

The role of trust in the acquisition of seeds

Lone B. Badstue

Seeds are the most important input in all crop-based agriculture and a prerequisite for the majority of the world's food production. They provide the basis for crop improvement, allowing farmers and plant breeders to develop cultivars with high levels of adaptation. Seed management is therefore a central issue for farmers, and a key element in addressing the challenges of responding to farmers' different requirements and preferences, increasing production, and achieving food security.

Although the adoption of improved varieties through the formal seed systems has been significant in large parts of the world, the formal systems' share of total seed supply remains low. Informal farmer-to-farmer seed distribution continues to be the prevailing system of seed supply for small scale farmers in many developing countries. These mechanisms are mostly based on traditional social alliances and family relations, and are based in the context of mutual interdependence and trust. However, despite the fact that farmer-to-farmer seed exchange is widely recognised as an important source of seed for vast numbers of farmers, little is known about how these systems function. This article draws on a recent study carried out in the Central Valleys of Oaxaca, Mexico, a center of maize genetic diversity and

domestication, focusing on the importance of social relations in seed transactions and on the central role which trust plays in the acquisition of seeds.

A general lack of transparency

Farmers require seeds of good quality and with the characteristics they need for their particular agro-ecological conditions and objectives. However, these aspects can be difficult to assess when acquiring the seeds, for seeds are not "transparent". In other words; it is impossible to know the traits and the performance of the plants that will grow from a particular bagful of seed merely by looking at it. This will only be known when the seed is planted and the crop develops. Seed quality is made up of a range of factors and can be difficult to judge, in particular the seed's ability to germinate. Age, pathogens, or inappropriate storage may affect germination, but these factors are not necessarily visible to the human eye. This principle also applies to other types of planting material, such as tubers and cuttings. It is possible to determine that the material in question is banana, yucca or potato, but the amount of information you can get by visual inspection of the tuber or cutting is limited. Beyond colour, size and possible damage by insects or pathogens, you cannot know the specific characteristics of the plant that will grow from it, or its ability to perform under a particular environment.

Lack of transparency is further influenced by the many environmental factors which determine crop performance. This is especially relevant in open pollinated species which display greater variation from one generation to the next (in contrast to plants growing from tubers or cuttings, or self-pollinating species). Maize, for example, exhibits what plant breeders call a high genotype-by-environment interaction, meaning that its performance across different agro-ecological environments depends on its specific genetic make-up. In other words, a genotype or maize variety, which performs well in one environment, may not do so in another.

As a result, even though they may inspect the seed before obtaining it, farmers therefore depend largely on the quality of the information offered by the seed provider with regards to traits and consumption characteristics, environmental adaptation, and seed quality.

Trust in your own seed

Among the traditional farmers in the Central Valleys of Oaxaca, selecting and saving seed from their own maize harvest is by far the most common way of obtaining seed for the next planting season. There are many reasons for this, but one of the first things farmers mention when talking about maize seed practices is "confidence" or "trust" in their own maize. This refers to the farmers' notion of trust in the seed they have selected themselves. That is, the belief that the plants germinating from this seed will live up to a certain standard under the particular production conditions on the farmers' land.

These concerns are also reflected in a broader sense in local seed management practices. Farmers choose maize varieties according to characteristics they need, knowing the performance of the plants that the seed came from under particular agro-



Planting maize on Catalina's land in Sta. Ana Zegache, Central Valleys of Oaxaca, Mexico.

Photo: Author

ecological and management conditions. For social, cultural and agro-ecological reasons, a variety that may be appropriate for one farmer is not necessarily appropriate for another. By using seed that a farmer knows and trusts, the risk of crop failure is minimised. Hence, what better option is there to suit your own needs and preferences and to minimise risk, than to use the seed that you know and select yourself? The farmer knows the characteristics of the maize in question, as well as its management and performance under the particular circumstances where it was cultivated. She also knows exactly when and how the seed was selected, and how it was stored. Even the consumption related characteristics of that particular maize are usually well known by the farmer's household.

Finally, the ability to select and save maize seed from one season to the next is highly valued by small-holders in this region, and is part of what constitutes the local notion of a good farmer (while seed loss appears to be associated with a certain stigma). Nevertheless, there are also other times when farmers look purposefully for external seeds. For example, when the harvest is poor or seed losses have occurred during storage; when the family has used the seed for consumption or sold it all to cover other needs more urgent at the time, or simply, as is often the case, when they wish to try other kinds of maize.

Acquiring maize seed from other sources

Other farmers, market vendors or the agro-veterinary stockists in the larger regional centres, are alternative sources of seed. However, due to the lack of transparency, seed obtained from these sources will always be accompanied by a lack of adequate information.

Broadly, farmers in the Central Valleys of Oaxaca express general trust in their fellow villagers. Although each individual may have stronger feelings of trust (or distrust) towards certain people in particular, many find it inconceivable that other farmers from the same community would knowingly provide them with low quality seed. For instance, over the years, Cutberto has planted various different types of local maize landraces. Like most farmers in the area, he saves seed every year of the maize varieties he wants to keep. He has never bought seed at the market. Instead, whenever he has tried out a new maize variety, he has acquired seed from other farmers in the community. Explaining his preference for obtaining seed locally, Cutberto says: "How can I sell you something that doesn't work? Next moment, you'll be back to complain or to ask me why I sold you bad seed!" Transactions in the marketplace are different: "There, there is nowhere to complain! Even if you remembered who sold it to you – how are you going to find him? And as you see what you buy, the guy who sold it can say that he is not to blame. Here, if I sell them something that doesn't work, they will complain!" Most other farmers share his view, considering that in the city "it is much more commercial". A large number of vendors on weekly market days are in fact farmers who travel to the market to sell their produce. "They are there to sell. And as soon as they finish, they are off."

A farmers' experience

Catalina's experience buying maize seed at the market illustrates farmers' doubts with regard to acquiring seed from unknown sources. "I felt like trying out the type of [maize] seed from San Martín" she recalls. "It wasn't that I had lost my own seed; it wasn't that I didn't have seed, mind you. I felt like trying this round, fat maize that they have. But I got so mad! I bought the *palomilla* (grain moth)! It was in the market in Ocotlán, where



Photo: Author

Cutberto and his family have a break from working in their maize fields.

Farmers like Cutberto clearly feel it is much more risky to buy seed in a shop or at one of the regional marketplaces, than to get it locally in the community where people by and large know each other, and will have to live with the consequences. In the situation where no previous relations exist between the seed provider and the buyer, the farmer has to rely on the information provided by the seed vendor. Some farmers realise that vendors will not want to be seen as untrustworthy, and assume that he or she will therefore behave in a trustworthy manner. Still, traditional smallholders in the Central Valleys of Oaxaca have very little trust in market vendors and shopkeepers in the nearby market towns and the city of Oaxaca, and they tend to be suspicious about the motives of the vendors. They have little confidence both in the information about the seed provided by the vendors, and in the quality of the seed (see Box). Farmers know that, if there is any problem, they will be told that they did not sow properly, or that their fields were not irrigated on time.

When buying (certified) maize seed from agro-veterinary stockists or (farm-produced) maize seed from market vendors, farmers perceive a greater lack of transparency and information than when acquiring maize seed from other farmers. If seed is bought from an agro-veterinary stockist or from a market vendor, and the crop fails despite "normal" weather conditions, this will very likely be blamed on the seed source. Although a governmental system controlling the quality of formal sector seed exists in Mexico, there are no mechanisms controlling the sale of expired seed at the retail level. Also, small quantities of

people come to sell their goods. That's where I got it. The seed looked good and I took it home and left it in its bag. When I was ready to plant I opened the bag, and a cloud of *palomilla* came out! And by then it had contaminated the whole house! It was full of *palomilla*! I still planted the seed, but only a few germinated!"

certified maize seed being sold are usually weighed out of a big sack, and are not accompanied by information about the seed, unless the seller volunteers verbal information.

Though it is difficult on this basis to judge whether farmers' doubts and suspicions are justified or not, the point here is that farmers perceive the formal seed sector and other non-local seed sources as less trustworthy and as such also more risky. These farmers therefore prefer seed providers whom they consider to be trustworthy persons; a concept, which may refer to different categories of people, including kin, friends or acquaintances the speaker knows and trusts.

The role of relations of trust and reciprocity

The most important form of trust at work in the farmer-to-farmer seed exchanges in the Central Valleys of Oaxaca is reciprocal trust. This refers to interactions in which trust is mutual or two-way and may be based on interest, feelings of affection, responsibility or shared values. Oaxacan popular culture has a strong tradition of reciprocity and mutual help, principles that remain a significant characteristic of social life despite rapid social change in recent times. This is evident most of all among family members and close relationships (such as between *compadres*), but also in the various village life institutions in which everyone is expected to contribute his or her share. To a certain extent, this is also reflected in local maize seed transactions – more often than not, exchanging seed is just one of several kinds of exchanges taking place between the two parties, thereby forming part of a diverse flow of favours, services and mutual considerations. Social networks and personal relations with different people can help make life easier and provide relief, for example, when emergencies arise, or when new maize seed must be obtained.

For those who cannot pay for the seed with money and therefore depend on negotiating another type of transaction (such as borrowing or exchanging for grains), it is also important that the seed provider is someone they feel confident to approach and who is likely to grant their request. This consideration is linked to a local notion of what it means to be “a good farmer”, which besides being skilful and observing local customs also includes issues such as personal integrity, independence and the ability to look after the family's needs. Sometimes it can cause awkwardness or embarrassment when farmers find themselves in a situation where they must ask others for help. This is especially the case when the item needed is as crucial to livelihoods as seed is to a farmer.

Within a trust relationship, it is possible to ask for seed in a relatively relaxed and open manner, and most farmers explain that when they need seed, their first choice is to go to people they feel very confident with. Furthermore, farmers often know the maize types cultivated by close friends and family, and it is generally very easy to obtain reliable information about these maize types as part of ordinary social life.

The significance of trust and reciprocity is also seen when considering which farmers have trouble acquiring maize seed. Most people say that farmers who have no money and who have no relatives or other close relations who are able to help them out, experience the most difficulty. This confirms that reciprocal trust relations are very important when obtaining seeds, particularly if the farmer does not have the means to buy them.

As a closing remark it should be emphasised that a smaller part of maize seed transactions in the Central Valleys of Oaxaca do take place at the market, in other words, not with other farmers from the same community. Like farmers elsewhere, many farmers in



Photo: Author

Taking a look at the harvest: good results are evident.

the Central Valleys enjoy trying out new and different kinds of maize. At the marketplace, where people come from near and far to sell their produce, different kinds of maize can be found and often attract farmers' attention. In addition, as pointed out by a female farmer, obtaining seed at the market is an easy alternative if you want to avoid the consequences of getting seed from other farmers in the community, such as the norm of reciprocity, the feeling of “indebtedness” or the “stigma” of seed loss. The seed from such sources, with low levels of trust, are almost always planted in small plots to minimise the risk of crop failure.

The central role of trust in local seed acquisition has important implications for the question of how to convey relevant information about seed and other technologies to farmers in a straight-forward and trustworthy way. The fact that farmers are interested in experimenting and learning about different crop varieties despite the perceived risks involved, presents an opportunity concerning the development of crop genetic diversity and introducing improved varieties or other forms of formal seed sector development in the region.

Lone B. Badstue. International consultant. J.B.C. - MGA 50878, P.O. Box 52-3510, Miami, Florida 33152, U.S.A. E-mail: lone.badstue@gmail.com

References:

- Badstue, L.B., 2006. **Small-holder seed practices: Maize seed management in the Central Valleys of Oaxaca, Mexico.** Ph.D. thesis, Wageningen University, Wageningen, the Netherlands.
- Badstue, L.B., M.R. Bellon, J. Berthaud, A. Ramírez, D. Flores and X. Juárez, 2007 (forthcoming). **The dynamics of farmers' maize seed supply practices in the Central Valleys of Oaxaca, Mexico.** *World Development*.
- DiMaggio, P. and H. Louch, 1998. **Socially embedded consumer transactions: For what kinds of purchases do people most often use networks?** *American Sociological Review*, 63 (5): 619-637.
- Rose-Ackerman, S., 2001. **Trust, honesty and corruption: Reflections on the state-building process.** *Archives Européennes de Sociologie / European Journal of Sociology*, Vol. 42 (3): 526-570.
- Seboka B. and A. Deressa, 2000. **Validating farmers' indigenous social networks for local seed supply in Central Rift Valley of Ethiopia.** *Journal of Agricultural Education and Extension* 6: 245-254.