develops a V1.0 low-code prototype plus a document toolkit for assessing linkage maturity. The toolkit is the priority output and the prototype a validating increment.

The team has finished the literature review, contacted two county agricultural departments and completed pre-interviews. Members major in agricultural and forestry economics, accounting and big data; supervisors work on rural industry and farmer benefits. Resources are tiered: field intentions in two counties, e-mail contact with firms and a document fallback.

In 12 months the must-complete results are 2 counties surveyed, 350 questionnaires and 20 interviews, the toolkit, the prototype, a 28,000-word report, 2 county diagnoses and 2 policy drafts; stretch adds 500-700 questionnaires, a paper, software copyright and a provincial award.

Medium- and long-term social value — more counties served, better linkage, higher incomes and lower losses — is projection only, not a target for this cycle. With research grounded in practice and tools open to the grassroots, the project suits a student innovation and entrepreneurship training programme.

## I. INTRODUCTION

### *A. Project Purpose and Mission*

The project tightens interest ties with digital technology, secures smallholders' share through mechanism design and activates county agriculture with localized schemes, forming a multi-party, benefit-sharing and sustainable value co-creation system.

Beyond sales, it stresses fair distribution, contractual stability and farmer participation, shifting support from traffic transfusion to mechanism-enabled endogenous growth and detailing contract farming, share cooperation and guaranteed dividends along the whole chain.

### *B. Project Brief*

Following a four-in-one path of theory, multi-case evidence, tool development and pilot validation, it analyses institutional, cognitive and organizational constraints and proposes the three-stage path, aligning policy guidance with market operation.

With platforms as the link, benefit innovation at the core and tools as the handle, it closes the loop from model to templates, diagnosis, policy advice and manual, giving grassroots actors ready-to-use schemes.

### *C. Core Team*

Members bring literature, survey, interview, statistical and writing skills, with labour divided across theory, field work, data, tools and competitions.

Supervisors research rural industrial economics and farmer benefit linkage, have led rural projects and published in core journals, guiding framework, methods and writing.

Literature review and pre-interviews are done and two counties have signalled research intentions; campus low-code advice is available, so basic conditions are met.

## II. MARKET AND REAL-WORLD PROBLEM ANALYSIS

### *A. Background and Real-World Scale*

Livestreaming, traceability and digital matching now reach counties and over a thousand grow characteristic produce, yet value-added distribution remains acute; policy keeps urging contract farming, share dividends and guaranteed returns.

Clients — county bureaus, leading firms, e-commerce platforms, cooperatives, family farms and village organizations — need to judge linkage models, design dividends, prevent default and raise farmer voice.

### *B. Five Core Pain Points*

1. Nominal linkage: farmers receive only production returns, while processing, brand and online gains rarely return and dividends often go unpaid.
2. Sales over distribution: support chases traffic, seldom using digital tools for contract supervision, accounting or dividend payment.
3. Weak contracts: price swings cause rejection or default; oral deals dominate and standard contracts and digital supervision are missing.

4. No grassroots measurement: review and model-cooperative rating lack light indicators to separate formal from substantive linkage.
5. Fragile assistance: after projects end no self-running mechanism remains, so incomes fall and endogenous drive is weak.

### *C. Project Opportunities*

1. Policy tailwind: Central No. 1 Documents stress linkage and share cooperation, raising demand for purchased rural research.
2. Real demand: villages want standard contracts and dividend templates, governments want simple tools, and firms want compliant linkage for responsibility and applications.
3. Cheaper tools: low-code platforms, traceability and online ledgers make dividend books affordable.
4. Market gap: supply favours planning and e-commerce training, lacking co-creation, assessment and templates together.

### *D. SWOT Analysis*

#### (1) Strengths

Clear focus on nominal linkage across technology and institutions; asset-light outputs keep the budget low and allow free distribution; theory, tools and schemes close the loop; pre-survey and policy fit support competitions and advice.

#### (2) Weaknesses

Limited industry resources and brand credibility; web development relies on after-class support, so results fall back to the toolkit and Excel; the cycle yields research rather than revenue.

#### (3) Opportunities

Linkage remains a policy priority, thousands of cooperatives and counties form a market, firms need standard schemes, and existing products neglect distribution.

#### (4) Threats

County conditions vary and pilots are uncertain; dividend data are sensitive; models are easily copied; funding limits samples; policy shifts may deter cooperation.

## III. COMPETITION AND DIFFERENTIATION ANALYSIS

### *A. Shortcomings of Existing Similar Schemes*

Practice splits into university research without grassroots templates, high-fee consultancies focused on planning rather than distribution, and e-commerce projects ignoring linkage design.

All stress scale over fairness and external input over endogenous mechanisms, lacking light assessment, standard contracts and dividend ledgers.

Marginalization, unpaid dividends and default are the real bottlenecks, requiring work on actor relations, contracts, distribution and digital supervision.

### *B. Core Competitive Advantages of This Project*

Multi-case comparison across county types examines contract performance, distribution, farmer voice, digital supervision and sustainability, distilling practice into the model.

Table 1: Dimensions of Multi-Case Comparative Analysis

| Dimension | Key points | Evidence |
|---|---|---|
| Contract performance | Standardization of agreements, defaults, dispute handling | Cooperative and farmer interviews, contract review |
| Income distribution | Guaranteed returns, dividend ratios, secondary payments | Ledger interviews, farmer questionnaires |
| Farmers' voice | Participation in decisions, feedback channels | Questionnaires, in-depth interviews |
| Digital supervision | Use of ledgers, traceability and disclosure, not livestream selling alone | Entity interviews, public materials |
| Sustainability | Whether linkage works by itself after subsidies decline | Longitudinal interviews |

The model runs from production coordination (matching and initial contracts) through co-linkage (guaranteed returns plus dividends under digital ledgers) to co-creation (deep participation and shared brand, ecological and cultural value).

Tools are document-first: an Excel maturity sheet, standard contracts, interview outlines, a diagnostic template, a pilot plan and case cards, all completed in-house and shared free.

The prototype handles entry, scoring and simple prompts; results give governments, cooperatives and villages usable diagnosis and pilot advice.

### *C. Competitive Positioning*

Positioned as research and lightweight tool services, it prioritises research output, public tools and pilot diagnosis over high-fee consulting, with resources tiered openly and must-complete results independent of external support.

### *D. External Support*

Policy rests on the Rural Revitalization Promotion Law, Central No. 1 Documents and digital village policy. Firms appear only in public reports and cases; two counties intend field research and the rest are surveyed online. Campus support offers low-code advice with a document plus Excel fallback, and data are cross-validated.

Chapter Four Description of the Research and Practice Business Model

#### 1. Positioning

An integrated research-plus-public-interest solution serving county departments, village organizations, cooperatives and agribusinesses with standard contracts, quantifiable distribution, enforceable supervision and sustainability.

2. Business System (Five-Layer Architecture)

Basic layer: free maturity self-assessment. Tool layer: the document toolkit, the cycle's main output. Scheme layer: diagnoses, pilot plans and policy drafts. Mechanism layer: standard clauses and ledger guidance. Service layer: free diagnosis now, consulting later.

This loops free tools, templates, scheme output and iteration, keeping the public-interest core.

**3. Key Resources and Capabilities**

Theory: the three-stage model and multi-case framework. Skills: survey statistics, with the prototype relying on low-code support. Channels: intended counties, villages and cooperatives. Barriers: report, toolkit and diagnosis as one package.

Chapter Five Promotion and Transformation Strategy

***A. Overall Approach***

Free distribution, county pilots as model cases, academic and policy endorsement, competition exposure and later replication: lightweight tools enter cheaply, cases build credibility and results carry the message, with no paid advertising.

***B. Channel Strategy***

Open-source distribution; 1-2 benchmark counties attracting neighbours; conferences, papers and policy submissions; agriculture platforms limited to public guides; Internet Plus and Challenge Cup for exposure and partners.

***C. Market Goals (Short, Medium and Long Term)***

Short term: 2 counties, 350 questionnaires and 20 interviews, toolkit, prototype, a 28,000-word report, 2 diagnoses and 2 policy drafts; stretch adds 3-4 counties, 500-700 questionnaires, a paper, copyright and a provincial award.

Medium term: 8-12 counties, tool iteration, standard processes and limited low-price consulting.

**Long term: a national reference sample with templates and a case library.**

Note: The medium and long term are planning projections and are not assessment indicators for this project cycle.

Chapter Six Implementation and Rollout Plan

A research-practice, asset-light project whose outputs are reports, survey data and a low-code prototype, with controllable risk.

Twelve months in four stages: preparation (0-3) for literature, cases, instruments and site contacts; research (3-6) for field and online surveys and case cleaning; analysis (6-9) for comparison, model validation and indicators; summary (9-12) for the toolkit, prototype tests, reports, policy drafts and competitions, with an Excel fallback.

Chapter Seven Risks and Risk Management

***A. Main Risks***

Risks: research (blocked access, sensitive data, low returns, thin samples); technical (prototype delay, scoring errors, limited support); pilot (weak enthusiasm); funding (travel overruns); and time (delays squeezing writing and closeout).

***B. Response Measures***

Measures: back-up villages, remote interviews, small incentives, village-level work and cross-checked data; a simple prototype with toolkit and Excel first; willing sites and aligned schemes; an emergency reserve, online research and joint decisions on large items; weekly meetings and buffers.

Chapter Eight Project Organization and Management

I. Organizational Structure (Flat Structure)

Flat structure: a leader for coordination, schedule and decisions; theory for literature, model and writing; data for surveys and cases; tools for the toolkit and prototype; and output for pilots, competitions and submissions.

Groups work independently yet collaboratively under few layers, which suits a student team.

***B. Management System***

Weekly meetings, monthly reports, monthly budget statements with receipts, a live risk register, academic review, school resources and assigned tasks with quantified assessment.

**Chapter Nine Expected Benefits and Operating Forecast**

I. Social Value Forecast

**(1) Direct Output Benefits within the 12-Month Cycle**

Direct outputs: 2 counties with 350 questionnaires and 20 interviews forming a case base; a free toolkit and prototype testing; 2 diagnoses and 2 policy drafts; trained students; and a 28,000-word report plus a paper.

**(2) Medium- and Long-Term Projected Benefits (not part of this cycle's assessment)**

| Tier | Result | Standard | External resource |
|---|---|---|---|
| Must-complete | Research report | At least 28,000 words: model, cases, data, schemes | No |
| Must-complete | Toolkit V1.0 | Scoring sheets, contracts, questionnaires, cases | No |
| Must-complete | Maturity prototype | Low-code entry, scoring and prompts | Yes |
| Must-complete | County diagnosis | 2 copies with survey records | No |
| Must-complete | Policy drafts | 2 copies with submission channels | No |
| Stretch | Draft paper | Completed, ready to submit | No |
| Stretch | Practice guide | From public and research cases | No |
| Stretch | Software copyright | When prototype and materials complete | Yes |
| Stretch | Competition award | Provincial-level award | Partly |

If adopted, the model could serve more counties, improve contracts, raise farmer shares and cut default and circulation losses, as a direction only.

II. List of Expected Results (Must-Complete / Stretch)

Chapter Ten Financial Analysis of Budget

I. Financial Notes

The 4,500-yuan budget follows university rules: dedicated use, receipts, supervision and monthly checks; no revenue this

cycle and any surplus returned.

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