

A Rural Institutional Platform Mobilizes Communities to Become Effective Partners in Agricultural Innovation in Andhra Pradesh

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SYNOPSIS

Community organization in the form of small self-help groups and the federation of these grassroots institutions at higher levels have created support structure that enables the rural poor in Andhra Pradesh to identify workable strategies to meet their needs—in other words, to innovate. Each tier in the organization of self-help groups functions as a financial intermediary and provides specialized services to members and other stakeholder groups in a variety of sectors. Through this rural institutional platform, community members have identified, adapted, used, and spread environmentally friendly agricultural practices, obtained credit, invested in productive assets, and improved their food security and health, among other benefits. Lessons from this experience highlight the importance of developing local institutions with local people (the local commitment and relevance makes them more likely to innovate successfully) and of organizing at higher levels (where farmers gain a collective voice to empower themselves). These institutions of the poor plan, manage, monitor, and scale up new initiatives and build social capital at much lower transaction costs and with much greater purposefulness than is possible through more traditional forms of organization, in which the rural poor are more often at the periphery than the center of service provision and innovation.

CONTEXT

Organizing large numbers of poor people around economic activities and mobilizing their combined assets until they collectively achieve a scale of magnitude sufficient to attract the interest of investors and service providers have a number of precedents—most immediately in community-

driven development programs in Bolivia and Northeast Brazil beginning in the late 1980s. In the late 1990s, India applied these principles in a unique way, mobilizing and federating poor agricultural communities to access credit, markets, and services on better terms. The southern state of Andhra Pradesh, where costly and unsustainable agricultural production practices were creating unmanageable levels of debt (box 1.28), quickly established itself as a pioneer of this approach.

PROGRAM OBJECTIVES AND DESCRIPTION

The Society for the Elimination of Rural Poverty (SERP), an autonomous body established by the Government of Andhra Pradesh, implements the Andhra Pradesh Rural Poverty Program.¹ Under this program, SERP works in communities to mobilize self-help groups (SHGs), each with about 10–15 members (such as poor women and/or farmers), who engage in collective saving, lending, and other activities that enable them to build an asset base. As shown in figure 1.1, each tier in the organization of SHGs functions as a financial intermediary and provides specialized services to members (and other stakeholder groups) in a variety of sectors. The SHGs federate into village organizations (VOs), and each VO manages a capital fund, from which it provides loans to constituent SHGs. The VOs organize into subdistrict federations, which access commercial credit to lend to VOs, and subdistrict federations organize into very large district federations. This platform of federated institutions brings economies of scale and scope that allow community members to build assets, smooth consumption, access services and safety nets, and invest in livelihoods to raise themselves out of poverty.

Andhra Pradesh is one of India's major producers of rice, cotton, groundnuts, and lentils. Agriculture accounts for 25 percent of GDP and 60 percent of employment. Most farmers in the state practice conventional, input-intensive farming that relies on periodic purchases of high-yielding seed, chemical pesticides, and chemical fertilizers. As much as 35 percent of cultivation costs go to pesticides and fertilizers alone, which is five percentage points above the national average (NSSO 2003). High production costs generate tremendous pressure to borrow heavily to pay for inputs and make ends meet. The average outstanding loan for farmers with small landholdings was more than twice the national average in 2005. Among farm households, 82 percent were in debt—the highest estimated prevalence of debt among farm households in India (NSSO 2005). Many farmers used their land as collateral, eventually becoming nothing more than tenant farmers or wage laborers on their own land. Owing to rising debt, land mortgages, and uncertain profit potential, planted area in Andhra Pradesh plummeted by more than 988,000 acres between 1980 and 2005, along with yields and agricultural growth.

Source: Authors.

(Cropping intensity during 1980–81 and 1990–91 was 1.16; gross cropped area declined from 12.5 million hectares in 1980–81 to 12.1 million hectares in 2004–05, according to the Government of Andhra Pradesh and Centre for Economic and Social Studies (2008).) The same period saw a reduction in government-provided public services that left farmers increasingly dependent on moneylenders and input traders. Traders became many farmers' sole source of credit, inputs, and related information. One result of this arrangement was that Andhra Pradesh farmers, ill-informed about the dangers of incorrect input use, applied far more pesticide than their counterparts in any other state in India: 0.82 kilograms per hectare annually, compared to the national average of 0.3 kilograms per hectare (Government of Andhra Pradesh, Irrigation and CAD Department 2007). Another result was that many traders and moneylenders entered into buyback agreements with farmers at below-market prices in return for their services (Ramanjaneyulu et al. n.d.). Purchasing inputs imposed such a financial burden on smallholders that conventional agriculture no longer offered a viable livelihood.

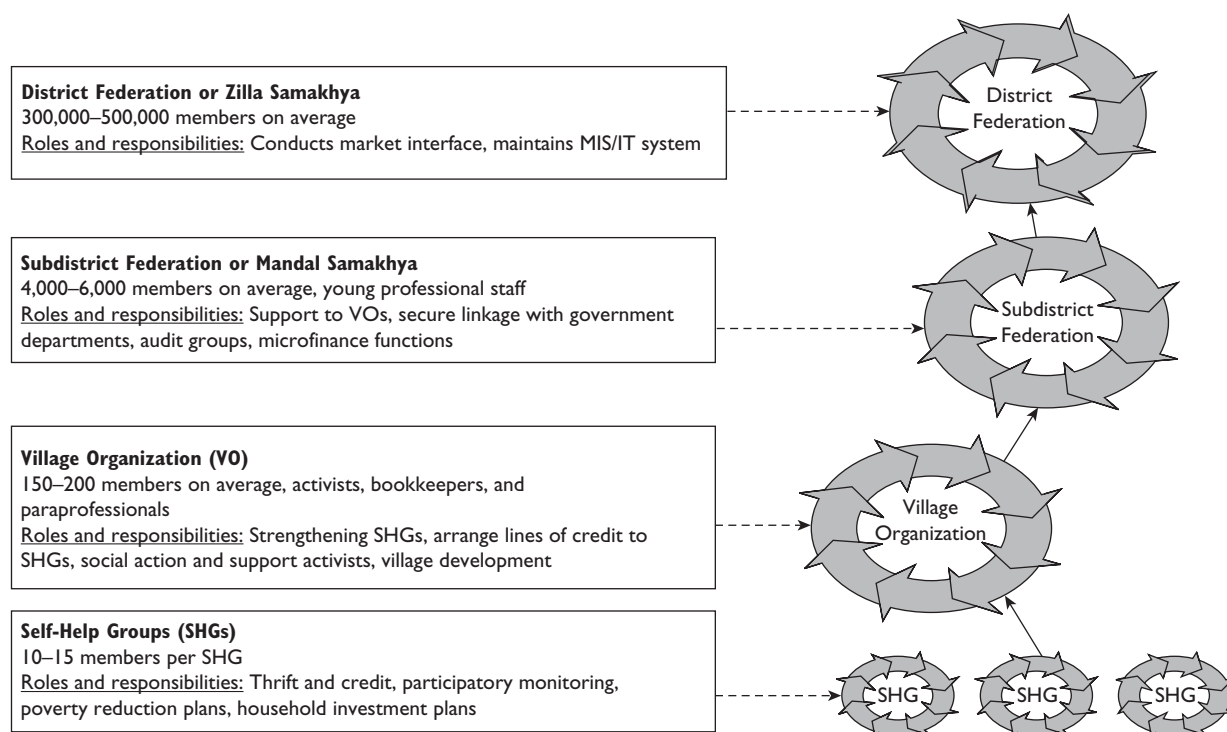
INNOVATIVE ELEMENTS

Andhra Pradesh has created an ecosystem of support in which a bottom-up planning process beginning at the household and community level and aggregating to higher levels enables the rural poor to identify needs and define workable solutions (in other words, to innovate). For instance, farming households develop a microcredit plan with the help of their VO and are linked to commercial banks through their subdistrict and district federations. Community groups also manage enterprises such as procurement centers for agricultural commodities and milk, which provide grading, quality control, aggregation, and value addition for products. At the subdistrict level, federations invest in enterprises such as chilling centers for milk to increase shelf life. Meanwhile, the district federation manages a number of support functions, including running an insurance scheme for members through a network of call centers. Together, these activities help farmers receive higher prices and foster an environment that favors profitable agriculture. This support along the value chain of

agriculture makes farming sustainable from an economic perspective. At higher levels, the federation organizes training, engages NGOs and government agencies for additional support, and monitors progress.

Farmers have also used this institutional platform to practice community-managed sustainable agriculture (CMSA), a knowledge-intensive alternative to input-intensive agriculture. Through their groups, farmers learn about the harmful effects of chemical pesticides and fertilizers on soil, water, and health. They gain access to farmer field schools, seed banks, equipment centers, finance, and procurement centers, all organized by their respective VOs. District and subdistrict federations market the CMSA produce. Through the district federations, farmers can use funds from the National Rural Employment Guarantee Scheme, a social safety net ensuring every rural poor household has at least 100 days of paid work each year, to pay for on-farm improvements for sustainable agriculture. Examples include transplanting tank silt to farms, leveling land, or building structures to capture rainwater. In this way, a

Figure 1.1 The Institutional Model for Federated Self-Help Groups



Source: SERP and World Bank 2009.

safety net entitlement is linked to productive, income-generating activities conducted by community organizations. Largely owing to the effectiveness of the institutional platform (figure 1.2), poor and marginal farmers have developed a more successful livelihood strategy.

To improve food security, households belonging to SHGs identify the amount of food they can purchase with their own funds, the amounts obtained through the public safety net, and their remaining needs. The VO aggregates the information, ensures that each family gets the safety net to which it is entitled, and then purchases the rest of the food from the market in bulk. Households belonging to the SHG can then take a low-interest, long-term loan from the VO or SHG to purchase rice on terms they can afford, thereby smoothing their consumption.

BENEFITS AND IMPACTS OF ORGANIZING RURAL COMMUNITIES TO INNOVATE

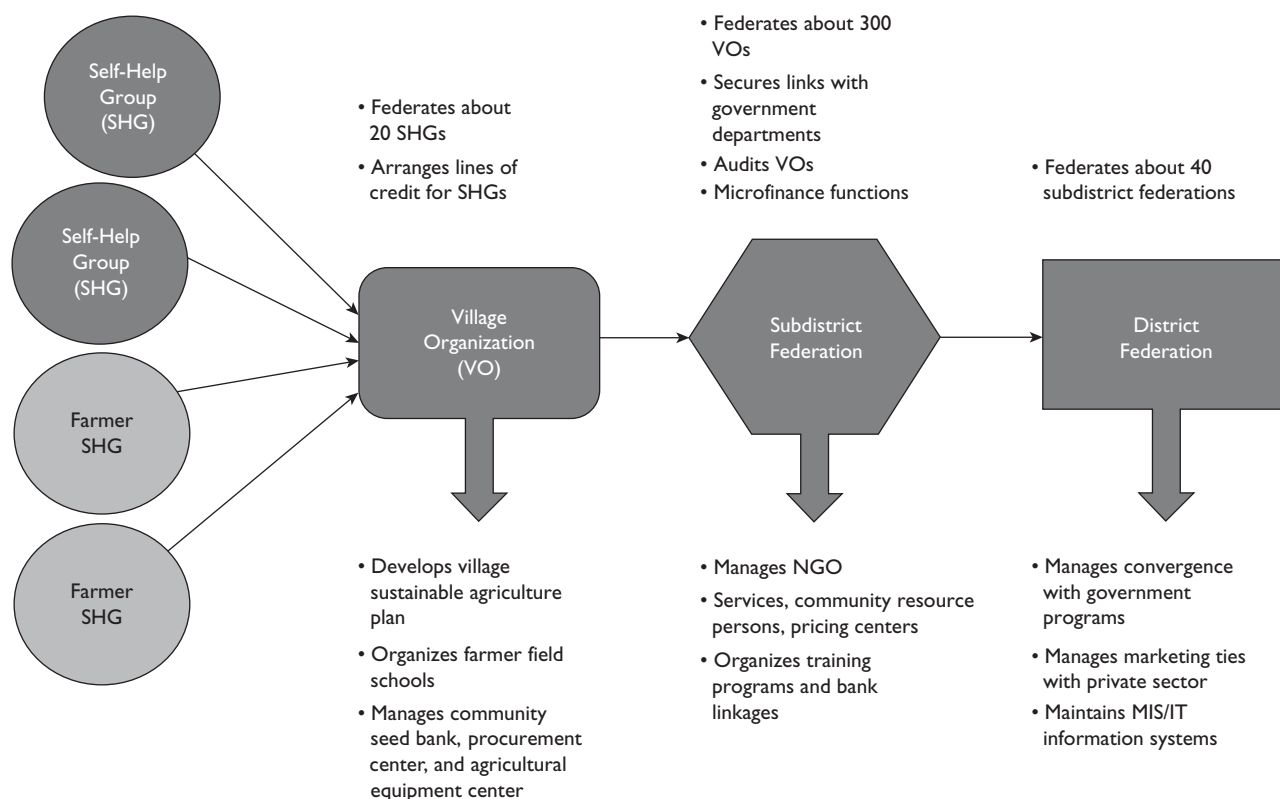
Through SERP and the rural institutional platform it provides, communities have organized to meet multiple needs.

As the discussion has indicated, the benefits of this organizational structure include improved food security as well as the accumulation of financial acumen, new agricultural knowledge and skills, and productive assets. In particular, the institutional platform's success in enabling communities to pursue alternatives to conventional agriculture has led the state government to call for the Agriculture Department's Agriculture Technology Management Agency (ATMA) to collaborate with the Rural Development Department's SERP to promote sustainable agriculture and move toward organic agriculture. SERP will train the ATMA staff to use the CMSA model; ATMA will then work with SHGs to popularize this low-cost, high-return type of agriculture. The hope is that it will yield benefits similar to those seen with CMSA (box 1.29).

LESSONS LEARNED AND ISSUES FOR WIDER APPLICATION

Experience with the rural institutional platform adopted in Andhra Pradesh indicates how the capacity to organize at

Figure 1.2 The Same Institutional Platform Provides Services to Develop Multiple Livelihood Strategies



Source: Authors.

Box 1.29 Benefits of Community Organization to Pursue More Sustainable Agricultural Practices in Andhra Pradesh

Savings and incomes increased. A survey of 141 farmers found that production costs were 33 percent lower under CMSA than conventional agriculture (US\$180 versus US\$280 per acre). The savings translate directly to increased incomes for farmers. For crops raised without pesticides and fertilizer, farmers command a premium of 14–33 percent. Even though CMSA produce is not yet certified organic, consumers (especially in urban retail markets) increasingly recognize the benefits of pesticide- and fertilizer-free food.

Yields remained stable and diversification increased. To track changes in paddy yields after farmers switched to CMSA, 400 farmers' fields in five districts were monitored closely. Yields remained the same, ranging from 1,900 kilograms per acre to 2,200 kilograms

per acre for paddy and rice. Although CMSA brings higher labor costs, farmers are meeting this challenge by working together to manage pests and increase soil fertility. Demonstrations of multicropping and intercropping alternatives are helping more small-scale and marginal farmers in Andhra Pradesh realize the benefits of diversification. Farmers on nearly 319,000 acres now plant one or two crops in addition to the main crop.

Communities obtained debt relief. In a survey of five districts, of 467 families who had mortgaged their farmland, 386 had paid off their debt and reclaimed their land within two years through the savings from CMSA. The social empowerment associated with getting their land back from moneylenders and

(Box continued on next page)

Box 1.29 Benefits of Community Organization to Pursue More Sustainable Agricultural Practices in Andhra Pradesh (continued)

farming on their own land is very significant for farmers, perhaps as important as the economic relief it provides.

Families increased their investments in productive assets and sustainable land and water management. Communities dug more than 10,000 composting pits and 1,200 farm ponds. Fertile tank silt has been applied to more than 13,000 acres of farmland. Lower production costs and higher net incomes have made farmers less risk averse. Primary surveys by SERP show that families are leasing additional land for cultivation, resulting in additional income for households. Farmers are also bringing fallow and government-assigned land under cultivation.

Communities saw greater business innovation and new livelihood opportunities. Villages have begun to benefit from jobs and enterprises catering to inputs for CMSA and by providing services such as quality control and procurement for CMSA produce. At least 2,000 jobs have been created in villages through shops that supply biopesticides, organic nutrients, seed, and

farm implements. About 5,400 small-scale and marginal farmers are generating additional income by operating vermi-composting units.

Food security improved. Data collected by SERP from 22,000 CMSA farmers in Khammam District show that household expenditures on food grains declined by half owing to higher yields of food grain crops and the introduction of a second crop. Families purchased 44 percent less food grain from the market.

Human and environmental health benefited. Farmers reported a noticeable drop in pesticide-related health problems. Women, who traditionally sprayed the crops—and suffered the effects—are now strong advocates of the new practices. In three districts, hospitalizations from pesticide poisoning declined by 40 percent, from 242 cases per year to 146 cases. Villages that completely stopped pesticide applications are benefiting from the elimination of pesticides from groundwater and soil. Insects and birds, no longer targeted by broad-spectrum pesticides, are returning to the fields.

Sources: Authors.

several levels fosters innovation and adaptation in the local context, with local people, and contributes to success on a larger scale as well:

- *Institutions (and their designers) matter.* Initiatives designed by the farmers who will participate in them carry real advantages over initiatives that outsiders might design for them. Many of these advantages relate to the fact that the people who plan and implement activities are the same people who benefit from them. Their ownership of the initiative greatly increases the likelihood that it will be sustainable. The social capital they cultivate and build upon in working together for common goals changes the rules of the game for farmers in relation to the market and the government. In organizing and mobilizing at higher levels of aggregation, farmers gain a collective voice and empower themselves, which is something that cannot realistically be done for them from the outside. Supporting their initiatives by investing in a process that over time comes to involve millions of rural people, especially women, has helped
- to achieve a large-scale transformation in smallholder farming. These institutions of the poor plan, manage, monitor, and scale up new initiatives at much lower transaction costs and with much greater purposefulness than is otherwise possible. Building social capital is a necessary investment in transforming human, natural, and economic capital.
- *Small-scale and marginal farmers need a creative approach to the delivery of agricultural extension services.* Practicing farmers should be the central stakeholders contributing to an extension system. Where the system has failed to meet their needs, they should be enlisted as active extension agents. Their presence in the village makes them easily accessible and more familiar with local conditions and challenges. For example, the use of successful CMSA farmers as community resource persons was critical to building and scaling up the program. The experience of the resource persons gives their messages greater credibility among farmers. NGOs can facilitate extension-related services, but eventually the community resource persons

assume this role, as they are better equipped to understand farmers' needs.

- *Farmers can experiment and develop technologies in their fields and test innovations through their local field schools.* Once technologies are proven, they can be standardized for a wider audience through training workshops. In CMSA, the menu of technology options continues to grow, and farmers no longer have to rely on the limited options available through external research and other sources in the market. Farmers should be encouraged to

look at the cost-effectiveness of options and not focus only on yields.

CMSA has already been taken to the state of Bihar with considerable success, and it will be further scaled up through India's National Rural Livelihoods Mission. The achievements in Andhra Pradesh were very much the result of tailoring solutions specifically to local contexts, and replicating those achievements elsewhere will require purposeful adaptation to local conditions.