Improvements to Bee Farm

Greg Rafferty, Peace Corps Volunteer

Larissa Sahakyan, Lejan Honey

Lejan, Armenia

$1425 -- 516,000 AMD

Summary

The village of Lejan near Stepanavan in Armenia is unfortunately typical for an Armenian village these days. The shortage of jobs has created an exodus of men to Russia and beyond looking for work. Agriculture is not profitable enough to raise a family, the roads are poor which slows the trade of goods, drinkable water is in low quantity, and the schools are grossly short of funding. However, Lejan does have some strengths in its available resources: there are plenty of dairy farmers with milk available; because the men have left work in the fields, wildflowers have taken root which when combined with the alpine climate create optimal conditions for raising bees; and the mountains nearby provide ample grazing space for sheep, which due to the current demand from Arabian countries has raised the value of their meat. Weaknesses of the village include a lack of knowledge about proper agricultural techniques and modern, functioning farm equipment (both due to the sudden pull-out of resources following the collapse of the Soviet Union), and poor supply of necessary fruits, vegetables, oil, and replacement parts.

These conditions have created a variety of opportunities for and threats to the village. Because of the favorable conditions for both bee and sheep farming, jobs and profit can be created within these industries. There are also many suppliers of potatoes and wheat which can be sold in Stepanavan, and Lejan has bred a specific type of grass for cow feed that fuels superior milk production—the seeds are popular in markets. In contrast, the population drain, especially of young men, has slowed any physical labor. Also, during the Soviet era, "hail control guns" were used to break up clouds around the village that threatened with damaging hail storms—these guns were taken along with other resources when the Soviets departed, leaving Lejan vulnerable again.

Within these conditions, the Papyan family has begun a successful bee farm. For the last decade, the family has had 7-10 bee houses. Last year, they acquired 30 more from a friend who left for Russia. Although the additional bees have enabled the family to increase honey production and sell it, their shelter is not large enough to house them all. During the winter, many bees were lost. Additionally, the houses are in very poor shape and are decaying rapidly.

The Papyans want to build a shelter to keep the bee houses warm and dry during winter, want to build new houses to replace older ones and reduce the population strain on the bees (currently, too many bees are living in each house). In the long term, the family plans to create a branding experience with labels and unique bottles.

To contribute back to the community, Edward Papyan, Larissa Sahakyan's husband, will give a bee house to each of five families. These families have already shown interest and have been identified. The honey will be for personal family consumption. In the summer, Edward will provide a day-long seminar to the families (father/son pair), leading them through the various activities required for honey production, including administration of medicine and sugar, proper temperatures to keep the

bee houses, construction and maintenance of the wax honeycombs, maintenance of the houses, bee breeding practices, and honey harvesting.

Edward will lead the project. He has taken responsibility for building the shelter and new bee houses. Within two months, these will be complete and he will work on increasing bee population through breeding. In August the honey will be ready for harvesting and Edward expects his current yield of 300kg will be increased an additional 300-500kg, depending upon weather conditions for the year. At this time, Edward will provide the day-long instruction seminar to the five families that he has provided a bee house to. Outside the scope of this grant request, in the long term Edward will work with Greg Rafferty, a Peace Corps volunteer, to create a brand through labeling in order to sell more units in Stepanavan and Yerevan.

The honey is sold by family members in Yerevan, at various micro-storefronts in metro stops along with other small items such as clothing and silverware. Each year, demand for honey as exceeded supply. Discussions with customers indicate that enough additional demand exists to double supply without creating surplus honey. Each customer brings their own jars which are filled out of a large container owned by the Papyan family. Therefore, cost-of-goods-sold is zero; additional overhead includes sugar to fuel the bees (35,000 dram), medicine (10,000 dram), and wax (20,000 dram) (values are for current production levels). The honey sells for 2500 dram per kilo, with the expected 600 kilos resulting in gross profit of 1,500,000 dram. Subtracting the overhead (35,000+10,000+20,000)*2 (doubled to account for increased production) leaves net profits of 1,370,000 dram.

I. **Project Statement**
   a. Purpose of Project
      i. Build shelter to protect bee houses during winter
      ii. Build 30 bee houses to replace old, decaying houses
      iii. Provide bee farming seminar, bees, and houses to five families
      iv. Sell honey for profit.
   b. Genesis of project
      i. Initial problem
         1. Conditions in Lejan are favorable for honey production; the Papyan family has experience and supplies to run a successful bee farm.
         2. Papyan family needs income to support themselves
         3. Additional Lejan families expressed desire for personal honey production
      ii. How does this project meet those needs?
         1. Honey production will be more than doubled, providing ample honey for family's needs
         2. Additional bees and houses will be sufficient to provide honey for five additional families
      iii. Why is this project the best way to meet the needs?

1. The Papyan family has the knowledge and experience needed for successful bee farming. The honey produced by the Papyans will be sufficient to help the community as well as to sell in market.

II. **Specific Goals and Objectives**
   a. Build one shelter to protect bee houses.
   b. Build 30 bee houses
   c. Use breeding techniques to increase bee population
   d. Provide honey production seminar
   e. Sell honey at market
   f. (long term) create branding

III. **Tasks and Responsible Party**
   a. Build one shelter: Edward Papyan
   b. Build 30 bee houses: Edward Papyan
   c. Provide honey production seminar: Edward Papyan
   d. Branding project: Edward Papyan and Greg Rafferty

IV. **Project structure**
   a. Primary sponsor: PCV Greg Rafferty
   b. Primary Armenian counterpart: Edward Papyan and Larissa Sahakyan

V. **Timeline**
   a. February: buy materials, build bee houses (2 per day)
   b. March: buy materials, build shelter
   c. August: harvest, provide seminar
   d. 2011: begin branding project (outside scope of this grant request)

VI. **Monitoring and Evaluation**
   a. Honey production is expected to increase by 300-500kg, depending upon the weather conditions for the year. This is easily measurable and will be monitored. This amount is achievable given the number of bee houses owned; if this amount is not reached then breeding practices will be increased to achieve the optimal population in each house.

VII. **Budget**: 516,000 AMD = 1425 USD*
   a. Materials for shelter: 120,000 AMD
      i. Wood: 40,000 AMD
      ii. Cement: 30,000 AMD
      iii. Glass windows: 10,000 AMD
      iv. Iron roof: 40,000 AMD
   b. Materials for bee houses: 13,200 AMD per house * 30 houses = 396,000 AMD
      i. Wood: 7,000 AMD per house
      ii. Iron roof: 6,000 AMD per house
      iii. Paint: 200 AMD per house
   c. Breakfast for kindergarten: community donations
      i. Papyan family: honey
      ii. Mayor: bread

iii. Dairy farmers: butter and eggs

*1USD = 362AMD as of November 7, 2010