

## Poverty Alleviation Practice and Theoretical Exploration Based on Small-Farm Household Production: A Case Study of a Small-farm “Nested Market” Poverty Alleviation Trial\*

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以市场为导向的产业扶贫方式在我国的精准扶贫工作中发挥了重要作用，但它很难全面覆盖深度贫困的小农户，也面临很多挑战。因此，需要探索和创新适合贫困小农户的多种生产扶贫方式。一项在河北省太行山区村庄开展8年的扶贫行动表明，“巢状市场小农扶贫”以“贫困小农户现在有什么”的生计资源为出发点，以健康农产品和地方特色食物产品的小农式生产为“产业”，以城市普通消费者对健康食物的需求为对接出口，以“巢状市场”为交易和互动的组织形式，通过农村贫困人口和城市人口的相互信任和共同参与，成功地将生计资源和社会资本转化为贫困人口的收入，实现精准、稳定和可持续的脱贫结果，彰显创新、协调、绿色和共享的发展理念。

**关键词：**小农生产 精准扶贫 生产扶贫 巢状市场

Market-oriented industry-type poverty alleviation has played an important role in targeted poverty alleviation in China, but this approach has had difficulty in obtaining comprehensive coverage of extremely poor small-farm households and faces many challenges. We therefore need to explore and innovate a variety of ways of alleviating poverty among poor small-farm households. A project for “poverty alleviation through nested market small-farm production” has been running for eight years in the villages of Taihang Mountains, Hebei Province. It started from the livelihood resources already possessed by small-farm households, then converted farm production of healthy agricultural products and local specialties into an “industry” that took ordinary urban consumers’ demand for healthy foods as the corresponding exit point and nested markets as the organizational form of transaction and interaction. The trial shows that mutual trust and participation between the rural poor and the urban population has successfully transformed poor households’ livelihood resources and social capital into income, achieving accurate, stable and sustainable poverty alleviation and highlighting the concepts of innovation, coordination, and green and shared development.

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**Keywords:** small-farm production, targeted poverty alleviation, poverty alleviation through production, nested markets

## I. Challenges of Poverty Alleviation for Poor Small-farm Households

Since reform and opening up, the Chinese government has made tremendous achievements in poverty alleviation. With the implementation of the targeted national poverty alleviation strategy, the numbers of the rural poor had been further reduced to 30.46 million by the end of 2017.<sup>1</sup> At present, the focus of such poverty alleviation is on areas and populations in deep poverty, mainly small-farm households. According to the macro-design of this policy, “poverty alleviation through production” is the most important measure for accomplishing this goal.<sup>2</sup> In practice, the main route is the development of market-oriented industries with local characteristics. By encouraging and supporting new business entities such as farmers’ professional cooperatives or leading enterprises, “one industry in one town” or “one product in one village” can be developed in poverty-stricken areas, thus lifting poor households out of poverty. Industry-type poverty alleviation is thus virtually synonymous with poverty alleviation through production. However, past practice shows that in the face of complex reality, industry-type poverty alleviation has often encountered bottlenecks and difficulties in the course of helping small-farm households out of poverty.

Since the 1980s, various international practices and theoretical explorations have been rethinking and redefining agriculture and rural development, and there have been attempts to respond to the systemic crisis of agriculture and food by adjusting agricultural production methods and innovating market circulation mechanisms. In particular, in response to the price squeeze faced by the agricultural sector, farms have been trying to develop new products and services that can bring added value and introduce a variety of innovative forms of livelihood beyond pure farming.<sup>3</sup> At the same time, many farms have found new ways to establish direct links with urban consumers who are seeking healthier food, thus creating a new form of market outside the mainstream. This phenomenon is becoming more and more common in both developed and developing countries.<sup>4</sup> On the basis of an analysis of the practices of the Netherlands, Brazil and China, we proposed the concept of the nested market jointly with Dutch scholar Jan Douwe van der Ploeg and Brazilian scholar Sergio Schneider in 2010 to

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1 National Bureau of Statistics of China, “The Poor Population in Rural Areas Was Reduced Significantly in 2017 and the Income Growth of Rural Residents in Poverty-stricken Areas Was Accelerated Rapidly.”

2 Lin Hui, “Industrial Poverty Alleviation Helps Thirty Million Out of Poverty.”

3 Jan Douwe van der Ploeg, Ye Jingzhong and Sergio Schneider, “Rural Development Reconsidered: Building on Comparative Perspectives from China, Brazil and the European Union,” pp. 163-190; Elizabeth Francis, *Making A Living: Changing Livelihoods in Rural Africa*.

4 Paul Hebinck, Jan Douwe van der Ploeg and Sergio Schneider, “The Construction of New, Nested Markets and the Role of Rural Development Policies: Some Introductory Notes,” p. 1.

summarize the new market form and rural development practice.<sup>5</sup>

Similar steps to build nested markets are becoming a new driving force for agricultural transformation and rural development. At the same time, the new economic space and distribution mechanisms created by this kind of market can also make an innovative contribution to the livelihood of small-farm households and to poverty reduction in rural areas. Taking the two dimensions of production and the market as the entry point for poverty alleviation and the trialing of nested market farm production as an illustration, our paper presents this new exploration of poverty alleviation, sets out its main characteristics and theoretical connotations and provides an approach to resolving the current poverty alleviation dilemma.

## II. Poor Small-farm Households' "Industry" and Poverty Alleviation through Nested Market Farm Production

Since 2010, a research team from the China Agricultural University has carried out a poverty alleviation trial of nested-market farm production in Qinglin Town, Taihang Mountains, Hebei.<sup>6</sup> The goal is to explore another way out of poverty for those mired in deep poverty by developing a different kind of industry suited to poor small-farm households and creating an alternative market, i.e. a nested market, that directly links poor rural producers and ordinary urban consumers.

### *1. Another kind of industry: small-farm production*

The livelihood theory of rural development indicates that we should start from "What do farms have now?" in order to improve their livelihood and income.<sup>7</sup> In establishing a sustainable means of livelihood income for poor households, we start with their controllable, disposable and accessible livelihood resources and proceed to fully develop, mobilize and utilize these resources and catalyze farmers' sense of agency and initiative with a view to creating development opportunities. Livelihood resources include natural resources, material resources, economic (or financial) resources, human resources, social resources and cultural resources.<sup>8</sup> The main natural resources belonging to poor farm households in rural areas, especially remote mountainous areas, are small plots of land, mountainous land, crops (grain, vegetables and fruit) and animals (poultry, livestock) that they have tended for many

5 Jan Douwe van der Ploeg, Ye Jingzhong and Sergio Schneider, "Rural Development Reconsidered: Building on Comparative Perspectives from China, Brazil and the European Union," pp. 163-190; Jan Douwe van der Ploeg, Ye Jingzhong and Sergio Schneider, "Rural Development through the Construction of New, Nested, Markets: Comparative Perspectives from China, Brazil and the European Union," pp. 133-173.

6 The names of the towns and villages in this study have been changed.

7 Ian Scoones, "Livelihoods Perspectives and Rural Development," p. 171-196.

8 A. Bebbington, "Capitals and Capabilities: A Framework for Analyzing Peasant Viability, Rural Livelihoods and Poverty," pp. 2021-2044.

years, plus water resources. Their main material resources are existing tools and production facilities, while their main economic resources are a small (or negligible) amount of cash or deposits and policy subsidies from the government. Their main human resources are the existing family labor force and their local knowledge, experience and skills about agricultural farm production in industry and animal husbandry, and their main social resources are their relations with relatives and neighbors, formal and informal village organizations and interpersonal trust. Their main cultural resources are the existing modes of production of small-scale agriculture (non-industrialized) and the traditions of local food production, as well as the values embodied in these modes and traditions to do with people and nature, people and society and among people.<sup>9</sup>

The above livelihood resources form a basis on which poor small-farm households can use their limited (relatively scant) stock of family labor to work their limited (relatively small) plots of land or space for limited small-scale production (of relatively fixed amounts) of their existing crops (including local vegetables, fruit from the forest, etc.) and livestock and poultry (of native varieties), as well as processing (relatively traditional) local specialties; and all this is done using their existing (relatively traditional) production methods and techniques. The small-scale agricultural production of existing local delicacies is “another kind of industry” that almost all poor households with some production capacity can carry out successfully without too much production risk.

### *2. Another kind of market: the nested market*

The current social environment, especially the transformation of urban food consumption and increasingly diversified urban demand, offers specific marketing opportunities for poor households’ sale of such products. In particular, the lack of food safety in Chinese foodstuffs has been repeatedly exposed by the media in recent years, triggering a certain amount of anxiety among the public and a crisis of trust. In this context, a considerable number of ordinary urban consumers are trying to access safe food outside the mainstream market.

Rather than certificates and brands, some consumers prefer to believe in a production process they can see and producers they know. They favor small-farm production methods that have not been influenced by industrial agricultural production; the affinity between farmers and the content of their labors; and the local and cultural character, closeness to nature and stability of these products. They not only attach importance to food safety, but are also concerned, at the social level, for the environment and the poor, with whose values they identify. They are willing to liaise directly with particular small-farm households at appropriate prices, trusting their product quality, buying their products regularly and supporting their small-scale mode of rural production. In this way, specific rural producers and specific urban consumers are directly linked via food in a way that not only meets rural producers’ need for an income-producing livelihood but also meets urban consumers’ demand

9 Diana Carney, *Sustainable Rural Livelihoods: What Contributions Can We Make?*, pp. 3-25; John Field, *Social Capital*, pp. 13-14.

for healthy food.

We term this alternative market that directly links rural producers and urban consumers a “nested market.” The nested market has relatively fixed boundaries, real names, and a degree of identification and trust.<sup>10</sup> The word “nested” here has two meanings. On the one hand, this kind of market is a limited and relatively closed circle engaged in the circulation and exchange of products, cash, information and services among given groups; like the nests built in mainstream markets, it is itself embedded in the mainstream market. On the other, it is also a metaphor for this special form of market and food supply and demand network, which emphasizes direct and fixed connections between producers and consumers and a trust-based social network. Like the nodes in a nest, producers and consumers are closely united in various ways to form a market structure with relatively clear boundaries. As long as there are producers and consumers to establish this fixed structure, a nested market can be formed. On the basis of this principle, village producers and consumers in one or more urban communities can establish a nested market. The village producers can also be divided into several groups which regularly link up with particular urban consumers, forming multiple nested markets. In this way, on a larger scale—in a town or even a country—innumerable nested markets rather than a single borderless infinite market will take shape.

### *3. Another kind of production for poverty alleviation: poverty alleviation through nested market small-farm production*

The trial of poverty alleviation through nested market farm production was launched in Liu Village, Qinglin Town. The impetus provided by Liu Village led the neighboring Song Village to do the same somewhat later. The following case study of Liu Village’s practice introduces the main course of the trial.

Liu Village is in the Taihang Mountains, in the western mountainous area of a poverty-stricken county in Hebei Province, 190 kilometers from Beijing. In 2017, there were 173 households and 654 people in the village, including 55 poor households (with twelve registered as policy recipients) with 210 poor people. The resident population was mainly left-behind women, old people and children. It had 770 *mu* of arable land (about 1.1 *mu* per capita) and more than 1000 *mu* of woodland, and has retained the typical small-scale mode of agriculture. The combination of crop growing and animal husbandry demonstrates the collaborative production of man and nature. Maize, sweet potatoes, peanuts, potatoes and miscellaneous grains are mainly produced on the dry land and irrigated land, while walnuts, chestnuts, persimmons, peaches, plums, apricots and other fruit are produced in the woodland. Every household has a small vegetable garden. Family farming is still conducted in the

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10 Jan Douwe van der Ploeg, Ye Jingzhong and Sergio Schneider, “Rural Development Reconsidered: Building on Comparative Perspectives from China, Brazil and the European Union,” pp. 163-190; Jan Douwe van der Ploeg, Ye Jingzhong and Sergio Schneider, “Rural Development through the Construction of New, Nested, Markets: Comparative Perspectives from China, Brazil and the European Union,” pp. 133-173.

local manner, through production of native chickens and ducks, hens' eggs and duck eggs, household pigs, goats, etc. In addition, processed sweet potato powder, dried sweet potato, pancakes, marinated tofu, persimmon cakes and so on are foods unique to the village. On the basis of Liu Village's resources and products, the research team has been trying to form a bridge between the rural and urban areas since 2010.

#### (1) Organization and cooperation of poor small-farm households in the village

The research team's first step was to cooperate with the village committee to investigate Liu Village production and the available livelihood resources of the poor small-farm households. On that basis, they began to mobilize households to participate in and promote organization and cooperation within the village. After screening, twenty poor farm households with some production capability and good reputations (mostly the poverty-stricken left-behind old people) became the first members of the production team. At the same time, three villagers' representatives (including one woman) were selected as the core organizers, responsible for organizing each small-farm household, coordinating and supervising the production process, checking product quality, organizing distribution and interacting with consumers, etc.

At present, a relatively orderly division of labor has taken shape in the village. Sixteen farm households have dedicated responsibility for slaughtering and processing livestock, quality control, packaging, distribution and interaction with consumers. The number of farm households frequently involved has reached 76, including almost all the poor small-farm households with a certain production capability. At the same time, according to the differences in the farmers' production capability and production advantages, a relatively stable division of supplies of agricultural products has been set up. Inspired by Liu Village, the nearby Song Village has also been organized independently since 2016; nineteen farm households there have already participated.

#### (2) Mobilization and expansion of urban consumer groups

In the city (Beijing), the research team started by inviting colleagues, relatives and friends, relying on social networks to develop consumer groups. Eighteen families formed the first group. Thereafter, consumers who had had a good experience with the scheme continued to invite acquaintances, relatives and friends to join, so take-up snowballed spontaneously. By the end of 2017, Liu Village had established eight distribution centers in Beijing with more than 400 consumer households participating and the number continuing to grow. In the summer of 2017, Liu Village's production team established connections with a consumer group in Baoding City, Hebei, through its constantly expanding social network. The nearby Song Village has also developed urban consumer groups covering about a hundred families and established three distribution centers in Beijing.

#### (3) Connection and interaction between rural and urban areas

The nested market constructs a special field for rural producers and urban consumers to connect and interact centered on the direct link of agricultural products. In 2017, Liu Village had 56 agricultural products directly connected with consumers, with the most popular being

the local pigs, chickens and eggs. The urban-rural link formed by such products is still going. The items are generally distributed about every twenty days; at present, the frequency of distribution has been gradually increasing.

At the same time, the development of modern information technology enables regular interaction possible between urban consumers and rural producers across distance. At present, a WeChat Group and WeChat Public Accounts, the main media for communication between producers and consumers, are very convenient for information sharing, transactions, online payments, quality feedback, organized activity and inviting new members. The two sides also have many face-to-face interactions, as each distribution provides an opportunity to meet and communicate. In their spare time, many consumers visit the village and the farm households with whom they have a direct connection, accompanied by their families (especially children), relatives and friends. The visit relaxes them but also enables them gain a better understanding of the village, the farm and the food production process. These linkages and interactions have brought the two sides closer and increased understanding and trust.

#### (4) Price negotiation, income distribution and quality control

In order to help poor small-farm households improve their returns, the price of agricultural products in Liu Village is generally 30-60 percent higher than that in the local market, but far lower than products labeled “ecological” and “organic” in the urban market. The production team usually draws on 10-20 percent of the sales revenue for the necessary labor input, distribution, packaging and other organizational costs; all the rest is returned to the farm households.

At present, both farm households and consumers find the price of these agricultural products attractive, and both sides are happy with the arrangement. At the same time, both sides can also benefit from direct connections with no intermediate links. On the one hand, nested market producer households, having a stable market, can get higher prices than other local producers. In the case of eggs, for example, many left-behind old people who have trouble getting to the market can now sell eggs regularly at the higher price of 30-40 RMB per kilo from their doorsteps. On the other hand, compared with the organic products in the urban market, nested market agricultural products sell for prices that are within reach of ordinary families with urban incomes.

In addition, the research team, together with producers and consumers, has constructed a series of participatory quality supervision and guarantee mechanisms, including real-name labels traceable to the origin and destination of products as well as supervision by society of production teams and village acquaintances.

### III. Characteristics of the Nested Market

#### 1. *The plural form of the market*

The market is not just an abstract system of price, preference, supply and demand, and



automatically balanced production (this kind of pure market does not exist). It is also a place or structure in which specific people trade specific goods and services on the basis of a specific social and material foundation.<sup>11</sup> Within the market system, there are various market forms or structures, some of which have a long history. Each specific form has its own operating mechanism and there are complex links and interactions between them. They may connect producers and consumers directly or indirectly, in linkages that may be simple or complicated. They may exist locally or extend globally. The market is embedded in social relationships, which can be directly visible or highly anonymous. These relationships shape the flow of goods and services in the market. In different flow modes, the distribution of revenue and costs (including transaction costs) among the participants is also different.<sup>12</sup>

Today, however, the global agricultural and food sector is increasingly dominated by a market order controlled by various food empires<sup>13</sup> and major intermediary businesses, forming an hourglass-shaped food system.<sup>14</sup> Commercial forces including the food empires form a coercive network that controls strategic connections, nodes and passage points and tries to block or eliminate the existence of alternative models.<sup>15</sup> The global expansion and rural extension of this process have been accelerating since the 1980s. In the course of this process, many local markets with a long history have been squeezed, reorganized or incorporated as the boundaries of the multi-market melt away; production is becoming more and more de-localized, increasingly divorced from particular local ecosystems and social attributes and separated from cultural and local resources.<sup>16</sup> At the same time, these processes are also consuming localities' natural resources and destroying the resilience of social, economic and environmental systems in rural areas.

This is a hierarchical long-chain market. The course of food from land to table is controlled by various intermediaries who separate producers from consumers. In the great majority of cases, producers and consumers of products (such as particular foods) are anonymous and there is no regular and sustained production and purchase relationship. The main purpose of people's participation in the market is commodity trading, and their social connections occur through commodity and currency exchange. In other words, what this market reflects is more of a market or commodity relationship. Due to the numerous intermediate links and high transaction costs, the greatest share of profit in the product value chain is appropriated by these intermediate links, especially by large industrial and commercial capital. Individual

11 Teodor Shanin, "The Nature and Logic of the Peasant Economy 1: A Generalization," pp. 63-80.

12 Jan Douwe van der Ploeg, "Newly Emerging, Nested Markets: A Theoretical Introduction," p. 24.

13 Representative examples of the food empire are the four major multinational grain merchants: Archer Daniels Midland Company, Bunge Limited, Cargill Incorporated and Louis Dreyfus Company (see Zhou Li, "Food Sovereignty, Food Politics and Sustainable Development of Mankind.")

14 Raj Patel, *Stuffed and Starved: Markets, Power and the Hidden Battle for the World Food System*, p. 9.

15 Jan Douwe van der Ploeg, *The New Peasantries: Struggles for Autonomy and Sustainability in an Era of Empire and Globalization*, p. 239.

16 *Ibid.*, p. 4.



small-farm households tend to lose direct access to the market. Their products can only become raw material for corporations, whether in the form of “company + farm” or purchase by an intermediary; or else the producers themselves may become hired labor on the farm and largely lose any bargaining power over their products and labor.

This mainstream market, which rises and expands in the course of globalization, can also be called an “infinite market.” The word “infinite” represents the following features: market order is mainly controlled by a small number of commercial forces such as the food empires; radiation is divergent (as in the use of supermarkets as market exit points) with no clear boundaries; producers and consumers are separated by various intermediate links, so have no direct interaction; products are difficult to track, with producers and consumers usually anonymous; a continuous global expansion integrates more and more people, resources and local markets into the order and rules of the infinite market, and so on. With the expansion of the infinite market and the transformation of agriculture and food production modes, the environment is laid waste, farmers struggle to survive, there are food safety and health risks, and the village social structure dissolves. These issues have become global problems and challenges.

Faced with these problems and challenges, many international actors are actively adopting strategies in response. In recent years, promotion of the establishment of a more sustainable food system through changes in production and circulation, together with the restoration of society and the environment, has become a new action area.<sup>17</sup> The series of changes brought about by these actions is reshaping rural development as well as agriculture and food systems. As an alternative form of market existing in both the past and the present, the nested market is one such form of action and practice.

## *2. The structure of the nested market*

In terms of philosophical basis, value ethics, logical process and operational rules, the structure of the nested market is a quite different from that of the familiar “infinite market.”

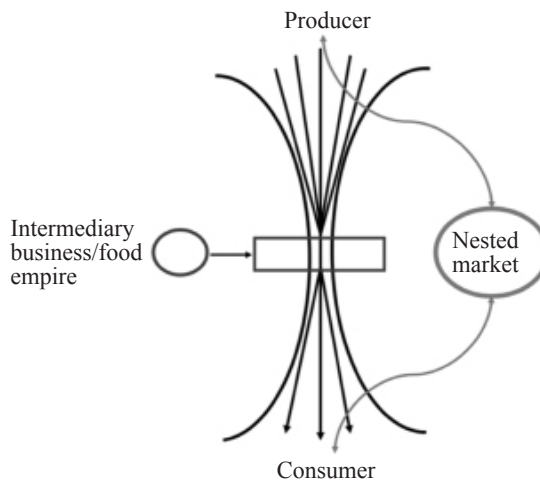
Responding to food safety and the plight of individual small-farm households, the nested market aims to break the control of intermediate links such as the food empires in the mainstream “infinite market” and establish direct connections between food producers and consumers (see Figure 1). The nested market represents a by-pass<sup>18</sup> aimed at bypassing “infinite market” channels, reconnecting sundered producers and consumers and fragmented social and ecological relationships in order to create a local market in which producers and consumers share, cooperate and benefit from each other. “Producers” here generally refers to the countless individual small-farm households directly engaged in agricultural production and processing, including poor farm households using family labor, while “consumers” means

17 Norman Long, “Resistance, Agency and Counter-work: A Theoretical Positioning,” pp. 69-70.

18 Jan Douwe van der Ploeg, Ye Jingzhong and Sergio Schneider, “Rural Development through the Construction of New, Nested, Markets: Comparative Perspectives from China, Brazil and the European Union,” pp. 133-173.

ordinary urban consumers. Rural producers and urban consumers with real names establish direct contact with food as the vehicle and the nested market as the mechanism. Consumers know that the food they buy is “food from somewhere”; they know who produces it and how it is produced.<sup>19</sup> Producers too know where the food they produce is sold and who buys it. At the same time, producers and consumers tend to maintain a regular long-term production and purchase relationship. Once a nested market is established, its producers and consumers will be relatively fixed or limited, as will the producers’ product types, production scale and output. Unlike the infinite market, the nested market is not a divergent but a relatively closed ring of circulation. Clear boundaries exist between different nested markets.

Figure 1 Separation of Producers and Consumers in the Mainstream Infinite Market and Connections in the Nested Market<sup>20</sup>



In addition, the nested market’s boundaries are reflected in the distinctive nature of its products and the value norm of sharing. First, nested market products are based on farm households’ livelihood resources and are produced by given groups of small-farm households with good reputations in a small-farm agricultural style in synergy with nature. This means that their products are rich and varied, with a strong local flavor and distinct local characteristics, and are produced in a natural and ecological way. Second, these specific producers and consumers share a unique framework of value norms and standards.

The direct connection between producers and consumers means that the nested market is no longer controlled by intermediaries and the great majority of the revenue from the

19 Philip McMichael, *Food Regimes and Agrarian Questions*, p. 18.

20 See Professor Jan Douwe van der Ploeg’s “Food Empire” sketch from his lecture on agricultural sociology at China Agricultural University and Raj Patel’s sketch of the mainstream food system in his *Stuffed and Starved: Markets, Power and the Hidden Battle for the World Food System*, p. 9.

food value chain goes to individual small-farm households. In such markets, the small-farm households involved are both producers and vendors and can secure more added value than in the infinite market. At the same time, a new economic space has been created that integrates remote mountainous areas and poverty-stricken groups and taps the development potential and income-generating opportunities of localities and populations that were originally marginalized and excluded by the infinite market. This is the most striking and most direct manifestation of poverty alleviation through nested market small-farm production.

In a sense, producers and consumers become stakeholders and value communities because of their common value basis and goal orientation. On this basis, the two sides can easily negotiate the price of nested market products in a transparent process. The bargaining mechanism based on value community and the removal of intermediaries' value grabbing mean that small-farm households can sell their products at higher prices (than those of local markets), while consumers can also obtain high-quality healthy products they trust at relatively low prices (compared with the market prices of "organic" or "ecological" products).

In established nested markets, producers have a production (product) scale ceiling based on limited livelihood resources and specific modes of production. Their products go to established consumers, and product prices are determined by the bargaining mechanism mentioned above. Therefore, given the conditions of the specific producers, consumers and production (product) scale, the relationship is an inclusive one; values and benefits are shared, whether among producers, among consumers, or between producers and consumers. Moreover, no matter how prices in the mainstream market fluctuate, the product price in nested markets can be relatively stable long-term. Therefore, for small-farm households, participation in such markets is a low-risk livelihood strategy and a route out of poverty.

Another typical feature of the nested market is that within the producer group and the consumer group and between producers and consumers a social network with distinct boundaries takes shape. In this network, shared value norms and frequent interactive exchanges make it possible for those in the nested market to establish a certain basis for trust and for the smooth transfer of information. Producers can consciously guarantee their small-scale mode of producing food and the healthy quality of that food, not only because they know who will consume the food, but also because they have established a relationship of trust with specific consumers. Because of this trust, consumers have confidence in the quality of the products they buy and they have more respect for producers' opinions and rights in the bargaining process. One could say that the trust mechanism plays a very important role in the operation of the nested market, in that these social networks and trust mechanisms contribute to resource mobilization and mutual benefit among impoverished producers, allowing production to be carried out smoothly. Moreover, it enables poor farm households to join in various interactive activities where they can take part in discussions, express their views and recognize their contribution and value to the production of healthy products. Although such things cannot directly increase income, they can improve quality of life and motivate poor

households to make changes in themselves. In a sense, this also implies the empowerment of farm households and an increase in their autonomy. These social networks, as well as the actors' mutual trust, information exchange and benefits come from the social capital developed by the nested market. Social capital is something that poor farm households need, yet under normal circumstances this important livelihood resource is what they most lack. The production of social capital can improve producers' ability to convert resources into products and income, thereby lifting them out of poverty and achieving sustainable livelihoods.<sup>21</sup>

It can thus be seen that what people construct in a nested market is a market largely based on use value and trust relationships, as are the products they trade. In addition, the small-scale mode of agricultural production is an important element in the value norms shared by producers and consumers. The unique relationships between agriculture and nature and between society and humankind (producers, consumers, etc.) is a classic feature of small-farm agriculture, and product transactions are likewise subject to these relationships. In nested market small-farm households, resources (especially public ponds), labor and local knowledge have not been fully commodified, having entered the agricultural production process in non-commodified or semi-commodified forms. One could say that a series of relationships and structures are the main organizational mechanisms in the production, processing, distribution and consumption process of products in the nested market. This serves to maintain a shared framework of value norms and standards, ensures product quality and safety and meets small-farm producers' need to earn a living and ordinary consumers' need for healthy food.

The characteristics of the nested market can be better presented by comparing them with the mainstream infinite market in the areas of agriculture and foodstuffs (see Table 1).

Table 1 Comparison of the Nested Market and the Mainstream Infinite Market

Nested market	Infinite market (agriculture and foodstuffs)
Producers and consumers link up directly and reconnect production and consumption; reconnect urban and rural areas; and reconnect agriculture and local society.	Producers and consumers and urban and rural areas are separated by various intermediate links and agriculture is increasingly divorced from local society.
Bordered and limited	Borderless and infinite
The use of real names means that producer and consumer know each other and maintain a long-term regular production and purchase relationship.	Anonymous; producers and consumers do not know each other, and the relationship between production and purchase is often chance and changeable.
Main products have a strong local flavor and local characteristics	Mainly industrialized agricultural products

21 L. North and J. Cameron, "Grassroots-based Rural Development Strategies: Ecuador in Comparative Perspective," pp. 1751-1766; M. Woolcock, "Social Capital and Economic Development: Towards a Theoretical Synthesis and Policy Framework," pp. 151-208.

In short-chain circulation, transaction costs decrease as participants increase, and trust and reputation are gained through social networks, visibility and transparency.	Long-chain circulation often requires market research and marketing management that incur high transaction costs.
Information on production and consumption is easy to grasp. Supply and consumption interact continuously and tend to balance.	Information on production and consumption is uncontrollable and unpredictable. Supply and demand often suffer from cyclical imbalances.
The bargaining mechanism is based on value community with transparent processes and relatively stable prices.	Market is full of price competition and even manipulation with hidden processes and price fluctuations.
Small scale, few market risks or risks to nature	Large scale, high market risks and risks to nature
Horizontal market structure; small-farm households participate in and control all links of the chain from production to sales; more equitable distribution of added value.	Hierarchical market structure; small-farm producers tend to be only cheap suppliers of raw materials or hired farm labor; they are located at the bottom of the industrial chain and suffer price squeezes and interest deprivation.
Producers and consumers share a unique framework of value norms and standards involving mutual trust, cooperation and reciprocity.	The market establishes quality standards and consumer demand; it is controlled by the tacit power of big capital and intermediaries.
Oriented toward values and relationships; mainly expressed in relationship-based markets and products.	Oriented toward profit; mainly expressed in market and commodity relationships.
Conducive to the inclusion of marginal areas and the poor; has a high degree of inclusiveness and a significant role in poverty alleviation.	Dominated by advantaged groups; marginal areas and the poor often excluded and screened out.
Functions to protect and repair nature and society	Often destroys or captures nature and society

#### IV. The Functioning of Poverty Alleviation through Nested Market Small-farm Production

##### 1. *Two ways of alleviating poverty through production*

Poverty alleviation through production can itself take many different forms, including industrial production in the mainstream infinite market and small-farm production relying on the nested market. Each has its own advantages and disadvantages; the different forms are applicable to different types of poverty.

Small-farm poverty alleviation corresponds to small-scale farming. It is usually based on the sustainable use of environmental capital and is aimed at protecting and improving farmers' livelihoods. Versatility is a significant feature. Labor usually comes from within the family, or a community member's transfer may be arranged on a reciprocal basis; land and the other major means of production belong to the family. Small-farm associations adopt many shrewd strategies to keep their farming activities away from external markets. The main feature of small-scale farming is that small-farm households regard farming as a way of life and dedicate themselves tirelessly and passionately to agricultural production. They put labor center stage, linking it with self-controlled and partially self-allocated resources and with the way ahead and the future, so the nested market is an important

means of employment. They rely on the synergistic production of people and nature, and achieve efficient use of resources through intensive cultivation and the creation of resource banks. Their production of diverse local products comes from within and is based on their livelihood resources; they take care of the objects of their toil, and do not coerce the growth of animals and plants, testifying to their respect for living things. Their craftsmanship produces many new creations. Small-farm associations use the multi-functional nature of agriculture and their distance from external markets, established through long practice, to maintain a high degree of autonomy.<sup>22</sup>

Poverty alleviation through industry tends to mean corporate-type agriculture—a mode of production that scales up agriculture. Its production is highly specialized and completely oriented to the mainstream market. Corporate agriculture operators are actively committed to dependence on the mainstream market, especially as regards agricultural inputs. Corporate agriculture is mainly based on financial and industrial capital in the form of credit, industry inputs and technology, and on the partial industrial transformation of the labor process. It is characterized by the separation of agricultural activities from existing environmental capital; nature's presence in the agricultural production process is gradually dwindling, while those elements of nature that remain undergo a constant process of comprehensive artificial reconstruction. The production goal of this kind of poverty alleviation is profit creation, and its reliance on available resources is aimed at producing added value rather than at developing the resource pool. Because it relies heavily on the market, it has a low level of autonomy, and as agricultural enterprises are often keen to expand their financial credit, their debt load is relatively high. Corporate agriculture organizes and arranges labor and the production process according to a market relationship in which the main indicators are external, and this is often reflected in a disregard for animal and plant life.<sup>23</sup>

If we compare the two types of poverty alleviation, we can see that whereas nested market small-farm poverty alleviation relies mainly on the livelihood resources of poor small-farm households, adopts a small-scale agricultural production mode and provides urban consumers with many products from one village, industrial poverty alleviation mainly relies on industrial resources within or outside the village and often uses a corporate agriculture production mode to provide a single highly specialized product per village.

In comparing the two forms of poverty alleviation, we can use an analytical framework comprised of four key questions in political economy: Who owns what? Who does what? Who gets what? and What do they do with what they get? These are used to examine the social relations of property, the division of labor, the social relations of benefit distribution and those

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22 Ye Jingzhong, "Would a World without Small-farm Households Be OK?—Also a Preface to the Chinese Version of *The New Peasantries*."

23 *Ibid.*

of consumption and accumulation.<sup>24</sup> Firstly, Who owns what? Most of the links of the food system in industrial poverty alleviation are controlled by corporates and other intermediaries, whereas in the nested market, poor small-farm households control (or control jointly with consumers) the whole process from production to processing to sales. Secondly, Who does what? In industrial poverty alleviation, poor farm households tend to exist mainly as providers of raw materials or labor (in reality, the former is dominant; only a few of the poor get work). In nested markets, however, poor small-farm households are engaged not only in production and processing but also in distribution and sales. Thirdly, Who gets what? Most of the revenue from industrial poverty alleviation is captured by corporates and other intermediaries (in some situations, this is one of the reasons farms lapse into poverty), or sometimes by village elites. In nested markets, however, poor small-farm households can get better prices and more income. Apart from the necessary organizational costs, no other intermediate links will grab their profits. Finally, What do they do with what they get? Enterprises or other intermediaries in industrial poverty alleviation often use the revenue to scale up or develop new industries, whereas poor farms in nested markets use their revenue to climb out of poverty, or, in the case of a surplus, to continue improving their agricultural production or to maintain their resources and pursue village reconstruction (see Table 2).<sup>25</sup>

Table 2 Comparison of Small-farm and Industrial Poverty Alleviation: With a Political Economy Analysis

	Small-farm poverty alleviation	Industrial poverty alleviation
Main features		
Resource features	Livelihood resources	Industrial resources
Mode of production	Small-farm agriculture	Enterprise agriculture
Product range	Many products from one village	One product per village
Political economy analysis		
Who owns what?	Poor small-farm households own (or share with consumers) all links, covering the whole process from production and processing to distribution, sales and consumption.	Most links are controlled by intermediaries, from production and processing to distribution, sales and consumption.
Who does what?	Poor small-farm households are engaged not only in food production, but also in processing, distribution and sales. They also adapt and improve production, processing and distribution according to consumer feedback. They have greater autonomy and endogenous motivation.	Poor small-farm households generally work as providers of raw materials or hired labor in agricultural or food enterprises; they lack negotiation ability and endogenous motivation.

24 Henry Bernstein, *Class Dynamics of Agrarian Change*, p. 22.

25 Jan Douwe van der Ploeg, Ye Jingzhong and Sergio Schneider, "Rural Development Reconsidered: Building on Comparative Perspectives from China, Brazil and the European Union," pp. 163-190.



Who gets what?	A fairer distribution of income: poor small-farm households sell their products at a higher and stable price. They own the income generated across many links of the value chain: their share of income distribution has gone up enormously and their income opportunities are more stable and sustainable and less risky.	Unequal distribution of income: Most of the profits of operation and production tend to be appropriated by enterprises and other intermediaries who control circulation links. Some operators can obtain preferential policies, while poor small-farm households at the bottom of the value chain get less income and have relatively unstable income opportunities. In many cases, they also bear greater risks.
What do they do with what they get?	Poor small-farm households improve the livelihood of their families, leave poverty behind, improve production, maintain village pond resources and rebuild the character of the village.	Enterprises and other intermediaries tend to use their accumulated wealth to expand or to develop other industries.

## *2. The effect of poverty alleviation through nested market-based farm production*

Eight years of experimentation have demonstrated that poverty alleviation through nested market small-farm production can be a more precise model of poverty alleviation and rural revitalization. It plays an important role in bringing poor small-farm households out of poverty and increasing their income, improving the ecological environment of the village and promoting sustainable rural development.

Firstly, on the basis of livelihood resources, poor households' participation is widespread and production is sustainable. The threshold for participation in the nested market form of poverty alleviation is very low; as long as small farmers have space for production and capacity for labor, they can become nested market producers. In Liu Village, apart from a very small number of poor households who are totally unable to work (the target of overall poverty alleviation), poor households are free to participate in the nested market. The poorer they are, the more motivated they are to participate, especially among women and old people who lack other sources of income. Poor households in the nested market have already participated in the production of 56 products, covering almost every item that can be produced locally. This productive "industry" based on the livelihood resources of poor small-farm households is highly sustainable, because it utilizes their own courtyards and land and their village public spaces and public ponds, as well as their production experience and local knowledge.

Secondly, with regular consumers and higher product prices guaranteed, the income of poor households is stable and sustainable, with a noteworthy effect on poverty alleviation. The establishment of a stable, regular and long-term consumer group means that a variety of products produced by poor households can be sold for a higher price at given intervals in the nested market. The first point is that every transaction in the nested market can bring real cash to poor households, with an immediate result for poverty alleviation. According to the statistics of the Liu Village production team, 76 households participated in the nested market

in 2017, of whom 48 were registered poor households, including six who were policy targets. There were some differences in their annual income from the nested market, with income ranging from about one thousand RMB to more than ten thousand RMB. Next, participating farms produce different products in different seasons, as well as providing durable products such as meat, eggs, dried fruit and grains and rural specialties with no seasonal restrictions. At the same time, consumers' demand for food is constant all the year round. This stability and continuity of supply and demand enables transactions in the nested market to take place throughout the year, so that poor households can have monthly or even long-term sustainable incomes, thus ensuring the long-term stability of the poverty alleviation effect. Lastly, the prices of various products in the nested market are generally stable for a long time and do not undergo dramatic adjustments in line with the drastic fluctuations of the external market. In addition, farm production based on livelihood resources relies less on external inputs from the mainstream market, thus ensuring that poor households have a stable income and making the development of nested markets a very low-risk strategy for poverty alleviation.

Thirdly, the relationship between the countryside and the city, based as it is on complete interaction and trust, is harmonious and integrated. The nested market provides a platform for poor small farmers (producers) and urban residents (consumers) to understand each other, interact closely and build trust. In addition to their continued purchases of agricultural products, many consumers provide voluntary services such as coordinating the distribution of goods or establishing and maintaining the nested market network platforms, or spontaneously donating clothes, children's toys and books to poor families in the village. Many of the consumers visit villages and farmers' houses with family members and friends in their free time, and this brings the village extra income (from board and lodging). Moreover, the multifunctional role of agriculture and the village in educating people about the natural world enhances urban consumers' understanding of the special features of farm life and their trust in farm households, and thus encourages the development of rural tourism. Some consumers even help farmers who seek medical treatment in Beijing with medical information, registration and hospitalization; and at the same time, participating farmers sometimes bring them new honey or fresh fruits and vegetables, or pass on their regards to urban consumer families with whom they're connected.

Fourthly, rural construction is both environmental and cultural. Poverty alleviation through nested market farm production acts as a supplement to overall rural restoration; it not only directly promotes the sustainability of innovative measures taken to restore rural dynamism, protect the environment and encourage the farmers' own development, but also brings about a series of changes in the village. Survey results show that the influence of nested markets has significantly improved the villagers' awareness of safe food consumption. More and more farms in Liu Village have begun to grow indigenous crop species and rear native breeds of chickens and piglets in order to protect their animal and plant resources and their high quality local breeds. The production team has also invested part of its income in waste disposal and

cultural activities, thereby enhancing multiple forms of mutual assistance and cooperation in the village and improving the villagers' own organizational capacity.

## V. Conclusion and Discussion

This paper is based on an eight-year trial using nested market farm production to alleviate poverty in a different way from industrial poverty alleviation. We present a practical exploration and theoretical reflection on poverty alleviation using small-farm production and rural development. The trial took as its starting point the livelihood resources of poor small-farm households; took as its "industry" their production of healthy agricultural products and local food specialties; took as its exit point ordinary urban consumers' demand for healthy food; and took as the organizational form of transaction and interaction the nested market, with its distance from the mainstream market and its high level of trust. Nested market small-farm poverty alleviation, which involves the joint participation of both poverty-stricken farmers and the urban population, can become a highly feasible and long-term stable means of alleviating poverty through sustainable production. Its feasibility stems from the fact that food production is based on the various livelihood resources already owned by poor households and their enduring practice of small-scale farming, while its stability comes from social networks and the mutual trust or social capital established between relevant actors such as rural producers and urban consumers. Nested market small-farm poverty alleviation can successfully transform small-farm households' existing livelihood resources and social capital into livelihood income for poor households. That income may not be huge, but it is of vital importance for poor families as it is low-risk, stable and reliable and is well placed to bridge the gap between the present income of the poor and the poverty line, thus achieving targeted poverty alleviation. It should be noted that the exploration of poverty alleviation through nested market small-farm production presented in this paper is simply a different kind of approach from industrial-type poverty alleviation; it is not the only way. This approach is closely related to the social and material basis of different localities. Nested markets will have differences in agriculture, infrastructure, community culture and human resources, and these will produce different developmental spaces and poverty alleviation effects. Therefore, we should not simply draw on one particular model, but should choose the most suitable means of poverty alleviation on the basis of the specific situation of different places.

At the same time, poverty alleviation undertakings are not smooth-running and perfect in practice, and this is also true of poverty alleviation through nested market farm production. For example, at the macro-level, this approach has to face the global environment of commodity markets. How to ensure that it does not deviate from the value norms of poverty alleviation and rural development, how to build a sharing mechanism in the nested market community, and how to improve the ability of organizers will be long-term challenges. At

the micro-level, eight years of practice shows that it takes a long time for producers and consumers to form a shared framework of value norms and standards. In the course of this process, various discontinuities may well emerge. In addition, some technical problems and institutional challenges arise in terms of producer and consumer organization, product quality assurance, distribution, etc. In these areas, the government and all sectors of society can provide some assistance to creating greater vitality and space for the development of these markets and poverty alleviation measures.

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