

Preliminary Concept Paper On:
Restoration of the Badia Rangelands
And
Increasing Income Opportunities for the Bedouin Communities by
Utilizing Their Available Natural and Human Resources in
Value-Added Activities

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Basic Premises

- The water harvesting and shrub establishment techniques currently under investigation by New Mexico State University and the BRDC in the Jordan Badia are or can be economically viable approaches for rangeland restoration in many areas of the Badia.
- Demonstration of environmentally and economically sustainable grazing management is a critical step for training Bedouins to maintain the productivity of rangelands that have been restored through plantings and water harvesting and enhancing the biodiversity of the Badia.
- The wool currently produced by Bedouins from the Awassi sheep can be a basic input for value-added activities that can significantly increase family incomes and the quality of their rural life style while maintaining cultural values.
- The skills acquired in the value-added wool activities can be utilized in related fiber arts activities further increasing income opportunities, particularly for women. The Bani Hamida Project and the Jordan River Foundation have already started projects like this in other parts of Jordan with much success.
- Developing value-added industries have the potential to reduce rangeland stress, reduce animal numbers to historic levels, and restore rangeland to its historic condition or better as other forms of employment and opportunity are created.



Available Resources in the Badia

- Arid rangelands suitable for water harvesting and shrub establishment restoration techniques are extensive, common and located throughout the Badia.
- Abundant unemployed and underemployed human resources, particularly women.
- Small quantity of water from wells and surface water harvesting for irrigation.

Proposed Plans

- Rangeland Improvement Through Water Harvesting and Shrub Establishment
 - Utilize the knowledge gained from the current demonstration trial, particularly with regard to water harvesting structure design and potential forage species to establish.
 - Develop new rangeland restoration demonstrations in strategic locations as cost effectively as possible by involving the local Bedouin people in the planning, construction and management of the projects.
 - Construct projects, as much as possible, using technology, labor and equipment presently available in the area. Use consultants mainly for planning, education and training to facilitate local “buy in” and keep costs down.
 - Develop alternative livestock stocking level treatments at rangeland restoration demonstration sites to use as training tools for teaching sustainable grazing management. Create demonstration areas where established shrubs are grazed at sustainable and heavy (overgrazed) levels. Establish a sustainable grazing training program for local leaders so that they can teach other Bedouin (a train the trainers approach). Consultants will teach sustainable grazing management and financial management approaches to local Bedouin trainers.
- Value-Added Wool Activities
 - Rather than sell the wool in its raw form at a relatively low price, it is proposed to support cooperative business efforts to clean, spin, dye and hand manufacture fiber art products for sale in the Middle East region and throughout the world. This approach has the potential for increasing the value of the raw wool produced by as much as 20 times mainly by adding labor and effective marketing. This approach will also support tourism and eco-tourism enhancement projects already underway and those being planned.
 - The processes of cleaning, spinning, dyeing and making handmade wool products are low capital but labor-intensive activities, ideally suited for the resource base of the Bedouin communities.
 - The plan would also call for either growing natural dye plants, if limited irrigation was available, or contracting with other cooperatives with irrigation to produce natural dyes traditionally used in the Jordan and the Middle East. The demand for handmade “green” products utilizing organic wool and natural dyes is expanding and products are commanding premium prices in the international fiber arts markets. These markets are easily accessed through the Internet.
 - Products that have a strong international (and possibly local) demand that can be made from the wool of Awassi sheep include: environmentally



friendly tote bags used for shopping, large and small purses, rugs, table runners, kitchen hot pads, saddle blankets, needlepoint fibers and many other products.

- The wool produced by the Awassi sheep is suitable for spinning needlepoint fibers. These fibers could then be used to make basic needlepoint patterns under outsourcing contracts by fiber arts wholesale outlets and retail stores in the United States and Europe. These firms are paying from \$15 to \$25 per hour for this work in the U. S. The Bedouin women workforce could easily be trained to do this type of labor-intensive work with the finished products shipped to markets mainly in the U. S. and Europe. The lower labor costs in Jordan will more than offset the additional shipping cost.

Experience

The NMSU team has been working with the BRDC and the Tal-Rimah Cooperative for the past two years on rangeland restoration that integrates water harvesting and forage shrub establishment. Results to date have been very promising with preliminary breakeven economic evaluations showing that sustainable sheep and goat grazing can pay for forage establishment within a reasonable planning horizon.

The NMSU team has also been working with the BRDC and Tal-Rimah and Anaheed cooperatives on business planning and financial analysis of value-added enterprises. Some of the activities such as growing and marketing sheep with improved breeding, honey production and sun-dried tomatoes have proven to be successful. The team's activities have demonstrated the need to do detailed feasibility studies including marketing plans and preparing business plans before committing capital and human resources to projects that have little chance of success. The emphasis has been on assisting the Bedouin communities develop long run, economically sustainable projects.

Members of the NMSU team have been doing research on growing and marketing natural dyes and natural dyed products for the past two years. The NMSU team has experience in teaching fiber arts and designing and marketing fiber products. The primary market for these products is the approximately 1.5 million fiber artists and the 5,000 stores that sell fiber art supplies in the United States and Canada and also large numbers in Europe. Fiber artists include weavers, knitters, quilters, felters, surface designers, embroiderers, spinners, and dyers. NMSU has an Agricultural Science Center that is doing research on farming a large number of natural dye plants. New Mexico is recognized as a leader in the fiber arts industry in the United States.

Suggested Project Approach

- Phase 1: Conduct detailed financial and socio-economic feasibility studies to determine whether the proposed range improvement and the value-added projects are viable and self-sustainable over an extended period of time.

- Phase 2: If deemed financially viable, implement the projects in a few strategically selected locations/communities. Utilize rangeland projects for educating local Bedouin to become sustainable grazing management trainers (train the trainers approach). Assist Bedouin communities in acquiring the equipment, supplies and training to manufacture fiber art products from their wool. Set up web site and a marketing distribution network.
- Phase 3: If the pilot projects are successful, devise plans to expand efforts to additional areas.

The concept is not to obligate any of the participating parties to projects unless they appear to have a reasonable outlook for success.