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Grameen Seed

Grameen experiments with a pro-poor seed business

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SUMMARY

The Grameen Krishi Foundation (GKF) evolved from the Grameen Bank in 1989 as an independent NGO in the field of agricultural development. Under their current seed programme, GKF signs up mainly small to medium farmers to produce seed. Lack of mechanisms to assess production targets and create local demand is one of the reasons of poor efficiency of the existing GKF seed system. Recently, GKF experimented with an innovative method by focusing on the poor not only as seed producers, but also as customers, and to help sell quality seed. Per union, ninety farmers that own less than 0.5 ha were selected in a way that ensured maximum geographical coverage. GKF trained them as seed producers, seasonally sold them foundation seed and collected the seed they harvested for drying, grading, storing and packaging as truthfully labelled seed. At the beginning of the next season, the poor seed producers were given priority over seed retailers to buy back their processed truthfully labelled seed. In this new Grameen seed system, incentives are ensured for farmers, retailers and GKF, making it a financially sustainable business. By inviting seed producers, sellers and retailers to the seed processing centre, system transparency is created and confidence built in the quality of the seed. As seed is grown and sold in the same area, all farmers in the system get better access to quality seed. This new seed innovation system works independently of the GKF credit system, but could be complemented by it. Involving other NGOs and local officials helps to further increase the customer base.

ACTORS IN TRADITIONAL GKF SEED SYSTEM

The seed sector in Bangladesh is steadily decentralising. GKF, among several other NGOs and private companies, has established a memorandum of understanding with the Bangladesh Rice Research Institute (BRRI) to buy breeder seed. Currently, only these NGOs are legally entitled to produce foundation seed on their own farms. This seed is then mainly passed on to their contract farmers to produce truthfully labelled seed (TLS) or certified seed.

GKF has a credit programme based on the Grameen Bank principles, which is targeting the poor (Table 19.1). Their agricultural development programme, however, is less poverty targeted, with seed production being dominated by small to medium farms of up to 1.2 ha of land. The GKF unit office manages these seed producers, while addressing other duties such as credit, livestock, poultry and hybrid

Table 19.1 Overview of Grameen Krishi Foundation programmes

| VARIABLE | CREDIT PROGRAMME | AGRIC. DEVELOPMENT PROGRAMME |
|-------------------|--|--|
| Target audience | Poor people owning no land or less than 0.2 ha | Small and medium farmers, owning 0.2 to 1.2 ha of land |
| Main focus | Credit to support mainly non-agricultural activities | Credit to support agriculture |
| Training provided | Yes | No |

corn production. The total working area of a unit office covers 8-15 unions, with each union comprising nine wards (see Box 19.1). The unit office has no defined role in marketing, or in deciding how much seed to produce. The GKF headquarters in Rangpur, Northwest Bangladesh, handles this.

Box 19.1
Administrative
Units in
Bangladesh

6 divisions
1 division = 10-12 districts
1 district = 5- 12 upazilas
1 upazila = 5-12 unions
1 union = 9 wards
1 ward = 1-3 villages

For reasons of convenience, seed production has so far been confined to a few farmers. All truthfully labelled seed produced by contract farmers is collected at the processing centre in Mirbagh, about 15 km from Rangpur. It is responsible for supervising the foundation seed farms, processing and distribution, assisted by headquarters and the Dhaka liaison office (Figure 19.1).

The existing GKF seed production system has certain weaknesses. Due to the top-down, centralised structure, information about the type of varieties and amount of seed required at the village level is inaccurate. The contract seed producers are given no voice to express local farmers' preferences for certain varieties and mostly receive foundation seed from other areas than their own. No attention is paid to the local

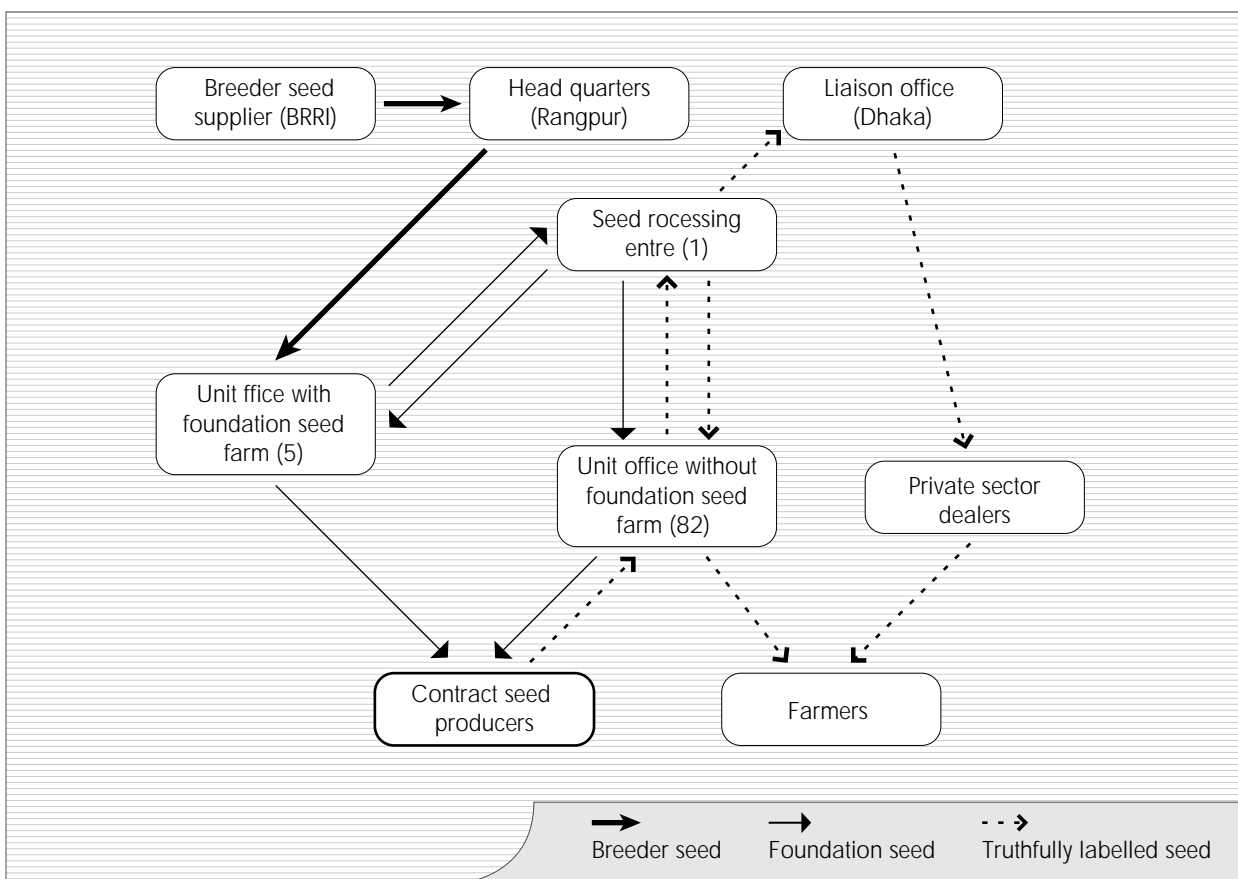


Figure 19.1 Traditional GKF rice seed production and marketing system

Seed leaving the seed processing centre is processed and packaged

context and dynamics in the farming system; seed producers are passive implementers.

To a limited extent, unit offices sell TLS seed to farmers upon demand, but are not involved in promoting seeds. As with all major non-governmental seed producers in Bangladesh, seed production and distribution lacks strong interaction with other stakeholders.

The marketing system is even more poorly developed than the production system with no mechanisms for assessing or creating demand, often resulting in seeds remaining unsold at the seed processing centre. The system lacks a network and long-term business plan. Neither unit offices nor liaison office are used as pro-active marketing units, or have planned relation with private retailers.

EVOLUTION OF GRAMEEN SEED

The project described here started under PETRRA in 2000, and its evolution offers some lessons in terms of triggering change in a value-based innovation system. Changes in the system are presented in Table 19.2.

At first, PETRRA struggled to get the concept of extension research across to their partners. All of the nine sub-projects approved in the first phase simply did extension instead of trying to improve the seed systems as a whole. The first principal investigator of the GKF sub-project was a person working in one of the unit offices. He kept on demonstrating varieties without trying to bring innovations to the system.

Over the years, PETRRA improved the concept of extension method research, as part of its value-based research system. New projects and new phases of existing

Table 19.2 Traditional GKF versus Grameen seed innovation system

| VARIABLE | TRADITIONAL GKF SEED SYSTEM | GRAMEEN SEED INNOVATION SYSTEM |
|---------------------------------------|--|--|
| Decision-making and variety selection | Centralised, top down | Decentralised with feedback from seed producers and poor farmers |
| Integration of system components | Processing and marketing are not linked to production | Integration of different sub-components |
| System focus | Production focused | Holistic with stronger emphasis on market development |
| Seed sales | Often not all truthfully labelled seed is sold | All truthfully labelled seed is sold |
| Linkage with other actors | In-ward looking, no concerted effort to link seed system with other actors | Multiple actors (government extension, NGOs, retailers and others) are key to market development |
| Role of seed producers | Regarded as hired labourers | Considered as producers, consumers, seed sellers and marketing agents to expand customer base |
| Organisation of seed producers | Contract seed farmers act as individuals | Group approach |
| Poverty focus | Inclusive, but small and medium farmers dominate | Targeted, only the poor are trained as seed producer |
| Gender | Not considered | Women are trained, with special emphasis on post-harvest |
| Location focus | Not important, seed can be produced anywhere | Seed is produced in area of customer base |
| Local context | Not considered | Sensitive to local needs and aspirations |

ones were approved only if they emphasised innovating extension and uptake methods, rather than doing extension. PETRRA's management worked closely with GKF to rethink their existing model, injecting new ideas and facilitating group learning (see also Chapter 1). Two years later, the principal investigator of GKF left the project and their managing director appointed a new person, Mr. Md. Abdul Jabbar, who already had 11 years of experience working in the GKF seed sector. Being in charge of the seed processing centre, he understood all too well the weaknesses of the GKF seed system.

Innovating systems, or experimenting with new organisational models, is harder than experimenting with new technologies and it takes courage. It is our experience that value-driven people are the best vehicles for change. When asked what he finds the most rewarding aspect of the project, Jabbar reflects a minute and says: "I am very happy that I could facilitate the knowledge dissemination to poor farmers and improve their access to quality seed. Seeing poor people's livelihoods improve is very rewarding."

Although the experience presented here is based on work by the seed processing centre, which inherently limits the scope for extrapolation to the national level, the model would most probably not have been developed by a person who had not been exposed to the different components of the system. The Grameen seed model presented here should ideally be tested for another 2 years, redefining the role and incentives for the unit offices. Figure 2 shows a much broader anticipated role of the unit office as a hub from which all unions could be supplied with quality seed. In the new model, the seed processing centre also takes responsibility for coordinating seed production and marketing, and so could be turned into a seed centre with a broader mandate.

THE GRAMEEN SEED INNOVATION SYSTEM

Build resource-poor farmer groups

Choosing poor farmers is key to the success of the model, as a first step towards integrating production and marketing. With the prospect of building a large customer base, attention is paid to maximum geographical coverage both within and between the groups. In the project, all 9 wards of one union were covered.

In each village, 10 farmers were selected during a village meeting, based on three criteria: farmers had to (1) be rice producers; (2) own less than 0.5 ha of land; and (3) have a rice provisioning ability of 6-10 months. If more than 10 people complied with these criteria, further selection was made to avoid geographical clusters within the village or having several brothers or other family members in the same group. All farmers in the group were registered and lists kept by GKF.

During the same meeting, the 10 farmers elected their own group leader. Farmers mainly chose people: (i) who have courage to speak out and communicate easily with other farmers, NGOs, government extension staff, retailers; (ii) who want to

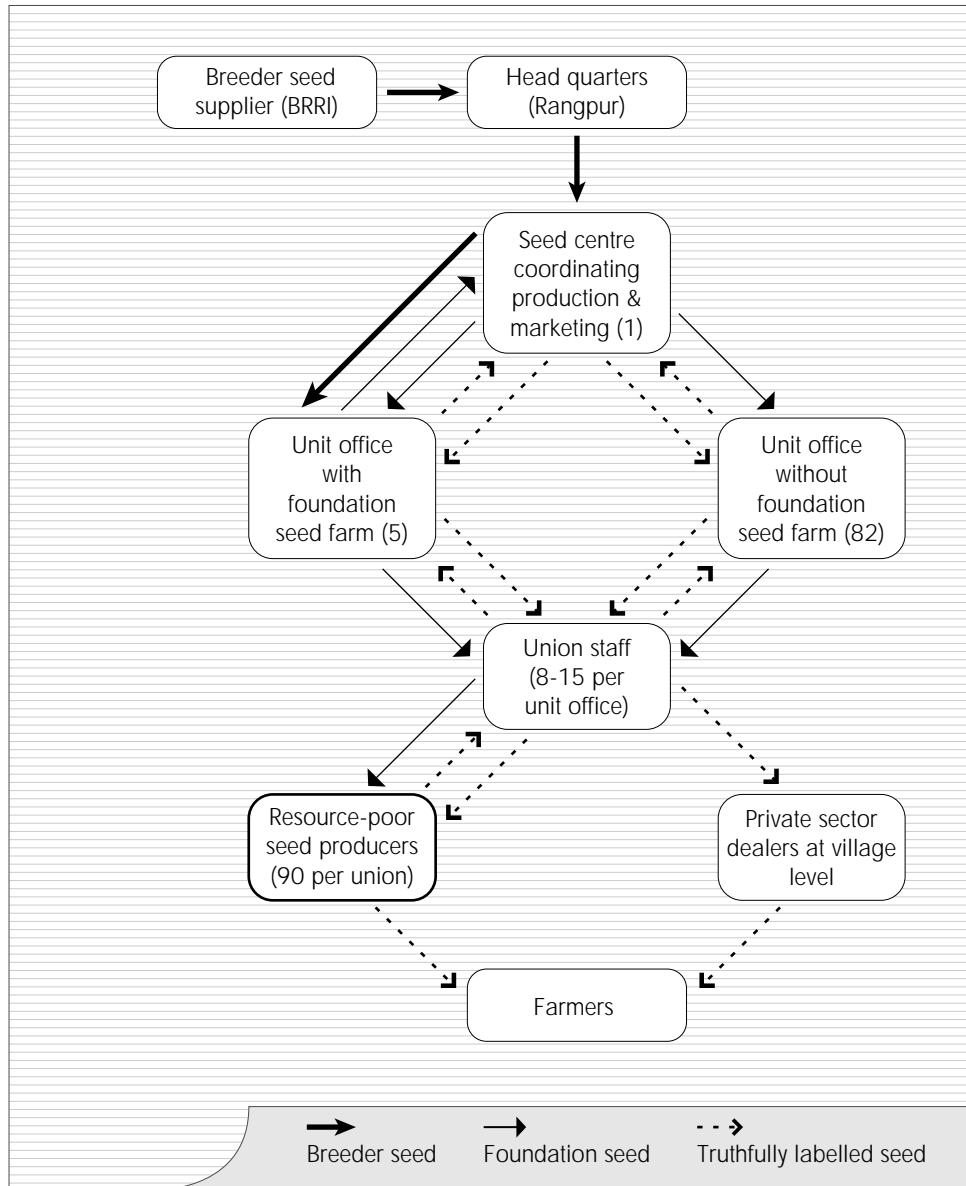


Figure 19.2 Grameen seed innovation system

Note that downward seed flows have been processed and packaged

learn new things; and (iii) who have a certain education. Although Mr. Jabbar suggested rotating the leadership within the groups, it is too early to see evidence of this happening.

Train farmers (husbands and wives) on rice and seed production

For practical reasons, three groups of seed producers came together in a gathering place, such as the village school or club, for a one-day training session at the beginning of each season. During the first training, the wives of the group leaders were also invited to attend, bringing the total participants to 33. In following seasons, three other women were invited on a rotational basis.

Rice and seed production were addressed pragmatically, with special emphasis for women on post-harvest. Women were asked to share their learning with neighbours. Women more easily share new knowledge through informal networks than men do (see Chapters 3 and 4).

Better knowledge of the whole cropping cycle resulted in more balanced use of fertilisers and less use of pesticides. Out of the 90 farmers trained, about 80 had significantly higher yields and all produced better seed.

Develop incentive-based production and marketing mechanisms

The training provided to seed producers did not only benefit seed production, but also their crop production and well-being overall. Higher yields and better seeds help raise incomes and women feel recognised for their important role in rice production.

The emotional value of farmers towards their own seed is often underestimated in national seed systems. Processing seed separately for each farmer would not be feasible, but with the Grameen seed innovation system, farmers are at least guaranteed to get TLS seed produced by their peers in their own locality.

Seed producers need to buy 2 kg of foundation seed for their seed production plot, and as much TLS seed as they want for personal paddy production and for selling to their neighbours. By selling processed and packaged TLS seed to their neighbours, they make an additional profit of Tk 2 per kg (Table 19.3).

Price of paddy is at its lowest during harvest and poor farmers have few facilities to store seed properly for extended periods. GKF offers seed producers Tk 1 per kg on top of the prevailing market price for paddy. GKF buys unprocessed TLS from seed producers at

Women share what they have learnt from training sessions with other family members first. Later on, they also discuss this with friends and neighbours while doing joint activities such as cleaning taro, a local tuber crop.



Table 19.3 Price (Tk per kg) that clients pay to different seed suppliers in the Grameen seed innovation system, boro season 2003

| CLIENT \ SUPPLIER | GKF | SEED PRODUCER | DEALER |
|-------------------|--------|---------------|--------|
| GKF | | 9 | |
| Seed producer | 18/14* | | |
| Dealer | 14.4 | | |
| Farmer | | 16 | 16 |

*Seed producers buy at least 2 kg of foundation seed at Tk 18 per kg for truthfully labelled seed production and as much truthfully labelled seed at Tk 14 per kg as they want for personal paddy production and for selling to their neighbours, a slightly preferential price compared to what dealers pay. (In 2004 the Taka was 57 to the US dollar).

Tk 9 per kg (US\$ 0.16) and sells it back by the start of the next season at a minimum of Tk 14 (US\$ 0.25). As the total cost for processing and packaging, including the salary of the workers, is Tk 3 per kg (US\$ 0.05), GKF makes a profit of Tk 2 per kg (US\$ 0.035) of processed seed, besides paying the salaries of seed plant workers.

Another innovation is that Grameen seed producers are given priority to buy back their TLS seed after it has been processed, stored and packaged, and this at a slightly lower price than retailers would have to pay. Seed producers purchase their TLS seed at Tk 2 below the market price, while retailers are only given a profit margin of 10%. In this way, a business mentality is developed among the farmers, while retailers are still pleased with their profit margin.

Cost-benefit analysis indicate that by selling the seed at Tk 15.2 per kg (US\$ 0.26) would allow GKF to fully recover training costs and make the system financially sustainable without any project intervention. Most importantly, clear incentives to all stakeholders are maintained.

TLS seed producers also sell the seed, ensuring an exponential increase in access to quality seed for all farmers in the village. Production and marketing is integrated at the system's heart by the poor seed producers (Figures 19.2 and 19.3). Seed producers also value dearly the guarantee of timely access to foundation seed.

Intensively monitor seed producers for three to four seasons

A classroom session was used to introduce new topics, but the real learning took place in the field. Throughout the season, seed producers were monitored and helped to set up seed production plots in one of their fields. Plot size varied depending on the farmer, but was generally around 600 square meters. If farmers had more than one field, they were encouraged to set up a plot in the field that is most accessible to other community members. This way, seed production plots also served as demonstration plots.

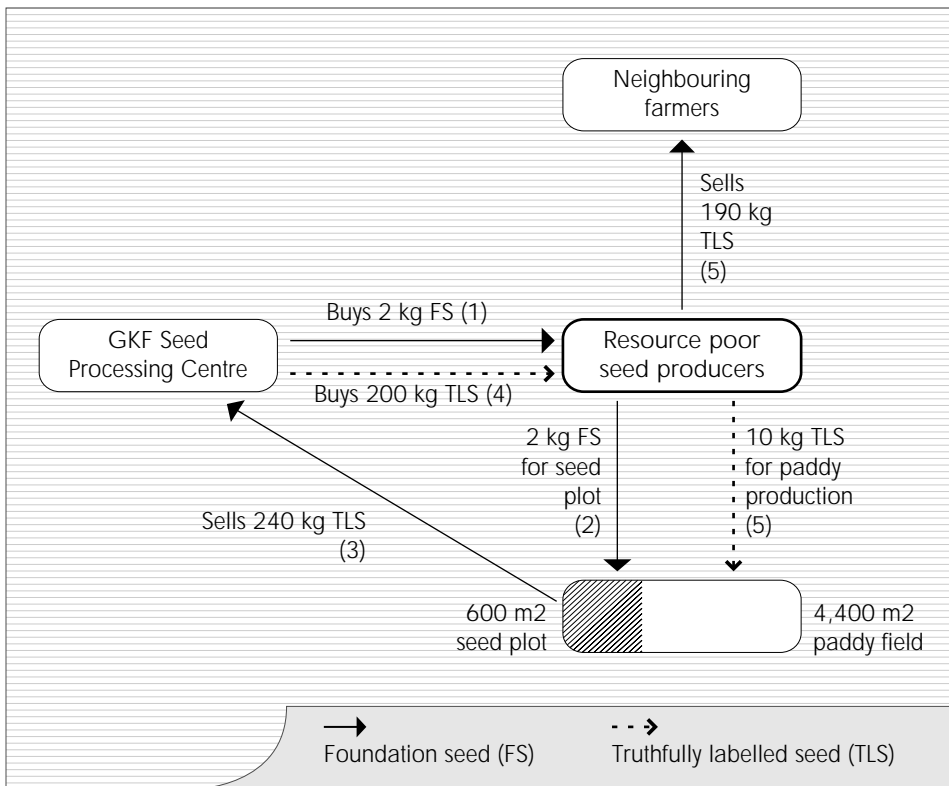


Figure 19.3 Example of multiple roles of a seed producer in Grameen seed innovation system (numbers indicate order of flow)

After the project had gone through three seasons the seed producers were qualified enough to work more independently. In terms of investment, GKF contributed two staff members to train 90 seed producers over nine wards and one union, Mr. Jabbar being appointed for 33% and a field staff for 50% of their time.

Expose multiple actors to quality seed producers

Currently, poor seed producers sell truthfully labelled seed, as do local retailers. Local leaders, government extension and NGOs also bring in new customers. All these actors, along with other farmers from the village, are invited to a field day. This not only creates demand, but also announces which persons are the sources of trustworthy quality seed. The long-term objective of this new GKF approach is to reach all farmers in any union where the model is introduced.

Link quality control to collection system

Trust is crucial in selling seed, especially for truthfully labelled seed which involves



Mr. Jabbar shows a polythene lined seed bag in the GKF seed processing centre during a visit by a farmer seed producer group. The guided tour helps to give them confidence in what happens to their seed.

no official certification. Stakes are high for all seed suppliers, because distrust in a system always spreads faster than trust. Every season, GKF ensures that registered seed producers buy their foundation seed.

At harvesting time, union staff are contacted and the seed quality is verified. Varieties should not be mixed and seed should be pest free. An assessment is also made of variety uniformity, seed maturity, colour and moisture content. Preferably, seed should have less than 14 % moisture. If it is higher, a correction factor is used to adjust for the weight. Farmers bring their seed to the unit office, where bags are labelled with information such as the name of the farmer and variety, and they get paid on the spot.

From the unit office, a truck collects all seed of one and the same variety within a given area. Occasionally, two different varieties are collected, keeping the bags separate and discarding seed that drops out of the bags.

Build system confidence for seed producers, retailers and clients

Transparency creates credibility and confidence, which is crucial for attracting customers, especially in rural areas where word-of-mouth advertisement prevails. Apart from the field days, GKF organises visits to their seed processing centre so seed producers and retailers can appreciate how it adds value.

Truthfully labelled seed is packaged in specially lined 10-kg bags that prevent moisture absorption. A leaflet with information about the production technologies is placed in the bag, which is sealed with a tag describing the seed. On request by poor farmers, 5-kg bags are also made.

KEYS FOR SUCCESS

Main keys for success have been discussed at length in the above section. They include:

- Ensure good performance of new varieties through appropriate variety selection and training of smallholder seed producers
- Create demand by exposing farmers and retailers to new varieties
- Build transparency and trust in the seed innovation system
- Ensure incentives for all stakeholders

- Integrate production and marketing
- Ensure access to foundation seed
- Add value through seed processing
- Build local capacity for quality control

DIFFICULTIES, RISKS AND ASSUMPTIONS

The seed processing centre took the lead for this project. Mr. Jabbar feels it is important to let the method grow organically. Better let it grow strong and slow, than to bloom too soon and then collapse. As GKF has only one seed processing centre, building confidence in and transparency of this part of the system is a challenge for scaling up. Perhaps a video could be produced to overcome this barrier. Copies could be held in each of the 87 GKF unit offices and shown to new seed producer groups as part of their training.

Institutionalising and mainstreaming this new Grameen seed model within GKF requires a strong commitment from the managing director. In 2003, this position has seen three changes. PETRRA tried to approach the top Grameen management to advocate this pro-poor seed innovation system, but without success so far. As IRRI, being an international research institute, has a permanent presence and strong social capital in Bangladesh, discussions may still take place in future.

SCALING UP

While exploring how GKF sees their position evolve given their well-established competitors, Jabbar explains their long-term business plan: "We have already established 87 unit offices covering hundreds of unions in Rangpur and Tangail region. In most places, the demand for quality seed is very high, so there will be no problem in selling seed. In case other established actors such as retailers or NGOs cannot respond to the demand of their clients, they are encouraged to buy from our GKF farmers directly. That is why we invite them all during our field days, so that they can get to know each other."

GKF is also a member of the Northwest focal area forum, in which research and

Taking seed processing seriously. Seed processing by BRAC, the country's largest NGO, is taken very seriously, but their plants do not operate at full capacity. If BRAC were to sell services to other NGOs and private sector seed producers, all actors - including the poor farmers- could benefit.



development activities are better coordinated between government, NGO and private sector (see Box 21.1).

The Grameen seed model will not require too much adjustment of the existing GKF structure, as the emphasis of their agricultural development programme already changed from irrigation to input supplies and credit. The old irrigation focus had geographical limits and addressed a limited number of small to medium farmers, while input supplies and credit involve many more customers, in a much wider area.

If Grameen management, and especially the founder Dr. Yunus, can be convinced, the system has great potential to spread to other parts of the country and improve the livelihoods of poor farmers, men and women.

To overcome the limitations in seed processing capacity, agreements may need to be established with other service providers such as the governmental BADC and the NGO BRAC, who have seed processing units around the country. This would allow GKF to further replicate their model.

CONCLUSION

The Grameen seed innovation system breaks down the barriers of quality seed access at the grassroots level. As farmers across Bangladesh lack access to quality seed, the market potential for GKF is enormous. By involving poor seed producers in seed marketing, no additional costs are required to develop a sales network, which may lead to much more rapid adoption of new varieties. If mainstreamed, the new seed innovation system would trigger a shift in GKF's agricultural development programme, namely to focus on the poor and provide agriculture-based training for both men and women at the community rather than at the upazila level.