

Towards a business model: Piloting a Farmer Seed Enterprise in the Sowing Diversity = Harvesting Security (SD=HS) Programme¹

Executive Summary

Seeds are fundamental for food security and in generating wealth for the rural economies. World-wide, most of the small scale farmers use their own farm-saved seeds (seeds harvested directly from farmers' fields). In Africa this is as much as 90%. Hence, an important work for Oxfam Novib is ensuring seed security for food security; and with the vision of generating wealth for agrarian economies. For the past 10 years Oxfam Novib has been working with small scale farmers in the participatory selection and breeding of seeds. This involves conservation of traditional varieties and developing new seeds by cross-breeding traditional and modern varieties to suit farmers' diverse preferences and needs. In addition, Oxfam Novib has been working on policies at national and global levels for access and benefit sharing, for farmers to be able to continuously innovate and adapt to changing environments, markets and labour availabilities.

SD=HS Strategy on Scaling up Farmers' Seeds:

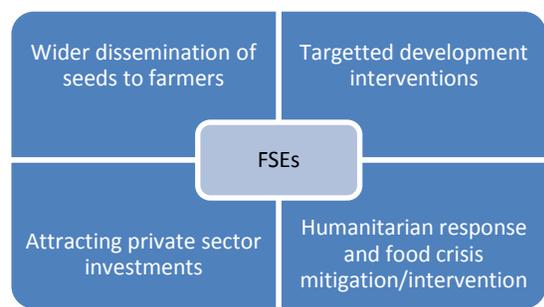
1. Scaling up through model building and refining concepts and tools.
2. Scaling up by integrating farmer produced seeds and the marketing of more diverse varieties. This will include the production and commercialization of certified seeds of government-registered cultivars currently under utilized by seed companies.
3. Scaling up through farmers field schools that cater to women's role in seeds management.
4. Scaling up by utilizing market-based solutions to empower and increase income of farmers, and help broaden the genetic base of crops to help ensure the future of food.
5. Scaling up by levelling the playing field of knowledge systems.

Pillar 2: Scaling up by integrating farmers seeds into the market

On 12-13 November 2012, Oxfam Novib organized an expert meeting that provided a rare opportunity for representatives of civil society organizations and the private seed sector to explore common objectives for integrating seeds produced by farmers into the market. The consultation sought to identify models of market engagement and public-private partnership, which could potentially contribute to the design of pilot projects.

Farmer Seed Enterprises (FSEs) can be set up cater to domestic markets:

¹ By Gigi Manicad. Revised by Dawn Ng and Rene Salazar, with inputs from Simon Groot of East West, 23 June 2016



Since this expert meeting, it was decided to develop a new pillar for the SD=HS programme to pilot a farmer seed enterprise. The track record of other successful examples of Oxfam Novib initiatives that combined on the one hand grants for capacity building (e.g. increasing farmers’ capacity in seed multiplication and in testing and marketing new and more diverse varieties for larger scale operations); and on the other hand, loans and investments for the business operations was evidence that it had been done before and we could potentially succeed with a progressive business model for seed production.

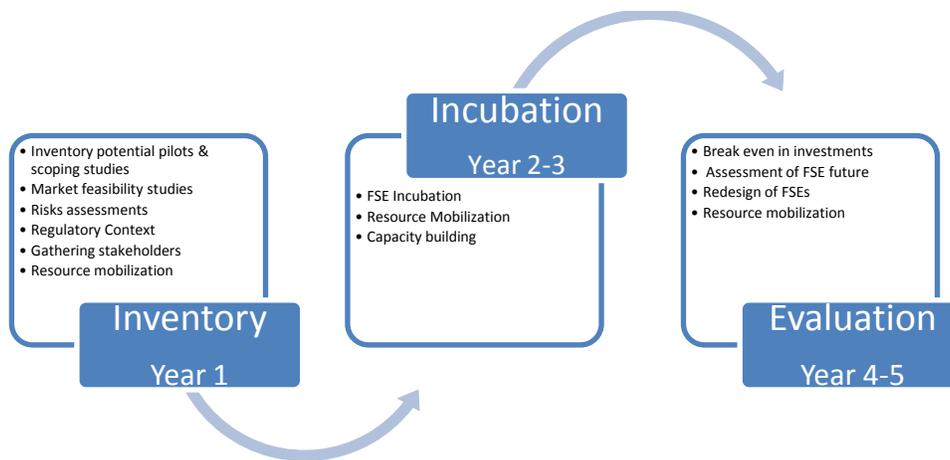
The main assumption for the FSE is that the work of current and potential Oxfam Novib partners on seeds have the potential to meet seed production, quality and regulator standards and potential market demand. This potential already exists but their capacities, especially in business management, would need to be strengthened to FSE requirements.

Make or Break Points and Assumptions

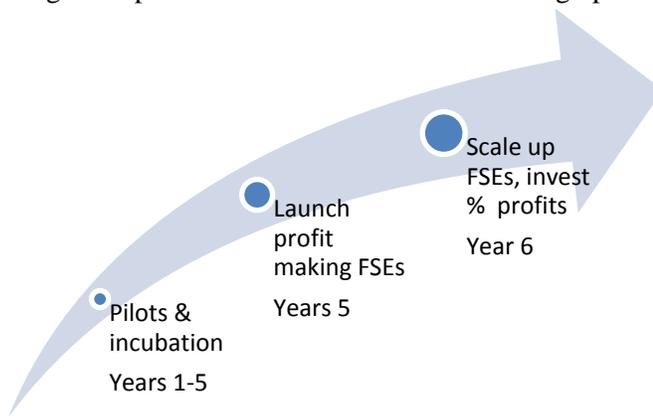
Seed quality & production	Market Demand	Institutional Support
<ul style="list-style-type: none"> •Organization of seed production •Availability of improved & premium varieties • Meet seed quality standards •Compliance with regulatory requirements 	<ul style="list-style-type: none"> •Responding to and/or creating demand •Volume, peaks of demand, marketing approaches, market chains 	<ul style="list-style-type: none"> •Institutional linkages •building capacity for entrepreneurship & management •access to capital, credit, cash flow •access to plant breeding materials •Infrastructure

Milestones and go/no go moments

Years 1 to 3 will be composed of inventory and incubation of FSEs, whilst year 4-5 are for evaluation, with a potential break even ambition. Each of the phases of inventory, incubation and evaluation represents milestones for go/no go decisions for Oxfam Novib. Although a minimum of 2 pilots would be optimal, only 1 pilot will be launched in Zimbabwe due to the unforeseen budget cuts from Sida .



Depending on the successes defined in the year 3 evaluation, years 4 to 6 will focus on sustainable growth for the FSE and greater private sector investments for scaling up.



For the current project period, delays have led to only three years for the FSE implementation. Therefore, fundraising will be prioritized for years 4 and beyond.

1. Opportunities for Business Cases

Recent successes in participatory plant breeding (PPB) strengthened farmers’ knowledge to improve their traditional varieties, breed new ones, and produce high quality seeds. Under PPB, newly developed farmers’ varieties are as productive as those bred by formal breeding centers. Farmers’ Seed Enterprises (FSE) can provide wider options to the conventional provision in seed systems. At the same time, the FSE can assist in the registration and release of advanced and high potential stable cultivars from research institutions. The FSE can also help in producing and commercializing registered cultivars owned by governmental breeding institutes, as these cultivars are not utilized by seed companies – due to issues of royalty payments, and because big seed companies tend to focus on fewer varieties with greatest potential for profit. The FSE can therefore help diffuse a greater number of newly bred cultivars otherwise neglected by commercial seed companies and thus broaden the genetic base of crops. FSEs can provide high quality seeds to the farmers, including those in marginal areas. Commercialization may help further diffuse farmers’ varieties and seeds and help increase the genetic base of cultivated crops

for food security. This can also enhance farmers' participation in the market and generate wealth for rural communities.

FSEs can sell seeds for the domestic markets to: (1) widen the reach of good seeds to farmers. It can also be (2) deployed for a targeted rural development plan. E.g. the government of Cuzco, Peru is planning to scale up the Potato Park's bio cultural heritage model by bulk buying seeds from the Potato Park to supply the entire Cuzco region with a high diversity of quality potatoes; (3) enable seed companies to invest in an SME with potentials to reach new markets; and (4) FSEs can also be a component of food crisis mitigation/intervention and humanitarian crisis response—whereby instead of aid agencies procuring inappropriate foreign seeds, which increases risk of crop failures in already extremely vulnerable communities, FSEs can supply seeds that are proven to be adapted to the local farming conditions and taste. The FSE will also help ensure that farmers are provided with the right cultivars for their different agro-ecosystems and drought mitigation, and where the FSE can utilize donor agencies as market conduit and opportunities. Finally, (4) FSEs can be linked to an entire food value chain catering to lower income, middle and high income societies for food products in local village stores and supermarkets to restaurants².

Farmers' seeds for FSEs can be categorised as (Argumedo and Salazar 2012):

- A. Traditional varieties, some of which are of premium value maintained and improved by local farmers. These are major crops like rice, wheat and potato, and including vegetables and other Neglected and Underutilized Species (NUS).
- B. Modern high yielding variety (HYV) produced through farmers' traditional system or with the aid of PPB. At the moment, most of these are self-pollinating major crops;
- C. Improve Open Pollinated Variety (OPVs), like maize and sorghum, produced by farmers through their traditional system or through PPB;
- D. Premium and improved varieties of vegetative propagated crops, either as seedlings or as true seeds;
- E. Hybrids of major food crops, especially for drought conditions (a more recent development).

Potential market niche of FSEs (ibid):

- A. FSEs may have a strong role in countries where the seed industry is described as “emerging” and where the small farmers themselves are the main source of seeds. In this situation, the public and private companies supply no more than 20% of the seeds of most food crops and have marginal interest on varieties that are of most relevance to countries food security (Neate and Guei, 2010).
- B. The varieties of the formal seed system are often not adapted to complex and variable conditions. Reliable, timely and affordable seed supplies are often not possible for many

² For example, 2 Global Link partners have local gourmet restaurants: ANDES in Peru and DDS-IIED in India.

geographically remote and marginal areas. Governments are unable to control quality and fake seeds restrain demand (Almekinders, 2000, Thijssen et al, 2008). At the same time, the focus of the formal sector, especially of the private sector, is on crops with a significant commercial demand for seeds.

- C. The informal system, although more dynamic and flexible, faces problems of varietal purity, seed health and yield stability. Continuous use can lead to a degeneration of the seed quality, farmers' seed storage and production maybe sub-optimal affecting seed vigour and seed health, farmers' network of exchange may not take place under certain geographical, cultural and social contexts (Almekinders, 2001, GTZ and CGN, 2010). Establishment of FSEs offers a potential of addressing these weaknesses.
- D. A major role of FSEs is as the interface between the formal and informal seed sectors. FSEs can also have a stronger role in the diffusion of self and open pollinated crop seeds, vegetatively propagated seeds, and locally demanded crop seeds that are not profitable to seed companies. This is the case of varieties with an uncertain demand from farmers due to competition from farm-saved seeds (e.g. grain legumes), crops of low multiplication rates, transportation and storage difficulties (e.g. root and tuber crops), or varieties that are marginal and specific to local preferences (Thijssin, et al, 2008).
- E. FSEs can have a role in producing and distributing hybrid seeds to small farmers in marginal areas, who cannot afford the associated cost and risk, but where hybrid seeds are useful options.
- F. The most important role of FSEs is on enhancing the diffusion of farmers' seeds and its contribution to the conservation and broadening of the genetic base of crops, and the strengthening of the role of small farmers in plant genetic resources (PGR) management. The broadening of the genetic base of crops by the FSE can be achieved by marketing certified seeds of high potential local cultivars, marketing farmers newly bred varieties from PPB, partnership with plant breeding institutions to help release and diffuse greater number of stable and high potential cultivars neglected and under-utilized by seed companies (for reasons like efficiency and economy of scale); utilizing registered cultivars owned by government research institutions not commercialized by private seed companies.
- G. Given point F, it is therefore important that FSEs are not limited to crops and varieties that are not addressed by the formal system. The FSE need to help broaden the genetic base of crops, and help strengthen farmers' seed system by providing access to the wider seeds market. At the same time, it must be commercially viable, which is often best realized by engaging in major crops and types of cultivars where demands for seeds are highest. In fact, major crops are where PGR have been eroded; and where farmers are dependent on external sources of seeds. Major crops are also more financially viable and can offset the cost of producing other crops, which are less commercially attractive and often dependent on repeat customers (eg. small grains).

2. Make or break points: Decisive components in FSE establishment and operations (ibid):

- A. Demand. Commercialization must be based on market demand, whether this demand already exists, or this demand will be created (e.g. demonstration plots that advertise superior varieties). The “demand” must be of “commercial scale” and sustained over a sufficient length of time. Questions like: how big is the market, what type of seeds or cultivars are in demand are important. In a sense, what the commercialized seeds provide are seeds that are difficult to save on farm and useful for the farmers to buy³. The degree of difficulty in producing the seeds and its related management requirements may determine how these are priced, in addition to the willingness of the farmers to pay the extra seed cost because of the seeds’ usefulness. This is the “margin” where commercialization will earn its profit. As a common feature, once producing seed of high-value crops, it is relatively easier for a seed enterprise to expand into other crops, even those that are less profitable, as it allows the enterprise to develop its skills and resource base Guei, 2010; Thijssen *et al.* 2008).
- B. Markets. Understanding, managing and the creation of the market is one of the most important steps in commercialization of farmers’ seeds. The grasp of the different facets such as knowledge of the volume, peaks and fluctuation of the demand are crucial. Commercialization also requires development of marketing approaches (e.g. sample seed packets, demonstration farms, farmer seed fairs). Market chains and the commodity end need to be identified and developed. The FSE need to use existing marketing networks dominated by agro-dealers. Networking with seeds and agriculture input businesses are needed taking into considerations the risks and potentials that need to be managed. Different marketing plans are crucial for different agro-ecological conditions (e.g. well-developed and marginal areas), for different types of farmers (small, medium, large), for specific types of seeds.
- C. Organization of seeds production. The three broad categories are: a) seeds produced by selecting from a regular farmer’s field; b) seeds from separate production fields; c) specialized seed farms, e.g. hybrid seeds production or small seeded crops where management requirement is very high. The dominant experiences of farmers’ seeds sales (traditional and improved varieties through PPB) fall under the first category; price of these seeds range from 5 to 10 % higher than harvested grains. There are experiences at the second category. This happens when a seed buyer (local entrepreneur, government or aid agency) orders an amount of seeds. This is common in Vietnam, Laos and in Africa – Ethiopia, Sierra Leone and Zimbabwe. The seeds’ price goes as high as 25 % of the price of harvested grain. Experiences in the third category are limited with lesser quality but more affordable hybrid seeds.
- D. Availability of improved and premium varieties. While breeding is supposed to meet traits demanded by the market, demand is often the result of the presence of farmers’ good varieties, and the presence of advance and high potential cultivars from research institutions neglected by larger seed companies. Without these varieties, farmers are in a

³ The reason for this difficulty is maybe due to genetics; like hybrids, hard to fine premium varieties, or the cultivars DUS has deteriorated. Or the demand maybe due to seeds types that are difficult to keep pure on-farm, storage problem leading to loss of germination percentage, difficulty in managing seed-borne diseases, and availability at a certain volume at a given time.

sense, simple contract growers⁴. The continued breeding of new varieties is a major component in the commercialization of seeds. This will require strengthening farmers' capacities to breed new varieties and strong ties with national/international breeding institutes. The preferences of end users- consumers, agro-dealers and seed companies also need to be factored in and take part in varietal testing (Bentley et al, 2011). At the same time, there is a need to assess farmers' capacity in producing marketable cultivars and their capacity in producing high quality seeds.

- E. Regulatory measures. There is a need to protect farmers from inferior varieties and seeds. Varietal registration and seeds certification are important tools to ensure quality and developing good relations with national seed registrars is crucial, for their support in capacity building as well. Farmers' seed enterprises must utilize these regulatory mechanisms and help strengthen these measures. However, these processes are sometimes more suited for bigger seed companies and restrictive and difficult for farmers' varieties and seeds that are often more useful for local adaptation. FSEs may need to advocate reforms to strengthen wider sources of varieties and seeds rather than the use of these regulations to limit the number of players and encouraged monopolies in the seed market. *Instead of quality control, quality assurance is needed.*
- F. Seeds Quality Standards. Seed quality is of paramount importance. The quality of the seed lot will only be observed once the seeds are growing in the field and must be monitored and approved by an accredited seed inspector. A supplier of poor seeds will never be forgiven. Impurities cannot be tolerated as synchronized flowering is needed, processing requires a higher degree of uniformity, mixed weed seeds are disastrous especially when farmers broadcast these seeds, and germination rate must be consistent. Processing, storage, packaging and transport are decisive factors that can ruin the quality of seeds. Trust on the source of seeds is of highest importance. Seed companies and their brands are often symbols of dependability as far as quality is concerned. Similarly, farmer seed growers trained under PPB are recognized in many countries as sources of high quality seeds. The quality of seeds is not a problem when farmers exchange and sell among neighbors. They know who to trust and farming communities know the best local sources of seeds. But commercializing these seeds is another matter. Production, processing and distribution of seeds may affect quality and price and, therefore, future and sustained seed demand (Almekinders, 2001).
- G. Entrepreneurship, management skills and profitability. Experience showed that the success of FSE depends on having a strong business discipline. Farmers are, in a sense, entrepreneurs at the production levels. However, they cannot be easily transformed into business managers for the production, processing and marketing of seeds at much higher volume and larger markets compared to their traditional local seed exchanges and sales. The establishment of a seed enterprise with the discipline to look hard into costs, profit margins, investments, risks, opportunities, efficiency, product management, is important. At the same time strong management skills to manage infrastructure, labour, technical tasks, finance, bookkeeping, is needed. Also important is capacity to make longer-term and shorter-term business plans with specific plans for different crops, for different eco-

⁴ For this business plan, it is not advisable for Oxfam Novib to pursue simple contract growing arrangements; unless it is a stepping stone to a bigger ambition. Contract growing is a well-established business model; there is little room for innovation to justify the engagement of a subsidized operation of Oxfam Novib. And while fair prices and better labour conditions can be negotiated in contract growing, this is the focus of this business plan.

systems and different groups of farmers, etc. There is a need to involve entrepreneurs, business managers with ample experience in the local seed sector and agri-business to spearhead the FSE. Transferring knowledge from the experience of established private seed companies in the relevant crops is also critical. This will also include the training of seed/farm extension for monitoring and technical support, local seed quality control, processing and basic laboratory steps; and at the level of business management marketing; supply, inventory, revenue collection, etc. Support is most important at the start of the enterprise as local capacity is built up.⁵

- H. Access to credit / cash flow /capital. Feasibility studies are needed to have an overview and in-depth analysis of the market and the risks and opportunities. From these assessments, the needed infrastructures and capital investments including expertise and trainings will be defined. Access to credit and capital is important and may need to be subsidized. Cash flow in financial planning is important for FSE development as seed business has a highly seasonal character and will have high cash demand in a short period that may not be recouped for several months later. Tailor-made business plans, based on demand analysis and developed with stakeholders and trainers are a prerequisite for FSE development⁶. Setting up a revolving fund to manage self-capital is a consideration and has been proven successful for other FSE start-ups. Constructively engaging local financial institutions and building a good credit history will also be important (Bentley et al, 2011).
- I. Infrastructure. Seeds production at commercial level may need additional investments in seeds processing, storage, packaging and distribution. However, a careful cost analysis needs to be conducted and outsourcing also should be considered. The seed farms shall remain to be farmers' own field in order to reduce initial investment costs. The emerging model will also utilize farm and farmers with existing access to irrigation (as irrigation is capital intensive). There is maybe a need to start small and at the most basic investments in infrastructure until initial experiences define the scale of the investments. The most important capital investments might be on transport facilities, seed processing equipment, and storage facilities. Private seed companies can provide information and advice on the most appropriate and basic infrastructure investments.
- J. Institutional linkages. There is a need to set up formal and informal linkages with government institutions, research centers, NGOs, seed entrepreneurs, farmers unions and cooperatives, etc. These linkages will help in developing the market, help in development of new cultivars, help in resources for business and technical capacity building, etc.
- K. Business model: Commercialization of farmers' seeds is a tension between development intervention and business enterprise management. Just as the establishment of commercial seed companies required long term commitment; this is especially true for FSEs. The establishment of FSEs would require an independent legal identity, separate from e.g. the host CSOs.

⁵ Experiences shows that subsidized operations fail especially when operations is mixed with development objectives, like the focus on selling subsidized seeds to the poorest farmers in marginal areas.

⁶ Cash flow is a common constrain in countries due to the lack of financial services aimed to this type of enterprises. Banks are generally reluctant to finance farmer seed enterprises due, among other factors, to the high risk of the commercial product involved. This situation creates FSE dependent on external sources (NGOs, donors, etc) and limits their sustainability to the duration of the funded scheme period. (Jalil, 2012).

- L. Diversification: It is important to spread risk and sell more than one crop or to even include other non-seed production activities, especially during the off-season as additional revenue should be considered to maximize resources and opportunities. (Bentley et al, 2011)

External Assumptions (Country specific)

- A. The work of current and potential ON partners on seeds have the potential to meet 2.C, 2.D, 2.E and 2.F of the above make or break points. This potential already exists and would need to have their capacities strengthened to meet FSE requirements.
- B. The potential markets for farmers' seeds exist as described in 2.A and 2.B
- C. Institutional support to meet regulatory requirements and/ or adaptations to accommodate farmers' seeds exist can be mobilised as described in 2.D, 2.E and 2.J
- D. Oxfam Novib will lead and mobilise a "coalition of the willing" to mobilise financial resources (grants, investments, crowd funding), PGR materials (seeds and pre-breeding materials) and knowledge and expertise (business operations, investment and finance, promotions and communications), especially business expertise from the Dutch seed sector as described in 2.G, 2.H, 2.I, 2.J and 2.K. This will be done via a multi-stakeholder platform with representation from all the key sectors: farmers, government, private sector, financial institutions, research institutes and other relevant actors.

Policy considerations (Country specific)

For Pillar 2, establishing a pilot Farmer Seed Enterprise in Zimbabwe will allow Oxfam Novib to test multiple aspects of the current seed law and how it affects farmers rights to produce and sell seeds in local markets. While some plant breeders rights laws may currently be favorable to farmers exchanging and selling seeds, there is increasing pressure to harmonize IPR laws on varieties in some regions, for example SADEC, through the Arusha Protocol, which will make UPOV 91 the regional norm. How this will then be interpreted on a national level and the impact on smaller scale seed businesses will need to be carefully monitored. The FSE, in collaboration with other similar initiatives will play a role in informing and influencing this process by proposing concrete recommendations grounded by their own experiences.

Sources:

Argumedo, A. and Salazar, R. 2012 '*Challenges in Commercializing Farmers' Seeds: A potential approach for small farmers in developing countries*'. A discussion paper commissioned by Oxfam Novib for the seeds expert consultation. 12-13 November 2012, Vietnam.

FAO, 2009. A Global Treaty For Food Security and Sustainable Agriculture. International Treaty for Plant Genetic Resources for Food and Agriculture.

FAO, 2010. The Second Report on the State of the World's Plant Genetic Resources for Food and Agriculture. Rome.

van der Hurk, A. 2012. *'Plant Breeding, How to protect rights'*. A presentation from Plantum NL for the seeds expert consultation. 12-13 November 2012, Vietnam.

Manicad, G. 2011. *"Putting Lessons into Practice: Scaling up people's biodiversity management"*. A discussion framework. The Hague: Oxfam Novib

Manicad, G. 2004. Facilitating knowledge systems interaction in the management of plant genetic resources. The Hague: International Services for National Agriculture Research (ISNAR).

Van Mele, Bentley, Guel, 2011. *African Seed Enterprise: Sowing the seeds of food security*. FAO and AfricaRice by arrangement with CAB International.

Oxfam Novib 2013. *Integrating Farmers' Seed Systems into the Market: "What do we gain? What do we lose? What do we do?"*. Expert Meeting Synthesis Report. The Hague.

Salazar, R. 2012 *'Intellectual Property Rights (IPR) and Commercializing Farmers' Seeds: a potential approach for small farmers in developing countries'*. A discussion paper commissioned by Oxfam Novib for the seeds expert consultation. 12-13 November 2012, Vietnam