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A Microenterprise in Isabela Province in the Republic of the Philippines – Success of SALT

Steven Eliason



Gliricidia sepium

Defining Microenterprise

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<http://www.investopedia.com/terms/m/microenterprise.asp> defines microenterprise as “A small business that employs a small number of employees. A microenterprise will usually operate with fewer than 10 people and is started with a small amount of capital. Most microenterprises specialize in providing goods or services for their local areas.”

In this article, I would like to describe a microenterprise developed in Isabela Province, the Republic of the Philippines in mid-1990s.

Microenterprise is a much talked about topic these days, and its relevance to addressing the economic concerns of rural and urban parts of the world cannot be exaggerated. Much publicity is given to successful ones, and most governments take initiatives to promote projects. But like any business venture, not all are successful, so we also need to give consideration to failures and see what lessons can be learned for future work.

Poor Living Conditions

During mid-1990’s, the conditions in much of the province of Isabela was, indeed, dire – poor water supplies, roads and electrical service. In addition to these conditions, a significant portion of the agricultural land was sloppy, a major complication given the technology available.

Introduction of SALT

A Southern Baptist agricultural team introduced and implemented the SALT (Sloping Agricultural Land Technology) strategy to combat these difficulties. Filipinos were trained at a demonstration farm in Mindanao, the second largest island in the Philippines, and took the technology to the remote regions of the island.

Since most farmers there were without access to the more valuable irrigated land used for rice farming, this technology addressed the two main problems faced when farming such land: erosion and expensive fertilizer.

Land as a Necessary Component for SALT

In order to develop a microenterprise demonstration, land is a necessity. Land ownership is a major problem in most of the developing world, and in many ways it has been the source of most of the poverty. When Spain colonized the Philippines the shrewdest Filipinos nurtured relationships with them and eventually become the powerful land owners. They in turn leased the land to the poor who lived a hand to mouth existence, often forced to plant what the owners dictated as well as sell it to those who lent them money to farm. It was a system rank with conflict of interest and corruption. Some level of freedom could be brought to the very poor through a microenterprise that reduced their dependence on money lenders.

A Description of SALT Technology

Here is a simple description of the technology from a report on the website of the Food and Agricultural Organization of the United Nations:

<http://www.fao.org/ag/agp/AGPC/doc/Publicat/Gutt-shel/x5556e0y.htm>

“The strategy of using tree legumes to improve the fertility and stability of agricultural soils is receiving increased attention in developing countries. It provides a means for resource-poor farmers to achieve sustainable production without the use of expensive, and often unavailable, chemical fertilizers.”

SALT is a form of alley farming in which field and perennial crops are grown in bands 4-5 m wide between contoured rows of leguminous trees and shrubs. The latter are thickly planted in double rows to form hedgerows. When the hedge reaches 1.5-2.0 m in height, it is cut back to 40 cm and the cuttings are placed in the alleys between the hedgerows to serve as mulch and organic fertilizer or green manure.



Calliandra calothyrsus

The species used in the hedgerows include *Leucaena leucocephala*, *L. diversifolia*, *Calliandra calothyrsus*, *Gliricidia sepium*, *Flemingia macrophylla* and *Desmodium rensonii*.

Farmers are encouraged to use a combination of these species or other fast-growing, fast-

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coppicing and high-biomass leguminous trees or shrubs found to be suitable on their respective farms. Presently, testing is conducted to assess the performance of over 20 species of shrub and tree legumes for hedgerow and forage use.



Coffee Plantation

Courtesy: http://en.wikipedia.org/wiki/Coffee_production_in_India

Rows of perennial crops such as coffee, cacao, citrus and banana are planted on every third alley created by contoured hedgerows. The alleys not occupied by permanent crops are planted alternately to cereals (e.g. corn, upland rice or sorghum) or other crops (e.g. sweet potato, melon or pineapple) and legumes (e.g. mung bean, string bean, soybean or peanut). This cyclical cropping provides the farmer with several harvests throughout the year. The average monthly income to one family from 1 ha of SALT farm is approximately P1300 (1 US\$ = P25/ the exchange rate in 2013 is 1US\$ = P43).

Crops in a SALT Farm

On a SALT farm, a farmer can grow varieties of crops familiar to him. SALT can be adapted to incorporate new or traditional farming techniques. If farmers leave the land fallow for one or two cropping cycles, the leguminous trees and shrubs will continue to grow and may be harvested later for firewood and charcoal (Tacio 1991).

Importance and Necessity of Marketing

Dr. Phil Bartle speaking to trainers or mobilizers in microenterprise development in his paper on microenterprise marketing says, “Many of your target group, when they first consider going into business for themselves, think of retailing merchandise. Of course, you, as a mobilizer, should not dictate to them what sector to choose, or to avoid. You may, however, let them know that the market is glutted with too many small scale merchants, those who buy wholesale (or from shops) and sell in retail in smaller quantities (e.g. stalls or walking on the streets). What wealth do they create? Little... Whenever possible, encourage your target group member to choose activities of production... These are where the greatest economic needs are in developing countries, and where microenterprises are most likely to prosper and be sustained, and where they will contribute the most to economic development.”

Plant What Is *Needed* and What Is in *Demand*

What this means is that while implementing the technological aspects of the SALT program will demand most of the attention, the long range objectives will dictate the details of the farm, such as what crops will be planted. Ultimately, this is because to have the most impact in the communities, “activities of production” will have to be identified. In the same article, Dr. Bartle writes, “To be successful you must have products or services which your clients want.

Product is the first foundation stone to reach the customers. Therefore it is important to find out

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what your customers need. Produce a product that is wanted.” The first work of the business will be to decide who the customers are and what they want from the three main agricultural focuses of the farm: horticulture, animal husbandry and forestry.

The Horticultural Component

The horticulture component will be critical to the success of any SALT microenterprise project, because this touches the life of most of the people in the area, and it is their current agricultural practice that the demonstration farm hopes to impact. Most of the farmers in the area planted corn because the slopping land makes other crops difficult to plant and there is a ready market for their produce. There are very few vegetables or legumes (mung beans or peanuts) and rice can generally only be planted in low lying areas during the rainy season. The agricultural limits of the slopping land in this area are the main reason for the development of SALT.

So, it becomes necessary for us interested in developing microenterprises in agriculture to choose that which suits the land, irrigation conditions, market demands, etc.

Ten Steps for the Implementation of SALT

There are 10 steps required to implement SALT. This proposal demands that we remember that we are in the context of the poor, who are generally uneducated yet intelligent people, so the technology must be simple and understandable. Much of the work can be done before the marketing questions mentioned above are answered. These steps are applicable to all the forms of SALT: Sloping Agricultural Land Technology (SALT 1), Simple Agro Livestock Technology (SALT 2), Sustainable Agro-forest Land Technology (SALT 3), and Small Agro-fruit Livelihood Technology (SALT 4).

Steps Adopted: The First Step

Again, considering the educational and financial situation of the people, the first step is to make an A-frame device designed to locate the contour lines of the sloping hillside. This is an inexpensive, simple device that is technologically effective and easy to use. All that is needed are three sturdy wooden or bamboo poles, a saw to cut them with, nails, a carpenter's level and a string or rope. This replaces the more complex and expensive surveying devices. Training them to use it will be relatively easy because it is a very simple and intuitive tool.

Steps Adopted: The Second Step

The second step is to locate the contour lines on the sloping hill. For this task it is much easier to use two people, one to operate the A-frame device and the other to stake the lines. One should begin near the highest point of the property, clearing unwanted vegetation as the lines are marked. The two criteria for determining the distance between the rows is vertical drop (pitch or "rise") and surface distance ("run"). No more than a one meter rise is recommended in order for the hedgerows to be effective erosion control. If there are points on the hill where it flattens out, even if the rise is less than one meter, the hedgerows should run no farther apart than five meters in order to maximize the benefits of the nitrogen fixing plants. In this way, the fertilizer component of the technology can be used to benefit soil fertility and eliminate most of the expense of commercial fertilizer.

Steps Adopted: The Third Step

The third step is preparing the contour lines by plowing and harrowing along the stakes. It is critical to follow them or the terracing effect of the technology will be lost. The tendency is

to attempt to make the run (the distance between the hedgerows) the same – it is more pleasing visually, but is less effective for erosion control. This means that the strip could vary in width by as much as four meters depending on the angle of the slope. The plowed space should be one meter wide to allow for two rows of hedges and a space between them.

Steps Adopted: The Fourth Step

The fourth step is to plant seeds of nitrogen fixing trees or shrubs along the staked contour. Nitrogen fixation is a chemical process by which nitrogen in the atmosphere is converted to a form that frees up the nitrogen atoms to be used in other ways; not all plants do this. This process is essential because nitrogen is required to biosynthesize the basic building blocks of plants. This is why the label on all fertilizer bags is required to show the percentage by weight of nitrogen (N), along with available phosphate (P) and soluble potash (K). The ability of these types of plants to grow in poor soil and in areas with long dry seasons make them good for restoring soil of all kinds. Through natural leaf drop they enrich the soils and their hardiness allows them to compete with other weeds and grasses. There are several varieties of these, and the DENR (Department of Environment and Natural Resources) in the Philippines would be able to recommend which would be the best, although I am familiar with the two I would likely use. The critical point to be considered is that they are in fact nitrogen fixing plants. Most governments would have a similar department, and they should be contacted before a project is started. It is very possible that such a project is on their “wish list” and cooperating with the local government to achieve development goals adds to the likelihood of success.

Steps Adopted: The Fifth Step

The fifth step will be to cultivate the land between the sets of hedgerows; this land is known as the strip, alleyway or avenue. It is the place where the cash crops are planted. Until the hedgerows are established and able to provide erosion relief, it is best to alternate strips for cultivation, leaving every other strip fallow. If not, too much topsoil loss is likely to occur. The kind of the crops planted in these strips would greatly depend on what product restaurants or other businesses in the province would be interested in buying.

Steps Adopted: The Sixth Step

The sixth step in SALT 1 is to plant permanent crops every third strip. This can be done during the same season as the hedgerows are planted. Plowing should not be done, but simply dig the holes and plant the seedlings (or “corn” if it’s a banana). In Isabela, fruit trees that do well like banana, calamansi, lanzones, and mango, along with experimental trees like coffee or cacao should be planted. Taller crops should be planted at the bottom of the hill because of the shade factor, but shorter shade-tolerant trees could be intercropped with them. If SALT 4 is going to be utilized, two thirds of the strips will be planted with fruit trees and the other third with food crops. Before committing that much land to trees, a thorough business assessment would need to be done to determine viability.

Steps Adopted: The Seventh Step

The seventh step is to plant short and medium-term crops in the other strips or even among the permanent crops. These are the source of food and regular income needed while waiting for the long-term crops to bear fruit and are plants the locals will be familiar with – pineapple, sweet potato, peanut, mung bean, corn or ginger. Again, the shorter plants must be kept separate from the taller ones to avoid shading. If the business project includes prepackaged

food to be sold to restaurants, the conversations with these customers would determine which of the short- and medium-term crops would be planted.

Steps Adopted: The Eighth Step

The eighth step begins the process of incorporating the growing nitrogen fixing plants into the soil, and is the way the twin objectives of reducing erosion and dependence on commercial fertilizer are accomplished. About once a month the hedgerows should be cut down to a height of one half to one meter from the ground. The pruned leaves and twigs piled at the base of the crops and away from the hedgerow. This serves as soil cover to minimize the impact of rain on the bare soil; it also cools the soil by shading it, hinders weed growth and acts as an excellent organic fertilizer. It may not completely eliminate the need for commercial fertilizer, but does have the potential to reduce the amount significantly (to about one-fourth the quantity).

Steps Adopted: The Ninth Step

The ninth step is to practice crop rotation of the non-permanent plants. So many farmers simply plant corn year after year which depletes the soil of its fertility. With this system it is easy to remember to alternate grains that are non-legumes (like corn or rice) with legumes (mung bean or peanuts) on the strips. This practice will help maintain the good condition of the soil and improve fertility. It is also necessary to use good farming practices like weed, pest and insect control.

Steps Adopted: The Tenth Step

The tenth step directly addresses the control of soil erosion. The double hedgerows of nitrogen fixing plants eventually serve as a natural block for soil as gravity moves it downhill.

As farming continues, soil will begin to pile up at the base of the higher hedgerow. Make it a practice to gather stalks, twigs, branches, and rocks that fall or appear in the strips and place them in between and at the base of the higher hedgerow. By doing this regularly, you can build strong, sustainable and natural terraces which will anchor the soil where it is most useful.

Saleable Product

To implement the business strategy of creating activities of production, experimentation regarding some of the crops would need to happen in order to have a unique and saleable product. SALT is a known entity in the Philippines, and the technology tracks with much of what the DENR is commissioned to do (help the poor to develop, utilize and conserve the country's natural resources), and they should be a tremendous support for the project. In spite of the complications of working with the government, the advantage for the farm in marketing and public relations would be worth the time investment. There are some excellent people, knowledgeable and sincere that would love to promote such agricultural experimentation.

Re-doing the Objectives

The objectives listed on the MBRLC website (<http://www2.mozcom.com/~mbrlc/>) could serve as an example for any microenterprise involving agriculture: “1) To research and develop appropriate farming technologies, systems, crops and livestock that will help Filipino farmers increase and sustain their production and income; 2) To extend these farming schemes proven to be sustainable to upland farmers, especially tribal groups on Mindanao and throughout the Philippines; 3) To educate and train farmers and farm families in sustainable farming technologies, primary health care, and Christian living, and; 4) To enable people to understand that God loves them and that He has a purpose and plan for their lives.”

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Clearly defining the objectives by adjusting those of the MBRLC to suit individual projects developed by others would have to be the first item on the to-do list. Without the buy-in and support of local coworkers for these objectives it would be pointless to begin the project.

Barriers to Success

Any good business proposal must face potential barriers to success. The second aspect to consider is the need to catalog the list of hindrances to implementation. The remoteness of the property is another factor. Normally, most projects could begin only in remote territory because land is always hard to find and is expensive. The biggest problem with being so remote is the road and the complications of transportation. Another hindrance is the fact of poor electrical service. Great improvements have been made in this area, but being the end of the road normally means we are the last to be serviced. The farm would need reliable backup power, so a generator large enough to keep production going and to keep it from spoiling would have to be purchased. This would likely not be necessary until such production was nearing implementation.

In my mind the greatest hindrance will be selling the technology to the local people; we may fail to get coworkers on board the first time for this reason. The point of a demonstration farm or any microenterprise is to first demonstrate that it works and second to demonstrate how it works. These farmers realize that they have a lot to lose if a commitment is made to something new. It is normally safer to stick with what you know and leave risks to those who can afford it. This is understandable, but it is why a very public demonstration is not just helpful, it is absolutely necessary.

Starting businesses (Bartle's "activities of production") with the farm's produce should be far easier than this first step. If the farm is financially viable, and sufficient research is done to

create a business plan that meets the needs of the community, the result will be improved cooperation with neighbors and potential for expansion. The critical aspect here as with all microenterprise projects will be to carefully document and demonstrate what SALT actually does.

References

Asian Rural Life Development Foundation- <http://www.pcaarrd.dost.gov.ph>
Community Empowerment Collective; <http://cec.vcn.bc.ca/cmp/modules/mic-mrk.htm>
ECHO Community- <http://www.echocommunity.org>
Food and Agricultural Organization of the United Nations- <http://www.fao.org>
Mindanao Baptist Rural Life Center- <http://www2.mozcom.com/~mbrlc>
Wikipedia- http://en.wikipedia.org/wiki/Nitrogen_fixation

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