

ZIMBABWE'S AGRICULTURAL REVOLUTION REVISITED

Edited By:

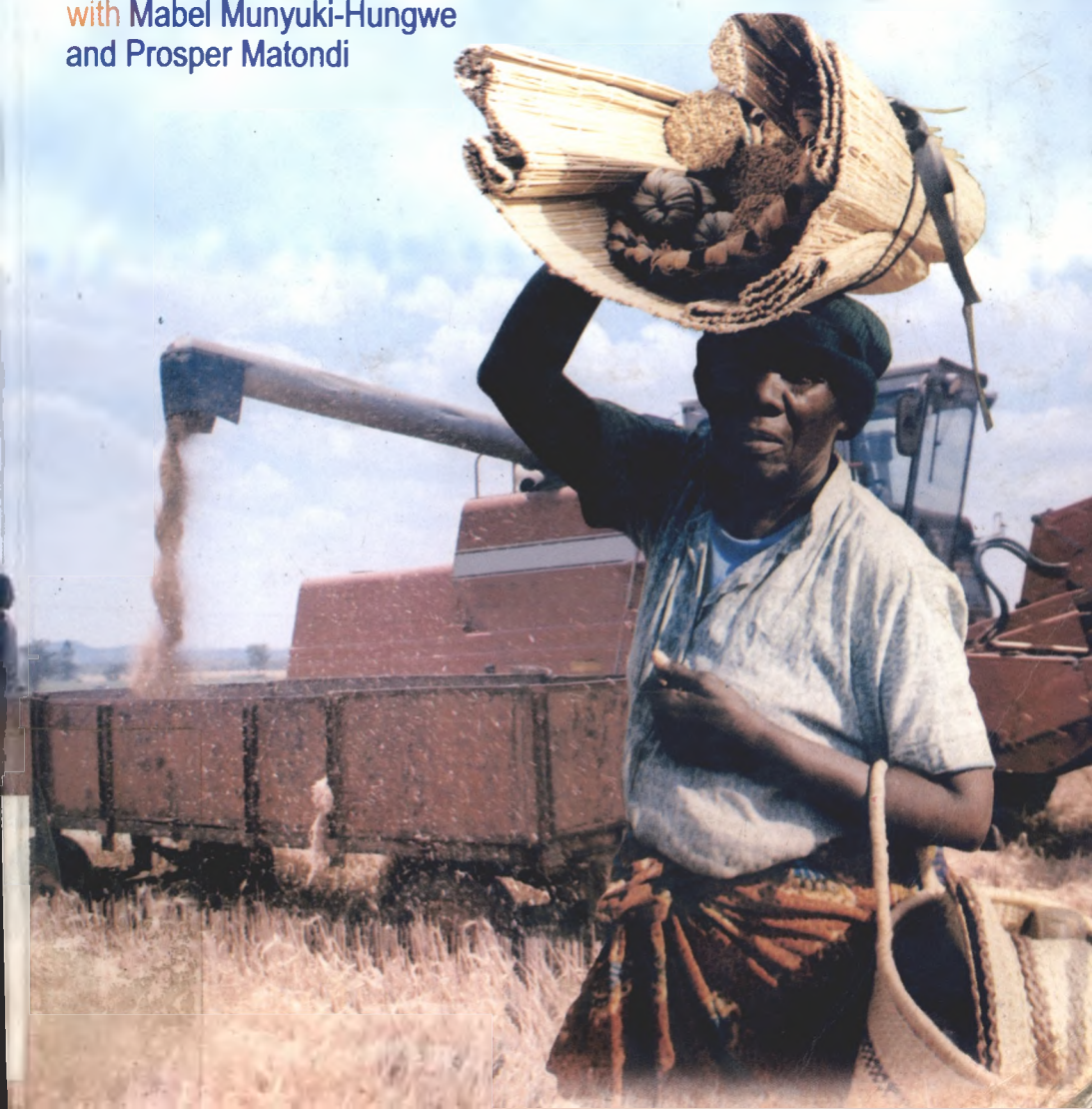
Mandivamba Rukuni,

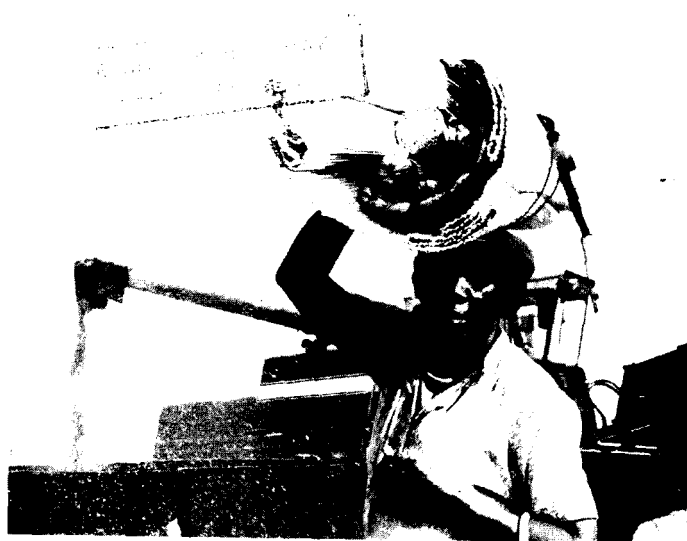
Patrick Tawonezvi,

Carl Eicher

with Mabel Munyuki-Hungwe

and Prosper Matondi





Mandivamba Rukuni, Patrick Tawonezvi
and Carl Eicher
with Mabel Munyuki-Hungwe
and Prosper Matondi

Zimbabwe
Publications

ISBN 0-86924-141-9

Published by University of Zimbabwe Publications, P. O. Box MP 167,
Mt. Pleasant, Harare, Zimbabwe

First printed: 2006

Publishing consultant: Margo Bedingfield,

Cover and inside photographs supplied by Manfred Takaendesa, Centre for Rural
Development

© Editors – Mandivamba Rukuni, Patrick Tawonezwi and Carl Eicher with
Mabel Munyuki-Hungwe and Prosper Matondi, 2006

© Individual contributors, 2006

Printed by Sable Press Private Limited

Reproduction of this publication for educational or other non-commercial
purposes is authorized without prior written permission from the copyright
holder provided the source is fully acknowledged. Reproduction of the
publication for resale or other commercial purposes is prohibited without prior
permission of the copyright holder.

30 Women and agriculture	631
<i>Martha J. Chinyemba, Olivia N. Muchena and Marcus B. K. Hakutangwi</i>	
Common assumptions about women and agriculture	633
Historical perspective	636
Women and agriculture since independence	638
Women and rural livelihoods	639
Issues for consideration in the next decade	642
Conclusion	646
 31 Indigenous knowledge, African voices and transformation of southern	
African agriculture	651
<i>Malcolm Blackie</i>	
Escape from despair	651
Destruction of smallholder agriculture and loss of indigenous knowledge	652
Tapping indigenous capacity	653
The Zimbabwe soyabean promotion taskforce	654
The Malawi 'starter pack' programme	656
Zimbabwe smallholder cotton	660
Making fertilizer profitable for Zimbabwe smallholders	663
Conclusion	666
 32 Crafting institutional innovations for smallholder agriculture: lessons	
from the IDEAA programme	671
<i>Carroll T. Khombe, Mabel N. Munyuki-Hungwe and Precious Tirivanhu</i>	
The rationale of the Initiative for Development and Equity in African	
Agriculture (IDEAA) regional programme	673
Programme strategies	677
Lessons from the first phase of programme implementation	682
Redesign and scaling up the second phase of the IDEAA programme	684
Conclusion	691
 33 Synthesis	695
<i>Carl K. Eicher, Patrick Tawonezyi and Mandivamba Rukuni</i>	
The first agricultural revolution: commercial farmers – 1950 to 1980	697
The second agricultural revolution: smallholders – 1980 to 1990	698
The agrarian crisis of the 1990s	700
Getting agriculture moving again: seven challenges	703
Summary	711
 List of contributors	716
Index	718



Crafting institutional innovations for smallholder agriculture: lessons from the IDEAA programme

*Carroll T. Khombe, Mabel N. Munyuki-Hungwe
and Precious Tirivanhu*

About two-thirds of the people in Zimbabwe live in rural areas and most are smallholder farmers whose livelihoods are tied to subsistence agriculture and non-agricultural activities. Until 2000 Zimbabwe had a highly dualistic agricultural sector as a result of pre-independence policies and a white-driven legal framework that sought to buttress the white large-scale commercial farming sector against the black smallholder sector. The contrast between a dynamic, well organized and supported commercial farming sector (located in areas of fertile soils with high rainfall) and smallholder farming areas was evident, yet both production systems existed under the same policy and institutional environment. Without question, many of the past policies were conducive to large-scale agricultural operations with little support to smallholder agriculture (Box 32.1). The agricultural finance policy at independence was meant to encourage the entrance of smallholder farmers into agriculture but instead, due to problems of collateral and punitive high interest rates, fewer farmers accessed these loans (Chimedza, 1994; Mano, 2000). Many of the agricultural policies crafted in the early 1980s were formulated and implemented through a highly centralized process without meaningful input from smallholder farmers who had little information compared to their large-scale counterparts. Delgado (1998) points out that this poor market information resulted in poor, non-functional, unreliable input and output markets and created high transaction costs for farmers. Price controls, such as those on maize, were made in favour of urban consumers but tended to harm the maize producers who were predominately smallholders.

The major factors affecting the performance of agriculture in Zimbabwe can be grouped into five categories, namely: policy, natural environment, institutions, technology and infrastructure. Most areas servicing smallholder farmers are inaccessible by road during the rainy season making it difficult for produce to reach markets timeously. Smallholder farmers cannot access the rail service because, unlike large-scale commercial farmers, they are not situated on the line of rail. Agricultural input and product markets in Africa are typically incomplete, endowed with insufficient quality infrastructure and support services such as information and communication (Dione, 2004). Most of the

Box 32.1 Examples of policies that negatively affected the development of the smallholder agricultural sector

Economic structural adjustment programme abolishes marketing parastatals

From the late 1980s, the positive growth of smallholder agriculture proved to be unsustainable. A ballooning foreign aid debt, high fiscal expenditure and loss-making parastatals forced government to adopt the economic structural adjustment programme (Economic Development Institute, 1993; Takavarasha, 1993). The adoption of the economic structural adjustment programme meant the restructuring of marketing boards such as the Cotton Company and the Grain Marketing Board. These institutions brought markets to smallholder farmers' doorsteps but, as a result of economic structural adjustment, market services deteriorated for smallholder farmers and made private middle traders richer at their expense (see Muir-Leresche and Muchopa, chapter 13). Agricultural policy in Zimbabwe has historically been characterized largely by the focus on subsidizing surplus grain producers (Rukuni, *et al.*, 1990). This approach ignored a significant proportion of smallholder farmers who sold little or no grain. These constraints needed to be addressed to unleash the potential contribution of smallholder agriculture to the national economy, employment and income generation.

The Water Act of 1976 did not promote development of irrigation programmes in the smallholder sector

From independence up to 1990, government did not succeed in structurally changing the ownership and control of land and water in favour of smallholder farmers. Government did not change the Water Act No. 41 of 1976, which favoured established large-scale commercial farmers. Due to restrictions, the national farm irrigation fund established by government disbursed only Z\$50,000 to smallholder farmers as compared to Z\$6 million that went to large-scale commercial farmers between 1985 and 1990 (Rukuni and Makadho, 1994; Makamure, *et al.*, 2001).

The inequitable land ownership structure

The fast track land reform programme that was initiated after 2000 (Moyo, chapter 6 and Makhado, chapter 7) may have gone a long way towards addressing the imbalances in landholdings that were prevalent immediately after independence and may have attempted to create a conducive environment for the commercialization of smallholder agriculture.

agricultural institutions servicing smallholder producers are managed centrally from Harare with few satellite offices in other cities. In the 1980s and 1990s smallholder farmers from all over the country had to travel to Harare to cash produce cheques from the Grain Marketing Board as payment was effected centrally. Most of the agricultural technologies developed are not appropriate to the users, especially women, who comprise more than 80 per cent of the labour force (Dione, 2004). Many noble policies and reform programmes have failed to achieve meaningful impact because of institutional failure and poor implementation strategies (Eicher, 2004). Most smallholder farmers are dependent on rainfed agriculture, with limited access to irrigation. Most of these farms are located in marginal areas that receive erratic rainfall.

Since Zimbabwe attained independence in 1980, agricultural institutions have been in transition from supporting colonial oriented large-scale production models to supporting the majority of marginalized resource-poor smallholder farmers (Rukuni, Blackie and Eicher, 1998). Extension services are hardly accountable to the farmers that they serve. Many are still delivering stale knowledge and technologies and are unable to forge new business-oriented partnerships with emerging smallholder farmers (Rukuni, 1999). The agricultural sector, especially the smallholder sector, lacks effective delivery institutions of research, extension and credit. These institutions were designed by colonial governments for the few white settler farmers. At independence, the same services were expanded to cover all farmers culminating in severe institutional design faults which became clearer when budget allocations to agriculture and extension services were cut. The extension system failed to reduce the farmer to extension officer ratio below 1:800. Whilst this impacted negatively on smallholder farmers, the large-scale farmers had developed a more responsive in-house private extension service (Mano, 2000). Moreover, government research services and universities have been accused of not focusing research efforts on smallholder issues. Most of the research institutions were not equipped to conduct applied research in communal farming areas. This research has been mostly focused on self-fulfilment theory rather than on furthering smallholder agriculture in a practical manner (Mano, 2000).

The rationale of the Initiative for Development and Equity in African Agriculture (IDEAA) regional programme

The Initiative for Development and Equity in African Agriculture (IDEAA) was established in 1997 to assist smallholder farmers in southern Africa. The programme was funded by the Rockefeller Foundation and the W. K. Kellogg Foundation and was active in Botswana, Lesotho, Mozambique, Malawi, South Africa, Swaziland and Zimbabwe. The overall objective of IDEAA was to im-

prove the productivity of smallholder farmers in southern Africa. IDEAA identified weaknesses in agricultural service delivery institutions²⁵⁵ as a constraint to increased agricultural productivity. The premise of the IDEAA regional programme was that smallholder farmers could only increase productivity when service-providing institutions became more innovative and responded appropriately to this clientele group.

For instance, the government of Zimbabwe in the post-independence era invested resources in support for smallholder agriculture through the provision of extension, marketing and credit. However, these investments did not yield the expected results as many smallholder farmers became less productive and poorer in real terms in the 1980s and 1990s. Many of the rural households were food insecure and lacked some of the basic requirements of livelihood security (Mabeza-Chimedza, 1999). The IDEAA programme, based in Zimbabwe, recognized that most institutions servicing smallholder agriculture were designed to service large-scale commercial farming and that transforming these institutions and the prevailing policy environment was a prerequisite for the development of smallholder agriculture.

The IDEAA regional programme

At its inception, the major objective of the IDEAA programme was to contribute towards the commercialization of smallholder agriculture in the southern African region. The programme expected to make an impact in certain areas by carrying out the following:

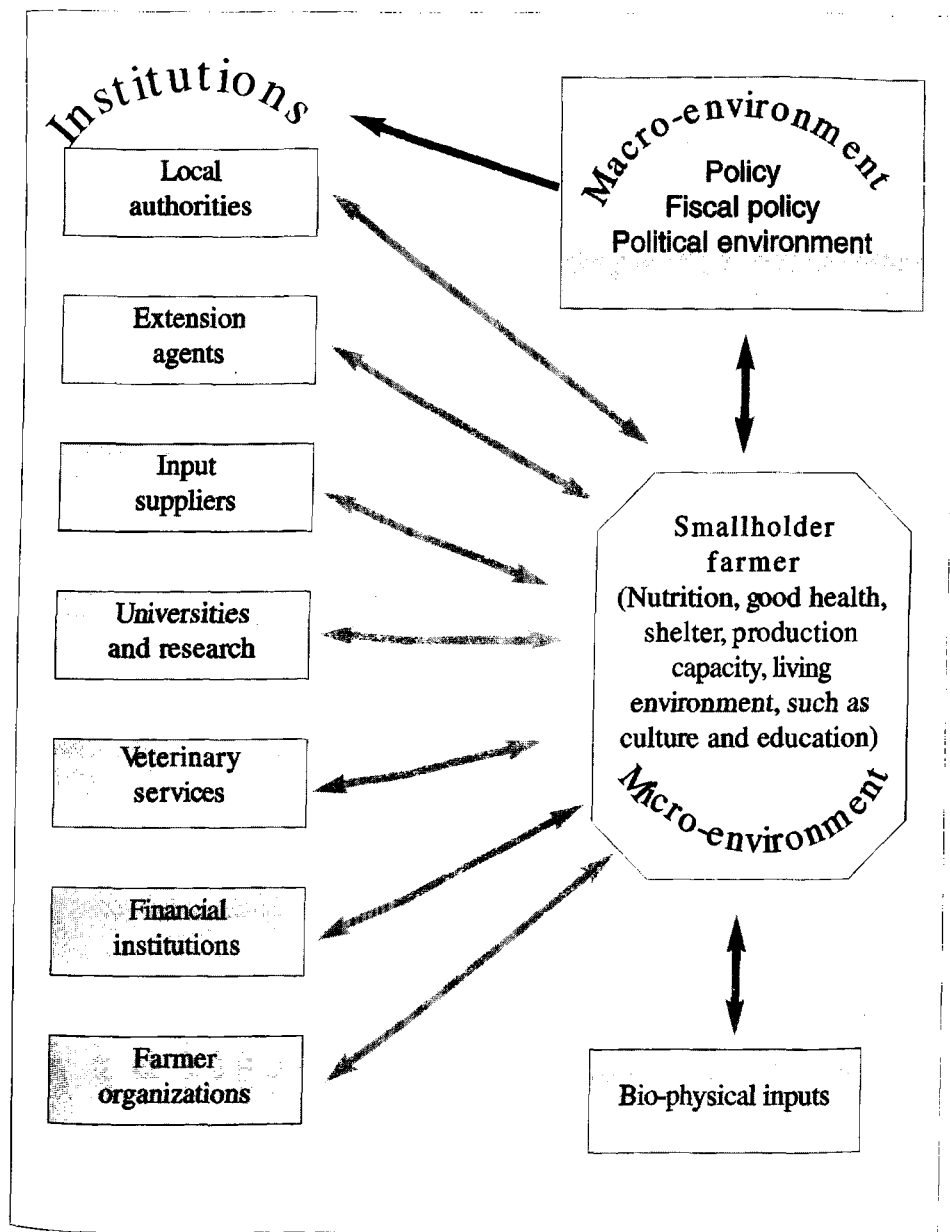
- Transforming service delivery institutions to become more responsive to the needs of smallholders;
- Promoting integrated service delivery to smallholder farmers;
- Increasing the productivity and sustainability of smallholder farming;
- Empowering smallholder farmers, particularly women, to demand and effectively use service support institutions;
- Facilitating the transformation of the policy and regulatory environments in which smallholder farmers operate.

Figure 32.1 presents IDEAA's conceptual view of the interactions between the farmer and the operational environment. The components of the model were:

- The farmers' micro-environment that is made up of livelihood circumstances;
- Service providers that include institutions which actively provide or can

²⁵⁵ North (1994) defines institutions as sets of rules that are recognized and frequently followed by members of the community and that impose constraints on the actions of individual members. They can be organizations or sets of rules within organizations.

Figure 32.1 IDEAA's conceptual view of the interactions between the farmer and the operational environment



- potentially provide services to support agricultural production;
- Biophysical inputs, such as natural resources (land, water and vegetation) that the farmer uses together with inputs from the service providers to engage in agricultural production;
- The macro-environment such as the policy, political and economic regimes that prevail in the country.

The IDEAA programme recognized that a majority of smallholder farmers were not adequately or successfully demanding (or using) the services provided by commodity chain service delivery institutions. This poor interaction between the service institutions and the farmers' micro-environment had resulted in smallholder farmers being trapped in a vicious cycle of low production and subsequent poverty (Semwayo, 2000). The philosophy behind the IDEAA initiative was that demand-driven service provision and farmer empowerment could help improve smallholder agricultural productivity. This transformation was based on markets, the macro-economy, technology and human resources.²⁵⁶

During the first phase from 1997 to 2001, the IDEAA programme worked with selected communities that were engaged in commercial agricultural activities and had identified relevant institutional and policy reforms. In Zimbabwe, after comprehensive baseline surveys and scoping, the programme team identified two newly established community projects on smallholder dairy production in Sadza and Wedza districts. The team dealt with the challenges of facilitating the following innovations:

- 1 Breeding stations that would produce adapted crossbred dairy cattle to supply high yielding animals to the smallholder dairy sector;
- 2 Fodder banks and pastures to provide adequate feed for high yielding dairy breeds in communal areas;
- 3 Introducing a system of cultivating wetlands called *ngwarati* which would allow the production of field crops and livestock fodder throughout the year, under dryland farming conditions;
- 4 Milk collection and processing plants to value-add the raw milk produced by smallholder farmers;
- 5 Marketing milk and its products.

²⁵⁶ Institutional transformation is about changing the way of doing business; crafting new rules of doing business and creating linkages between organizations, disciplines, policy makers and social groups that foster the development of smallholder agriculture (Mabeza-Chimedza, 1999). Staatz (1994) notes that agricultural transformation occurs when agriculture: becomes increasingly reliant on output and input markets; fully integrates with other sectors of the economy; has local producers incorporating modern scientific knowledge with realization that change requires important investments in human capital development and the creation of public and private resources for development of complementary infrastructure necessary to draw full advantage from these new sources of growth.

Programme strategies

The following strategies were used by the programme to achieve its goals:

- The fellowship programme;
- Promoting integrated service delivery;
- Community advocacy;
- Improving access to finance;
- Introducing innovative technologies to accelerate commercialization;
- Addressing policies that restricted the development of smallholder agriculture.

The fellowship programme

The fellowship programme allocated fellowships to individuals in five agricultural service delivery institutions. The fellows were sensitized on development issues, constraints on smallholder agriculture and leadership skills to spearhead the improvement of the delivery of services by their host institutions. The long-term goal of the fellowship programme was the development of a critical mass of change agents within each key institution to bring about a transformation of service delivery. These targeted institutions included: strategic departments within the ministries of agriculture (especially planning, marketing, research and extension), financial institutions, non-governmental organizations involved in rural development and universities (agriculture and social studies departments). The fellows as change agents worked in multidisciplinary teams²⁵⁷ within a selected community that engaged in an agricultural activity. In Zimbabwe the change agents identified communities in Wedza and Sadza districts that were in the process of launching commercial smallholder dairy production. They worked with project communities to diagnose and identify problems of service delivery by their host institutions and subsequently influenced their host institutions to develop innovative ways of providing improved services to the project communities. The following case study illustrates how an IDEAA fellow introduced mini-libraries within the farming communities in Sadza and Wedza (Mabika, 2000).

An IDEAA fellow who was an extension officer recognized that the farmers in Wedza and Sadza did not receive pertinent information on dairy production, the growing of rice, managing wetlands, prices of farm inputs and available farmer assistance initiatives (from government and non-governmental or-

²⁵⁷ Service provision has tended to be sectorial, with institutions working independently and not forming linkages or synergies with other institutions in the same commodity chain or sector. Consequently there has been duplication and less efficient delivery of services. The multidisciplinary teams of fellows were an attempt to ensure integrated delivery of services.

ganizations). He motivated his project team (consisting of four other fellows, namely, an animal breeder, an agronomist, an economist and a rural development specialist) to establish portable mini-libraries within the community. The mini-libraries comprised information leaflets that were stored in box files and could be borrowed by farmers for short periods. IDEAA fellows and specialists within service-providing institutions contributed information and literature in the local language. This reading material was kept by the chairpersons of the farmer groups (Box 32.2) and the group members (about ten members per group) found time to read and discuss the information provided. Community members who could not read or write were assisted to read by their schoolgoing children. Information that was in high demand included prices of inputs, discounts offered, transport charges, interest rates and commodity exchange prices. By the end of the first phase of programme implementation, ten mini-libraries had been established within the project communities and about 50 individuals had accessed the information.

Box 32.2 Smallholder dairy farmers in Wedza form the Wedza Dairy Association to facilitate the processing and marketing of milk products

Smallholder dairy farmers in Wedza district were frustrated by the small milk yields, and lack of processing facilities and markets for their raw milk. Through the facilitation of the Dairy Development Programme (that was managed by an IDEAA fellow), 97 farmers organized themselves into the Wedza Dairy Association to use economies of scale and collective action to do the following:

- Establish a milk processing plant that produced and packaged whole milk, pasteurized milk, sour milk and yoghurt;
- Market milk in Wedza and Harare;
- Procure inputs, credit and training;
- Share information among members.

About 20 members delivered milk daily to the processing plant and payment was made at the end of the month. Profits were shared every December in proportion to the total volume of milk delivered by each member. The Wedza Dairy Association is led by a committee of seven members (of which six are women) that has subcommittees responsible for marketing, acquisition of replacement cows and training (including knowledge dissemination).

The fellows also facilitated the upgrading of the local low-yielding indigenous breeds (Mashona breed) by introducing high-yielding Holstein cows and initiating crossbreeding programmes. Farmers were taught how to grow fodder banks and make silage. Improved forages such as banna grass and soyabeans were introduced to communities to provide adequate feed for the high-yielding cattle breeds.

Promoting integrated service delivery

One of the major concerns related to efficient service delivery was the compartmentalization of commodity chain institutions. The lack of coordination and synergy between extension, research, financial and marketing institutions has been the major cause for the numerous reported cases of institutional failure or inadequacies in development programmes for smallholder agriculture. The IDEAA programme philosophy was that the provision of integrated services to farmers would provide sustainable solutions and ensure an efficient use of scarce resources. The following case study demonstrates how the IDEAA fellows used institutional synergies to improve the delivery of services to the dairy farmers in the two project sites.

Through the IDEAA team, fellows from the Dairy Development Programme, the government livestock research station, the Agronomy Institute, the extension department and the Ministry of Agriculture policy division provided a full service package to the Wedza dairy farmers during the three years of programme implementation. The team member from the extension department conducted a needs assessment of the dairy programme farmers using participatory processes. The team member from the Dairy Development Programme was brought in to provide technical and management support. The team member from the research station facilitated the provision of improved dairy cows whilst the agronomist facilitated the establishment of fodder banks. The team member from the Ministry of Agriculture provided the interface between the community and the policy makers within the ministry. This integrated delivery of services not only responded to the demands of farmers but also allowed specialist institutions to provide appropriate technical support.

Community advocacy

Smallholder farmers, through their farming unions such as the Zimbabwe Farmers' Union, and local commodity groups, such as the Wedza Dairy Association, were mobilized to advocate for improved service delivery by agricultural institutions. IDEAA change agents and partners worked with farming communities at the pilot sites, farmer groups and unions to build their capacity to advocate for the transformation of service delivery institutions. The programme also initiated activities to develop farming communities, groups and unions to demand and use (or receive) services from agricultural institutions.

Improving access to finance

The IDEAA programme team crafted a credit scheme with the Commercial Bank of Zimbabwe through which dairy farmers in Sadza and Wedza would purchase in-calf Holstein-Friesian cows from commercial dairy farms. The team recognized that most of the farmers were afraid to engage in the credit scheme because they felt they could lose their properties in the event that they failed to pay back the bank loan. Most commercial banks also considered funding these farmers but felt that they were high-risk clients who required training in savings and credit management. The IDEAA team sought the assistance of a local non-governmental organization called the Self Help Development Foundation to mobilize and train farmers in savings and credit management. The Self Help Development Foundation also agreed to provide monitoring and management services to the Sadza and Wedza dairy credit facility. Smallholder farmers were supposed to deposit at least an amount equivalent to 20 per cent of what they wanted to borrow. In this case it was 20 per cent of the cost of a dairy cow. Forty farmers opened accounts but only 16 managed to purchase the dairy cows. The 16 farmers received loans of Z\$7,000 (US\$250) each from the Commercial Bank of Zimbabwe. Out of 16 farmers, 15 had paid up their loans by the end of the first phase of the programme in 2000.

Introducing an innovative technology to accelerate commercialization

The programme promoted the use of innovative technologies within the project communities, such as the cultivation of wetlands (*dambos*), crossbreeding of cattle, processing milk, making silage and establishing fodder banks. Introduction of these simple appropriate technologies through participatory processes helped to open up new income streams (table 32.1) for the project participants. Through intelligent borrowing, they were even adopted by surrounding communities.

The dairy projects in Wedza and Sadza were previously frustrated by low milk yields resulting from the use of indigenous (local) breeds and poor grazing. The IDEAA programme facilitated the supply of improved dairy breeds (Holstein-Friesian and Red Dane) and the introduction of these dairy breeds, complemented with the development of fodder banks, increased milk yields by more than 30 per cent. The IDEAA team also assisted farmers in purchasing 30 crossbred dairy cows from Henderson Research Station in Mazowe and Grasslands Research Station in Marondera. The community crafted the 'pass the calf scheme' to allow poorer households to acquire improved animals. The introduction of environmentally friendly methods of cultivating wetlands converted a previously underused land resource into very productive cropping land producing green fodder, vegetables, maize, rice, beans and wheat. Produce from the project was sold to local communities, rural hospitals and boarding schools.

Table 32.1: Average production and income trends²⁵⁸ of 20 dairy farmers in the Wedza Dairy Association

Year	No. of indigenous cattle being milked (\pm sd*)	No. of dairy (pure & cross) being milked (\pm sd)	Average no. of milking cows	Average daily yield (litres \pm sd)	Average daily takings ²⁵⁹ (Z\$ \pm sd)
1989	100 \pm 15	40 \pm 2	140	900 \pm 35	720000 \pm 28000
1990	98 \pm 15	40 \pm 2	138	890 \pm 40	712000 \pm 32000
2000	80 \pm 20	63 \pm 2	143	1030 \pm 38	824000 \pm 30400
2001	75 \pm 17	65 \pm 2	140	1025 \pm 42	820000 \pm 33600
2002	77 \pm 20	68 \pm 2	145	1065 \pm 40	852000 \pm 3200

*sd = standard deviation

Addressing policies that restricted the development of smallholder agriculture

The interaction of IDEAA change agents and the smallholder dairy farmers of Wedza and Sadza highlighted policies that restricted the development of smallholder agriculture. Although very limited policy research and analysis was carried out during the three-year project period, the case study below narrates how the successful demonstration of the sustainable cultivation of wetlands resulted in the interrogation of the Natural Resources Act²⁶⁰ (1942).

The Maruta wetland in the IDEAA project site of Wedza had for a long time been limited to providing winter grazing to livestock and could not be used during the six months of the wet season because it was waterlogged. Fragile environments such as wetlands (*dambos*) were protected from degradation by the former Natural Resources Act that forbade their cultivation. The uncontrolled cultivation of these fragile environments resulted in erosion and lowering or disappearance of the water table, thereby contributing to the destruction

²⁵⁸ The recorded increase in average yield and incomes is mainly due to the increased contribution of improved dairy cattle to the milking herd and the resulting decrease in the numbers of low yielding indigenous cattle.

²⁵⁹ Milk prices were set at Z\$800 per litre which was the average price for 2001 to avoid confounding effects of the rate of price inflation. Inflation rate rose from 12 per cent in 1989 to 600 per cent in 2002.

²⁶⁰ The Natural Resources Act (1942) was replaced by the Environmental Management Act (2002) that requires the undertaking of environmental impact assessment studies before any fragile environment can be used for economic purposes. Experiences of using wetlands for economic use, as evidenced by the Wedza project and experiences from elsewhere, will support the increased use of these wetlands.

of river catchment areas. The IDEAA programme introduced a system of cultivating wetlands called *ngwarati*²⁶¹ which allowed the cultivation of this fragile ecosystem by constructing permanent ridges across the drainage flow, thus greatly reducing the amount of erosion and increasing waterholding in ridge troughs. In summer, cereals and legumes were successfully grown on the ridges and paddy rice was grown in the troughs. The residual moisture from this system was able to support a crop of winter wheat, leafy vegetables, beans and peas during dry seasons. The *ngwarati* system allowed the wetland to be used productively throughout the year. Livestock were fed from the high quality crop residues that were produced, including napier grass that was grown along the margins of the wetland. The sustainable use of the Maruta wetland attracted the attention of many policy makers and environmentalists. Agriculturists believe that this sustainable use of the wetland could facilitate the use of other wetlands that cover about 11 per cent of the land area of Zimbabwe. A policy dialogue was initiated in which agriculturalists and environmental conservationists discussed measures to put in place to enhance the sustainable use of wetlands. This process resulted in the interrogation and repeal of the Natural Resources Act that prohibited the cultivation of wetlands. The process resulted in the broader awareness among both policy makers and communities of technical issues and of the need to transform certain inhibiting policies for the sake of ensuring sustainable use of resources.

Lessons from the first phase of programme implementation

Institutional transformation

The IDEAA methodology of engaging institutions in the improvement of service provision was facilitated through the use of change agents (fellows) who held strategic positions within the targeted institutions. This strategy had mixed success in achieving institutional reform because:

- *Most of the fellows were too junior:* Most fellows were middle managers who did not have a significant influence in the policy-making organs of their host institutions. Such individuals were too junior to change the operating strategies of their host institutions and improve access to services by smallholder farmers.
- *Lack of a critical mass of change agents within each institution:* The limited resources in the fellowship programme could only support one change agent from each key service delivery institution and five change agents per country programme. A critical mass of change agents must exist in each institution to effect real institutional transformation.

²⁶¹ *Ngwarati* is a Shona name for eland which has a striped pattern on its neck. Contour ridges are constructed so that they attain a pattern when viewed from a distance.

Inability to build smallholder farming advocacy groups: The most sustainable strategy for improving service delivery by public institutions is the creation of advocacy groups among smallholder farmers who have the ability to articulate issues pertaining to their socio-economic environment and to demand improved services and reforms of inhibitory policies. The IDEAA programme was not able to establish meaningful relationships with farmer organizations and commodity associations that it could use as vehicles for demanding both institutional and policy reforms. Such strategies would require the recruitment of a critical mass of change agents from the respective farmer institutions and direct investments in capacity-building farmer institutions to influence policies at a local level.

- **Rigid government structures that failed to respond to interventions of the programme:** Some institutions that needed to be transformed had been operating for over 50 years. To transform these institutions, there was need for political willingness to change within government and its structures but governments are rarely willing to transform. Without external funding, it is hard to assemble a multidisciplinary team from various agricultural institutions to work together in rural communities as long as government has not shown the will to change.

Successful experiences occurred only when fellows were supported by higher level officers such as Permanent Secretary or Chief Executive Officers who were in the same institution. However the investment of developing individuals *in-situ* (within their host institutions) ensured that relevant interventions were made.

Access to production inputs

The IDEAA programme did not meaningfully address the issues of: timeliness of input delivery, the accessibility and availability of inputs and the appropriateness of the inputs supplied. Sustainable strategies to ensure greater affordability of the inputs were also not successfully developed. Such strategies would include:

- Lowering transaction costs (for example, costs of procurement, transportation, storage and processing);
- The absolute and relative profitability of the use of inputs;
- The system's ability to induce technological innovations.

Sustainable input supply systems are usually driven by demand 'pull forces' (Dimithe, *et al.*, 1999). A sustainable input supply system must operate in a way that increases profitability and reduces risks in the agricultural input subsector. It should also (in a complementary manner) encourage non-farm income-generating activities. Such a system relies on the private sector to lead in supplying agricultural inputs and provides freedom of choice, freedom of

operation and equality of opportunity to all economic agents, including farmers. The effective demand represented by business transactions of IDEAA project farmers was too small to attract significant private investment in input supply. To induce greater private investment and more effective input supply systems, there was increasing recognition among scholars and policy makers that national and regional markets must be formed to increase market sizes. Creation of regional markets would require a harmonization of trade policies and input regulations across member countries.

A major barrier to the intensification of smallholder agricultural projects in Zimbabwe was the difficulty that poorly capitalized farmers had in obtaining seasonal credit for inputs. The problems of scarce credit were compounded by structural adjustment and liberalization policies. The designing of effective rural financial systems remained one of the most complex development challenges in sub-Saharan Africa (Dimithe *et al.*, 1999). The IDEAA programme needed to explore innovative credit schemes offered by input dealers or within institutional arrangements such as interlocked contracts and outgrower schemes. Under these arrangements credit could be supplied in a way that matches the specific requirements of agriculture and the circumstances of smallholder farmers.

Redesign and scaling up the second phase of the IDEAA programme

IDEAA programme applied at national level

Experiences from the first phase of programme implementation revealed that the commercialization of smallholder agriculture could not yield adequate incomes to sustain an average household because of the following:

- Farmers were not organized to use economies of scale to improve the efficiency of procuring inputs, technology and securing markets;
- Farmers were growing low-value food crops.
- The small landholdings of individual farmers (0.2 to 1.2 hectares) did not allow the production of a sufficient volume of product per farm to generate incomes above prevailing minimum wage levels;
- Smallholders were producing unprocessed products of low market value and did not benefit from value-addition processing that occurred at higher levels of the commodity chain;
- Production of commodities by farmers was not in response to market demand.
- Smallholder farmers had inadequate irrigation or water facilities which would enable commercialization on a small piece of land.

The IDEAA programme revised its strategies and developed a model that facilitated the commercialization of smallholder agriculture in southern Africa through the promotion of high value commodities and organization of producers of the respective commodities into business oriented commodity associa-

tions for collective action. The following high value commodities were selected by stakeholders in their respective countries: soyabeans for Zimbabwe, horticulture for Botswana and Limpopo province of South Africa, groundnuts for Swaziland, potatoes for Lesotho, cassava for Malawi, chillies for KwaZulu-Natal province of South Africa, beef for the Eastern Cape province of South Africa and sunflowers for Mozambique. The IDEAA programme philosophy was that farmer-driven commodity associations were effective advocacy tools, reduced costs of marketing inputs and outputs, provided a forum for producers to share information, coordinated activities and made collective decisions.

The concept of promoting high-value commodities was developed after the realization that most smallholder farmers were growing subsistence crops for local consumption. Some of these farmers also produced commodities without establishing markets and volumes needed. High-value commodities were therefore described as those commodities that recognized high market prices. The premise was that given the small landholdings of smallholders, the high-value commodities would yield relatively higher incomes per unit area.

The model

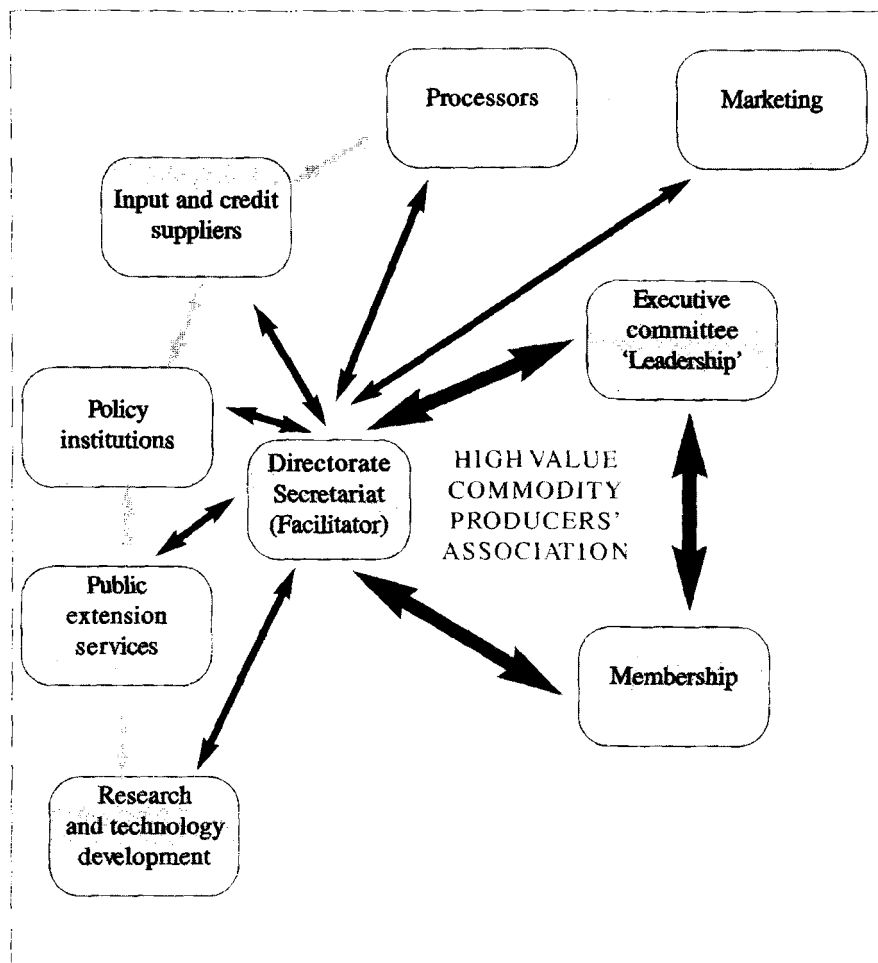
The premise of the IDEAA programme was that service delivery institutions within the commodity chain – namely: research and technology development; public extension services; input and credit suppliers; processors; and marketing and policy institutions – failed to provide appropriate services to smallholders producing high-value commodities. The IDEAA programme strived to build capacity among producers of high-value commodities to enhance their ability to advocate for or demand services from the institutions in the respective commodity chains and also efficiently use the services supplied by the respective institutions (Figure 32.2).²⁶² The programme discovered that farmer organizations needed to have the following functional structures: the executive committee (leaders elected by farmers), the directorate or secretariat (experts contracted to implement programmes) and the membership (members that receive services from the association). The programme also facilitated the establishment of innovative linkages among institutions in the commodity chain to enhance their ability to provide technical backstopping services to smallholder farmers on a win-win basis²⁶³ (IDEAA Annual Report, 2001–2002).

The successful use of institutional innovations resulting in the realization

²⁶² This model differed from the IDEAA phase II model since it focused on strengthening commodity chain institutions, whereas the IDEAA phase I model focused on institutional reform.

²⁶³ Input suppliers and marketing organizations can create packages that will enhance production of the high-value commodity by smallholder farmers and recover their costs after the sale of produce. Research organizations can establish linkages with extension providers to address on-farm constraints.

Figure 32.2 Final stage of development of the commodity association: relationships between the high value commodity producer's association and commodity chain institutions



of improved incomes by these farmers motivated other farmers to join the commodity associations and benefit from the services offered by this grouping. The pioneering farmers (including other progressive farmers) acted as magnets that 'pulled' the general membership of the commodity association towards adopting the new husbandry and management practices. In Zimbabwe, the programme supported public extension agents to receive training in soyabean production to improve their husbandry skills in the production of the crop. These exten-

sion agents were deployed in the field to provide technical backstopping support to farmers, such as inoculation of seeds, spraying of insecticides, fertilizer application and managing irrigation systems.

Highlights of the IDEAA–Zimbabwe soyabean programme

Soyabean was chosen as an entry point because of the known demand by the local industry and also its potential export market. Soyabean production was not popular among smallholders before the mid-1980s, although a local company, Heinz Private Limited was already processing the crop produced by large-scale commercial farms. The interest in the crop in the smallholder sector was developed by early investments by the W. K. Kellogg Foundation in Hurungwe through a project managed by the University of Zimbabwe (chapter 31). This project focused on promoting household food security and on-farm value addition. When this project came to an end in 1989, other non-governmental organizations took over the initiatives and formed producers groups. The demand by the local processors, such as Olivine Industries and AgriFoods, improved the market value of this crop, although controls on exports frustrated efforts to earn foreign currency. Local use of soyabean as a food (particularly as bread) has become a common feature in rural and some urban households. More than 90 per cent of rural families in soyabean growing areas consume soya-based dishes at least once a day as coffee, milk beverage, relish, bread or snacks (Musimwa, 2005).

The highlight of the IDEAA–Zimbabwe soyabean programme was the amalgamation of the various producer groups into the Zimbabwe National Soyabean Commodity Association. The association has a total membership of 10,000 in 40 districts of all the administrative provinces in the country (Musimwa, 2005). These members crop about 8,000 hectares of which 2,480 hectares are cropped by smallholder farmers. The programme established the seed loan programme under which 364 farmers benefited and resulted in more than 203 hectares grown in the 2002/03 season by the members of the association. The programme facilitated the engagement of smallholders in production contracts with processors. Table 32.2 illustrates the profitability of soyabeans compared to maize in the farms of members of the Zimbabwe National Soyabean Commodity Association.

A number of smallholder producers within the association who are involved in poultry production and dairy have taken an interest in producing their own soyacake rather than buying it from the industry. The association also collaborates with other organizations in the country that are promoting soyabean production, such as the taskforce on soyabean established by the University of Zimbabwe with support from the Rockefeller Foundation and Africare.

The IDEAA programme faced some key challenges. Firstly, they had to create ownership of the programme processes at national and local level. It was

Table 32.2 Yields per hectare and profitability per hectare of soyabeans and maize

Item	Soyabeans		Maize	
	Low input	High input	Low input	High input
Total cost of production per hectare	\$2,190,858	\$2,190,858	\$1,613,016	\$1,613,016
Total income per hectare	\$3,500,000	\$5,250,000	\$1,200,000	\$3,600,000
Gross margin per hectare	\$1,309,142	\$3,059,142	\$-413,016	\$1,986,984
Rate of return*	60%	140%	-26%	55%
Yield (tonnes per ha)**	1 T/Ha	1.5 T/Ha	1T/Ha	3T/Ha

Notes:

* It is recommended to grow soyabeans for sale and purchase maize from high production regions.

** Maize yields of two tonnes per hectare and below result in a loss situation.

Source: Adapted from Musimwa (2005)

important for IDEAA to promote the bottom-up approach in commodity associations so as to create a sustainable base. Secondly, they had to address criticism for promoting high-value commodities to the detriment of food security crops, especially considering that the majority of southern African countries regularly experience food insecurity. But proponents of the IDEAA model argued that the incomes obtained from the sale of high-value commodities would then give farmers the purchasing power for food security crops and enhanced livelihoods. This argument, though, works only in situations where food markets are functional and competitive.

Scaling up of the IDEAA model at the continental level

The New Partnership for Africa's Development is a socio-economic development programme of the African Union (NEPAD, 2001). It is a new vision of African leaders in their quest for a socio-economic renewal of the entire continent. This initiative was adopted at the African Union summit in Lusaka, Zambia, 2001. African heads of state and governments realized that Africa could only take its proper place in the international community if it gained economic strength. An ambitious target of 7 per cent annual growth rate in gross domestic product was set over the next 20 years, aimed at eradicating poverty, achieving food security and building the foundation of sustainable economic devel-

Box 32.3: NEPAD objectives for Africa's agriculture

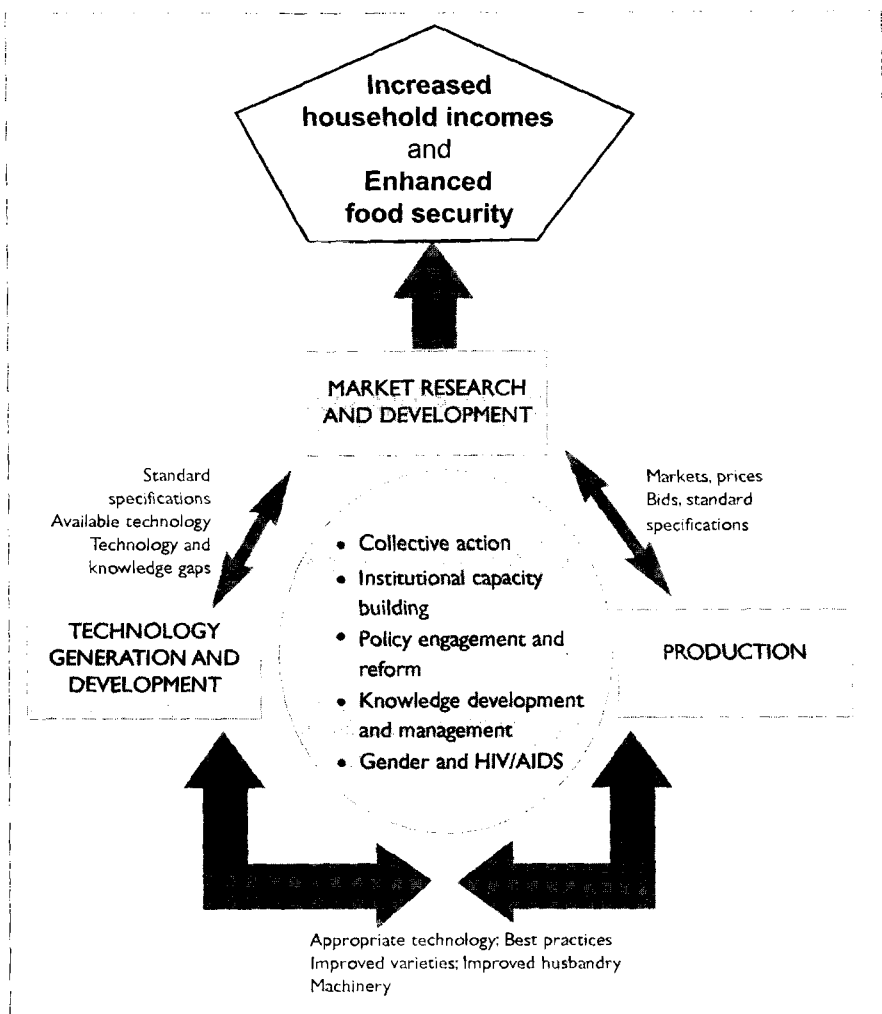
- Attain food security (in terms of availability and affordability) and ensure access of the poor to adequate food and nutrition;
- Improve the productivity of agriculture to attain an average annual growth rate of 6 per cent with particular attention to small-scale farmers, especially focusing on women;
- Create dynamic agricultural markets between nations and regions;
- Integrate farmers into the market economy, with Africa aiming to become a net exporter of agricultural products;
- Achieve a more equitable distribution of wealth;
- Be a strategic player in agricultural science and technology development; and
- Practise environmentally sound production methods and have a culture of sustainable management of the natural resource base.

opment on the continent. It is important to note that NEPAD seeks to complement other African initiatives and to use existing frameworks for implementation. NEPAD's objectives for the agricultural sector are illustrated in Box 32.3.

NEPAD's pan-African cassava initiative began as a scaling up of the experiences in the second phase of the IDEAA programme of facilitating the participation of smallholder farmers in the beneficiation and marketing of high-value commodities. The programme adopted the theme *Cassava – a poverty fighter in Africa* because of the enormous potential of cassava to contribute to food security and income generation. A conference jointly organized by NEPAD and the International Food Policy and Research Institute in November 2003, strongly recommended that cassava be promoted as a poverty fighter across the continent. The NEPAD pan-African cassava initiative was identified as an institutional vehicle for the transformation strategy that focuses on developing three levers: market research and development; technology generation and development; and production. The illustration of Figure 32.3 shows how these three levers interface. These levers become active through their ability to enhance the following key crosscutting processes:

- Organized national commodity chain institutions or collective action;
- Institutional capacity building;
- Human capital development;
- Policy engagement and reforms;
- Knowledge development and management;
- Access to finance.

Figure 32.3 Illustration of the change strategies employed by the NEPAD Pan African Cassava Initiative to facilitate the development of the cassava sector in the African continent



The programme's philosophy is that production of cassava could be viable and sustainable if it is driven by market forces. Production, technology generation and development are expected to simultaneously respond to the market pull. Therefore the programme places great emphasis on developing market research and development during its formative years so that the market pull can drive both the production and technology generation components. Outputs from the market research could motivate the private sector and regional and national programmes to develop viable and sustainable production and technology in-

interventions, for example, starch factories, animal feed projects and ethanol production, that address the demands of the markets suitable for their particular circumstances. The interventions proposed in this initiative could support viable sustainable ventures. Ongoing national activities would be realigned in response to the market pull.

The NEPAD pan-African cassava initiative is housed at the International Institute for Tropical Agriculture's continental infrastructure. The hub of institute activities is in Nigeria and its regional networks comprise Southern African Root Crops Research Network, Eastern African Root Crops Research Network and the proposed Central and West African Root Crops Research Network.

Conclusion

This chapter has illustrated how the IDEAA model for facilitating the economic development of rural communities has evolved. At its initial stages the model emphasized improving service delivery by institutions through the facilitation of institutional reform. Institutional transformation required willingness by central government and a critical mass of change agents for it to be effected. A final refinement of the IDEAA model placed emphasis on creating capacity within rural communities to facilitate their own development by inculcating the self-drive mindset. The model placed emphasis on using collective action (through the formation of commodity associations) to exploit economies of scale for procuring inputs and supplying markets, and engagement in market-driven production. A prerequisite for the successful operation of this model was the existence of a conducive policy and institutional environment and the establishment of effective market information to support the participation of smallholder farmers in value-addition commodity chains. This market-driven production model has great potential for driving the commercialization of smallholder agriculture in southern Africa and, using the NEPAD push, on the whole continent.

References

- Dimithe, G., S. K. Gregory, S. K. Debrah, B. L. Bumb and A. H. Roy, 'Getting agricultural input markets in sub-Saharan Africa to work better', in *The food chain in sub-Saharan Africa*, proceedings of the workshop held in Bamako, Mali, October 15–19, 1999, Centre for Applied Studies in International Negotiations, Geneva, 1999.
- Dione, J., 'Why has Africa not yet achieved food and nutrition security?', paper presented at United Nations Economic Commission for Africa, Ethiopia, workshop on 'Assuring food and nutrition security in Africa by 2020', held in Kampala, Uganda, April 1–3, 2004.
- Eicher, C. K., 'Flashback: 50 years of donor aid to African agriculture', paper presented at an international policy conference, 'Successes in African agriculture: building for the future', sponsored by InWent, IFPRI, NEPAD and CTA, Pretoria, South Africa, 1–3 December 2003. Available at <http://www.ifpri.org/events/conferences/2003/120103/papers/paper16.pdf>
- IDEAA, *Initiative for development and equity in African agriculture, annual report 2001–2002*, University of Zimbabwe, Harare, 2002.
- 'Smallholder dairy producers supply raw processed milk products to rural communities of Sadza and Wedza' in *Newsletter of the Initiative for Development and Equity in African Agriculture*, Vol. 1 No. 2 IDEAA Regional Office, Department of Agricultural Economics and Extension, University of Zimbabwe, Harare, 2003.
- Jansen, J. and A. Rukovo, *Agriculture and the policy environment: Zambia and Zimbabwe political dreams and policy nightmares*, working paper No. 74, OECD Development Centre, Paris, 1992.
- Mabeza-Chimedza, R., 'Transforming institutions for effective service delivery: IDEAA experiences', in *Newsletter of the Initiative for Development and Equity in African Agriculture*, Vol. 1, No 2. IDEAA Regional Office, Department of Agricultural Economics and Extension, University of Zimbabwe, Harare, 1999.
- Mabika, H., 'Experiences of an extension worker in Wedza and Sadza', *IDEAA Internal Experiences*, Vol. 2, No 2:7, 2000.
- Makamure, J., J. Jowa, H. Muzuva, 'Liberalization of agricultural markets', a SAPRI/ZW document, Harare, 2001.
- Mano, R., 'Agricultural policy making in Zimbabwe', in C. Sukume and M. N. Hungwe (eds), *Agricultural policy making in southern Africa*, FANRPAN publication, Harare, 2000.
- Musimwa, E., 'Zimbabwe National Soyabean Commodity Association (ZNSCA)', working paper, Agricultural Research Council of Zimbabwe, Harare, 2005.
- NEPAD, 'The New Partnership for Africa's Development', concept document, African Development Bank, Midrand, South Africa, October 2001.
- North, D., 'Economic performance through time', in *America Economic Review* 84:359–68, 1994.

Rukuni, M., 'Promoting productivity and competitiveness of agriculture in sub-Saharan Africa', paper prepared for the 'Global coalition for Africa' meeting, Nairobi, 9–10 April 1999.

Rukuni, M., M. J. Blackie and C. K. Eicher, 'Crafting smallholder-driven agricultural research systems in southern Africa', in *World Development*, 26 (6):1073–1087, 1998.

Rukuni, M., T. S. Jayne, J. Tagwirei and L. Rugube, 'Alleviating hunger in Zimbabwe: Towards a food security strategy', background paper for the Agriculture Division, Southern Africa Department, World Bank as part of the preparation of the *Zimbabwe agriculture sector memorandum*, September, 1999.

Sellen, D. (ed), *Economic reform and agricultural sector policy in Zimbabwe, case studies in policy analysis*, Economic Development Institute, World Bank, Washington DC, 1993.

Semwayo, D. T., 'Towards developing a top level ontology and conceptual data model using the IDEAA programme case study', Working paper SMWDAN001, University of Cape Town, Cape Town, 2000.

Staatz, J. M., 'The strategic role of food and agricultural systems in fighting poverty through fostering sustainable economic growth', Department of Agricultural Economics, staff paper No. 94–39, Michigan University, East Lansing, 1994.

Takavarasha, T., 'Zimbabwe', in A. Valdes and K. Muir-Leresche (eds), *Agricultural policy reforms and regional market integration in Malawi, Zambia, and Zimbabwe*, IFPRI, Washington DC, 1993.



This work is licensed under a
Creative Commons
Attribution – NonCommercial - NoDerivs 3.0 License.

To view a copy of the license please see:
<http://creativecommons.org/licenses/by-nc-nd/3.0/>

This is a download from the BLDS Digital Library on OpenDocs
<http://opendocs.ids.ac.uk/opendocs/>