Central Asia • Uzbekistan

Marap: Cultivating Sustainable Markets in Impoverished Rural Communities

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Sector • Agriculture
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Executive Summary

This case study describes a project by Marap GmbH that aimed to meet global demand for its products, while also creating sustainable jobs in impoverished rural communities and protect the environment in an emerging market—Uzbekistan.

Austria-based Marap is an importer and processor of quality organic fruits and vegetables for distribution within the European Union (EU) and the United States (US). Soon after its founding in 1999, Marap searched for a supplier of its chief products—fruits and nuts. Uzbekistan, with its favorable climate and geography, and long tradition of horticulture, proved to be an ideal candidate. As part of its transition to a market-based economy in the 1990s, Uzbekistan was also hungry for development, particularly in its impoverished rural communities.

With these factors in mind, Marap collaborated with the Austrian Development Agency (ADA), created an Uzbekistan-based subsidiary, DP Silk Road Organic Foods (DP), and partnered with several other organizations and the Government of Uzbekistan to develop its supply chain in Uzbekistan. Equally important, the project also helped restore degraded environment in Uzbekistan’s rural mountain communities, particularly the Amankutan Valley in Samarkand province in southern Uzbekistan, and reduced poverty in those regions through the creation of sustainable jobs.

Background

Josef Bertagnoli, founder of Marap, targeted Uzbekistan as a good investment soon after establishing his company in 1999.

“The country is optimal for us, it has all the nuts and fruit that we need,” Mr. Bertagnoli said. “We looked at Moldova, Serbia, Pakistan or Tajikistan, but each of these had some disadvantages. But Uzbekistan had enormous potential.”

Even so, Uzbekistan still posed many challenges for Marap. Uzbekistan is almost 80 percent desert and steppes, and only 10 percent of its total surface can be used for farming. Most of the population lives in the eastern half of the country.

The country also had a long history of farming and horticulture. During the Soviet era, however, the land that supported such agriculture deteriorated. As part of Soviet era policy and planning, officials converted many forests, farm lands and orchards into intensive cotton monoculture operations. At the same time, improved and accessible health care lead to rapid population growth and increased urbanization. The larger population, in turn, accelerated pressures on the land. Additionally, virtually all forests passed into state ownership, and traditional relationships between nomadic and sedentary communities—and their associated land management traditions – ceased to exist. Hundreds of years of local forestry and horticulture knowledge was also largely lost.1

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1 “Reforestation in Uzbekistan: Lessons from Nuratau”, Ben Slay and Alexey Volkov (“Development and Transition, from Theory to Policy in Europe and the CIS”, LSE and UNDP)
Political changes following the dissolution of the Soviet Union in 1991, however, did not bring immediate changes to Uzbekistan’s rural mountain communities. These rural regions continued to experience environmental decline through inefficient land management and oversight, inadequate fuel supplies such as natural gas used for heating, and suffered from an increase in rural poverty as a part of the transition to a market-based economy.

Rural poverty, in turn, led to further pressures on the fragile landscape. For instance, local residents illegally grazed sheep and cattle, which further eroded the soil; cut down trees for firewood; and unsustainably collected rare herbs, fruit and berries. These practices led to a decrease in orchards and an absence of new crops. In addition, the few remaining fruit and nut trees were quite old —between 30 and 100 years of age—and their quality and yield seriously deteriorated.

At the same time, income levels in Uzbekistan also declined. In the 1990s, as Uzbekistan transitioned to a market-based economy, socio-economic impoverishment in rural communities accelerated, and widespread unemployment and malnutrition in rural regions intensified. These regions continue to struggle. Most of Uzbekistan’s poor—nearly 70 percent—live in rural areas. Overall, more than a quarter of Uzbekistan’s population (27.5 percent) is characterized as poor, and a third of the population is classified as extremely poor.

In the face of such environmental and socio-economic challenges, Marap and its public-private sectors partners (PPP), including ADA, initiated the reforestation and organic farming programme—one that has boosted the environmental and economic vitality of rural Uzbekistan communities. The project continues to grow, with new fruit trees due for their first harvest in 2011, corresponding with a growing appetite in the EU for organic produce.

How the Project Works

As part of the Soviet system, agriculture in Uzbekistan was organized into a dual system. The system included large-scale collective and state farms coexisting in a symbiotic relationship with quasi-private individual farming on subsidiary household plots.

After independence in 1992, Uzbekistan transitioned to a market economy that included three types of farms:

- traditional household plots, known as dehkan farms;

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2 A measure of welfare based on total consumption is used to assess poverty. The food poverty line was established by estimating the cost of a consumption basket that would provide 2100 calories per person per day. The consumption basket is based on actual consumption patterns of the poor population and is converted into soums (the Uzbek currency) using the prices faced by the poorer population. A second poverty line—extreme poverty—was computed based on a caloric intake of 1500 calories per person per day. The value of the food poverty, in October 2000 prices, is 3601 soums per month (US$ 2.38472, or 50 percent higher than the value of the minimum wage in 2000, while the extreme poverty line (2572 soums / US$ 1.70328) is quite close (just 5 percent higher) than the minimum wage in October 2000. (Source: “Uzbekistan, Living Standards Assessment, Policies To Improve Living Standards”, Report No. 25923-UZ, Human Development Sector Unit, Europe and Central Asia Region World Bank, May 2003)

3 “Two-year Report on Development Policy” (German Embassy in Tashkent, February 2005)
- large-scale collective and former state farms, classified as shirkats (agricultural production cooperatives) or corporate farms (joint-stock societies, limited liability companies, partnerships);

- a new category of mid-sized farms, larger than the small dehkan farms but not the same size as the large-scale shirkats.

According to statistics from 2006, mid-sized farms operate 75 percent of Uzbekistan’s farms, dehkan farms operate 12.5 percent and shirkats (corporate farms) - the remaining 12.5 percent. However, dehkan farms produce 62 percent of the gross agricultural output\(^4\), followed by mid-sized farms (32.5 percent), and corporate farms (6 percent).

The Government of Uzbekistan also retains exclusive state ownership of the land.\(^5\) To operate a private farm, one must have a leaseholder arrangement, with contracts linked to binding quotas. This leasing structure has been a major factor in rural Uzbekistan’s environmental degradation. In order to lease land, farmers need a lease from Uzbekistan’s State Forestry Administration (SFA). Traditionally, SFA only allowed short-term leasing of up to one year, and required that 70 percent of income derived from leases go to the government. The leaseholder received the remaining 30 percent.\(^6\) As a result, many small farmers chose to avoid these leasing terms, and instead resorted to informal and unsustainable timber harvesting and agricultural practices.

With this in mind, the UNDP and the Government of Uzbekistan initiated an independent project\(^7\) in 2001 to address this problem, and promote reforestation and proper land management. Thanks to this pilot project, leasing agreements between the SFA and farmers lengthened. Leases for farmers increased from one year to 10 years, with five-year extension options. In addition, leaseholder benefits share was raised to 85 percent for sour cherries and 90 percent for walnuts, payable to the Government once the fruit and nut trees started carrying their crop (five years for sour cherries and seven years for walnuts).\(^8\) The UNDP project also financed the training of leaseholders in planting, pruning and other horticultural techniques, thus re-creating the expertise that was lost during the Soviet period.

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\(^4\) High percentage due to 95 percent of cows owned by dehkan farms.

\(^5\) According to Uzbekistan law, land is a property of the state, including forest areas, and can be privately owned only in very restricted cases (i.e. placed under trade point). Agricultural lands have been given to farmers on the basis of long-term rent (from 30 years to 50 years), not ownership. According to the Decree of the President of Uzbekistan (№УП-3780) on 24 July 2005, legal entities could privatize their lands, so long as they have buildings and production facilities on the land.

\(^6\) "Reforestation in Uzbekistan: Lessons from Nuratau", Ben Slay and Alexey Volkov ("Development and Transition, from Theory to Policy in Europe and the CIS", LSE and UNDP)

\(^7\) Project Name: ‘The Nuratau-Kyzylkum Reserve as a Model for Biodiversity Conservation in Uzbekistan’

About Marap and its Uzbekistani Subsidiary

Marap imports, processes and sells mostly organic foodstuffs, including rice, pulses (or legumes), dried fruits (peaches, apricots, cherries, raisins, plums and apples), nuts (walnuts, pistachios and almonds), seeds, grains, sugar cane, preserved foods, etc. The products are imported from numerous countries9 and are subject to a strict quality control.

In addition to its administrative headquarters in Vienna, Marap owns three processing facilities in Austria responsible for mechanical and optical cleaning, peeling, pitting and laser-based sorting. Marap also owns processing facilities in Uzbekistan (the subject of this case study), Bulgaria, Ukraine and Mexico. The company also sells bags containing 50 g to 1,000 kg of fruit or nuts to wholesalers and other processing companies.

Marap distributes its goods to retail markets in 15 EU countries, the US, and several Eastern European countries. Most of the products are organically farmed10, and are sold as premium products under the trade names “Kresto” and “Bio-Leben”. Marap has an annual profit of €15 million (2008), and employs eight full time employees in Vienna, and an additional 35 employees in its three processing facilities in Austria.11

Marap has been importing fruit and nuts from Uzbekistani trading partners since 2001. Due to the country’s diversity of crops (fruits and nuts in particular), Marap considers Uzbekistan an ideal trading partner. As a result, Marap invested time and resources into solidifying this supply chain. In 2003, the company founded DP Silk Road Organic Foods (DP) as a 100 percent-owned subsidiary in Uzbekistan. DP’s administrative headquarters are in Tashkent, and a processing plant12 is located in the town of Taylak close to Samarkand13. DP provides Marap with quality control prior to shipment to Austria, and also cleans processes and dries the fruit and nuts.

Today, the subsidiary collects, buys, processes, dries, packages and exports approximately 2,000 tons of fruits (sour cherries, plums, apricots and apples) and nuts (pistachios, almonds and walnuts) directly to Marap in Austria. DP buys only 100 percent organically certified produce, and obtains the harvested fruit and nuts directly from the farmers, or through the SFA or from an intermediary company called Kantor.

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9 Apart from the EU, Marap also imports from Canada, USA, Mexico, Guatemala, Costa Rica, Ecuador, Peru, Bolivia, Chile, Brazil, Argentina, Uruguay, Ethiopia, Egypt, Kenya, Mauritius, Iran, Bosnia, Serbia, Turkey, Moldova, Ukraine, Georgia, Azerbaijan, Russia, Tajikistan, Mongolia, China, Australia, India, Pakistan, Vietnam, Philippine, Sri Lanka
10 80 percent of Marap's produce is organically certified, compared to just 10 percent in 2001
11 Source: Marap.
12 The processing plant includes machinery used for walnut shelling, apple peeling and sour cherry pitting as well as solar drying systems from INNOTEC.
13 During the late summer and autumn, the factory processes and dries fruit at an average capacity of 55,000 kg of fruit per day. In the winter, the factory shells, cleans and packages nuts.
Project Constraints and Solutions

Marap has encountered several challenges and constraints as part of its Uzbekistan project.

Initially, the SFA was the sole buyer authorized to purchase fruits and nuts directly from farmers. Marap subsidiary, DP, in turn, had to buy fruit and nuts from SFA, giving them little control over the quality of the fruit and nuts purchased. In 2003, Marap and DP solved this supply chain issue through negotiation with the Uzbekistan government. As part of the negotiation, DP is now the only other authorized buyer so long as purchases are fully disclosed, taxes declared and leases paid. Constraints on rural farmers, including lack of financing and transportation, also created obstacles for Marap.

In response to farmers’ lack of financing, Marap created incentives to help farmers with funding. Through this system, farmers can choose to sell their produce either directly to DP, to the SFA, or to the intermediary company Kantor. Farmers selling directly to DP receive payments upon delivery and premium prices (subject to quality approval and organic certification), which are on average 10-20 percent above market value. DP also pays a 25 percent advance on average to cover harvest costs.

Transportation also posed a hurdle. To help farmers transport their produce to DP, DP agreed to collect fruit and nuts directly from farmers. DP also repaired a dirt road between the villages and the orchards to help with the delivery process.

Market constraints also created another concern for Marap. To resolve this issue, Marap and ADA combined resources in 2006. Together with local partners (described below), Marap and ADA invested in removing the market constraints, and provided financing of 55 percent (Marap) and 45 percent (ADA). They also launched a Public-Private-Partnership (PPP) aimed at improving the quality and quantity of sustainably cultivated organic fruits and nuts from Uzbekistan. As part of the partnership, DP processed and exported the fruit and nuts.

Agricultural expertise was also an important component of the project. Due to knowledge lost during the Soviet era, the project taught cultivation skills—skills the farmers can also impart to their families and other members of the community. To help with this process, Marap and ADA financed the training of farmers in organic cultivation practices in compliance with EU organic farming guidelines (Directive EU 834/2007). Local partner, the Shredder Uzbek Scientific Institute of Gardening, Grape and Wine Making first trained four agricultural extension agents. These agents then trained 150 farmers.

Each extension worker is also responsible for supervising between 30 and 40 farmers, and for inspecting farm plots every three months. The organic compliance/verification and certification process is conducted by the Austria Bio Garantie (ABG), Austria’s national organic certification body. Inspections by ABG staff from Austria take place on every plot at least once a year.

The following table summarizes Marap’s challenges and the solutions Marap devised to address these constraints.

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14 Source: Marap
Table 1: Strategy Matrix

<table>
<thead>
<tr>
<th>Constraints</th>
<th>Ineffective regulatory environments:</th>
<th>Inadequate physical infrastructure:</th>
<th>Missing knowledge and skills:</th>
<th>Restricted access to financial products and services:</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Lack of legislation promoted unsustainable land management practices.</td>
<td>Marap experienced considerable fluctuations in the quality and quantity of the produce it has obtained from regional growers.</td>
<td>Farmers lacked knowledge about organic farming practices</td>
<td>Regional farmers are inherently poor and lack financing and transport for their harvests</td>
</tr>
</tbody>
</table>

Solution Strategies:
Marap’s strategies to resolve challenges and create opportunities.

<table>
<thead>
<tr>
<th>Engagement in Policy Dialogue:</th>
<th>Investment in removal of market constraints:</th>
<th>Combining resources and capabilities with others:</th>
<th>Adaptation of the process:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Direct leasing of land from SFA and then leasing to farmers 2. See the UNDP’s project ‘The Nuratau-Kyzylkum Reserve as a Model for Biodiversity Conservation in Uzbekistan’ (explained below).</td>
<td>1. To overcome this constraint, Marap partnered with ADA and financed the purchase of 150,000 fruit and nut trees 2. DP participated in the rehabilitation of a dirt road between the villages and the orchards to improve access for both farmers and delivery to the processing facilities.</td>
<td>ADA and Marap financed training through the Shreder Institute. Institute agricultural extension agents trained local farmers in sustainable cultivation techniques and organically certified practices.</td>
<td>Marap’s subsidiary (DP) pays premium prices (10-20 percent above market value) directly to farmers upon receipt subject to quality compliance and proper administrative procedures (declaration of taxes, etc.).</td>
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CULTIVATION PROCESS

Selected leaseholders planted 150,000 seedlings in 2006, and are co-responsible\textsuperscript{15} for ongoing maintenance of their respective plots of land. These tasks involve clearing thickets and weeds, general supervision of the land, maintenance of the irrigation systems and pruning. The estimated time worked per year on each plot can amount to 75,000 working hours.

\textsuperscript{15} Since the plots are not clearly demarcated/separated, the farmers work together to oversee their respective plots and those of their neighbors until the first harvest.
The small farmers cultivate plots of land that amount to on average between three and five hectares (ha), and include approximately 1,000 fruit and nut trees. Cropping patterns are equally split between faster growing fruit trees (sour cherry, plum and apricot), which bear fruit after five years, and slower growing nut trees (walnuts, almonds and pistachios), which bear fruit after seven to eight years.\(^\text{16}\) The seedlings were provided by nurseries belonging to the Shreder Institute, and financed jointly by the ADA and Marap.

Since the SFA originally managed the land, the agency handled the main structural preparations including landscaping terraces on steep slopes, and digging irrigation channels that are fed by nearby rivers and streams. Once the trees start bearing fruit and nuts in 2011 and 2013, respectively, Marap subsidiary DP will buy the produce, either through the SFA or directly from the farmers.\(^\text{17}\) Given current market prices, leaseholders can expect an average annual net revenue of US$ 2,000 when the trees are fully grown (2013). Today, DP employs 30 permanent employees, 90 percent of whom are women – including senior management – and hires an additional 150\(^\text{18}\) individuals to support processing (sorting, cleaning, pitting, shelling, etc.) and packaging operations.\(^\text{19}\) DP also provides high quality working conditions such as air conditioning inside the processing plant, and special clothes to maintain high levels of hygiene. Once the dried fruit and nuts have been processed, they are then packed and placed into containers to be transported by truck (Uzbekistan is land-locked) to Marap’s processing facilities in Austria. Delivery typically takes 14 days.

DP estimates that both permanent and seasonal employees will double to 60 and 300 workers, respectively, once the trees have matured in 2013, and that its annual profit will increase by 50 percent from current figures.

\(^\text{16}\) On average, walnut’s optimal coverage amounts to 100 trees/ha, whereas sour cherries can be planted more densely at approximately 350 trees/ha.
\(^\text{17}\) Source: Marap
\(^\text{18}\) Harvest periods are the summer for fruit and autumn for nuts. Contracts for seasonal staff are for two-three months.
\(^\text{19}\) Due to the capital involved farmers are not able to conduct these processes themselves.
Marap’s Stakeholders

In addition to Austria-based Marap and its Uzbekistani subsidiary, DP, this case study also examines the crucial role of several project partners.

Figure 1: Stakeholder Map

UNITED NATIONS DEVELOPMENT PROGRAM (UNDP)

In 2004, the UNDP and the Government of Uzbekistan launched the project, Nuratau-Kyzylkum Reserve as a Model for Biodiversity Conservation in Uzbekistan. Although this project is not directly connected to the joint program of ADA and Marap, the initiative indirectly played a crucial role in strengthening the legal framework for leaseholders to enable long-term sustainability.

As part of this project, the SFA agreed to test new leasing arrangements on a pilot basis in the Nuratau-Kyzylkum reserve for 10 plots covering 43 ha. Local villagers acquired the leases, with most of the leaseholders living close to the plots of land. The initial leases could be extended from one to five years, with the prospect of further renewal for up to 10 years. In addition, leaseholders’ share of benefits was raised from 30 to 50 percent. As an added benefit, in the first two years of the lease, farmers receive 100 percent of the revenues. The project also trained leaseholders in planting, pruning and other horticultural techniques, redeveloping expertise that was lost during the Soviet period.

Source: Author

Below is chronological list of each partner and a discussion of their roles and contributions.
So far, project results have been positive. Farmers have planted formerly bare ground with crops. Early success has also encouraged leaseholders to lease an additional 75 ha of degraded land, beyond the initial allocation of 43 ha. The project’s initial results indicate that secure land tenure, improvements in local knowledge of good forestry practices, and better marketing of forestry products, are keys to reforestation and improving rural livelihoods in Uzbekistan.20

Although this UNDP project was carried out independently of the Marap project, the initiative strongly supported Marap’s operations through improving the quality of the fruit and nuts, and increasing and stabilizing available supplies. Significantly, local trust in leases has improved due to the ADA and UNDP projects, particularly due to open discussion and negotiations between villagers/leaseholders, the SFA, the local office of the state administration, DP, and the local council.21 Partners in the UNDP project also established a joint forestry management council to mediate lease disputes, establishing key protection for leaseholders.

AUSTRICAN DEVELOPMENT AGENCY (ADA)

The cooperation of the ADA, particularly given its history of working with private sector firms in emerging markets, has been crucial to Marap’s success in Uzbekistan. As part of its mission, ADA supports Austrian businesses that promote sustainable business practices. Marap’s project in Uzbekistan, with its environmental and socio-economic development components, made it an ideal partner for ADA.

ADA assisted Marap in the establishment of fruit and nut orchards in the Amankutan Valley in southern Uzbekistan by providing 45 percent of the financing. The financing funded:

- the purchase of 150,000 seedlings from the Shreder Institute.
- the training of Shreder Institute agricultural extension workers, who then trained 150 rural farmers in the planting of seedlings and organic cultivation techniques.
- the organic certification process through an EU-accredited certification body on behalf of Austria Bio Garantie.

In 2006, ADA and Marap also initiated a three-year PPP in Uzbekistan. ADA provided 200,000 euro in financial assistance for the partnership to help with the creation of sustainable jobs, agricultural education with an emphasis on organic cultivation, reforestation and environmental rehabilitation, and strengthening of leases to promote long-term commitment and sustainable management (which can be applied nation-wide).

20 These findings strongly compliment the work done by the Commission on Legal Empowerment of the Poor, which aims to promote legal protection and economic opportunity for all. The Commission is hosted by the UNDP, and was launched in 2005 by developing and industrialized countries including Canada, Denmark, Egypt, Finland, Guatemala, Iceland, India, Norway, Sweden, South Africa, Tanzania and the United Kingdom. (For more information see http://www.undp.org/legalempowerment/)

21 “Reforestation in Uzbekistan: Lessons from Nuratau”, Ben Slay and Alexey Volkov (“Development and Transition, from Theory to Policy in Europe and the CIS”, LSE and UNDP)
RURAL COMMUNITIES

The ADA and Marap selected the Amankutan Valley in the province of Samarkand in southern Uzbekistan for several reasons. The Amankutan Valley had the necessary geography and climate to grow fruits and nuts, was close to DP, and would benefit from environmentally friendly and socio-economic programmes. At the start, the Shreder Institute informed roughly 10,000 people about the programme. Marap and its partners then selected individuals based on their willingness to commit long-term to the cultivation program.

A total of 150 farmers agreed to sustainably manage three to five ha orchards for up to 10 years. After signing leaseholder agreements with the SFA, farmers were trained by the Shreder Institute’s agricultural extension workers in planting, land maintenance and organic cultivation. Each farmer received between 100 and 120 hours of training over three years. Farmers learned to clear thickets and weeds, supervise and monitor crops, maintain irrigation systems and prune. Farmers received payment upon delivery of crops to either DP or the SFA. The estimated time worked per year on each plot can amount to 75,000 hours.

Marap’s programme also helps reduce poverty in rural communities. The programme creates 150 sustainable jobs with average net incomes of US$ 2,000 per year, and creates better living standards for the small farmers and their families (a population of approximately 1,000 people (with seven to eight people per family). Additional short-term seasonal jobs are also created during harvest time (summer for fruit and autumn for nuts).

4. STATE FORESTRY ADMINISTRATION (SFA)

The SFA has had an ongoing relationship with Marap since 2001, when the company started buying fruit and nuts from Uzbekistan. This relationship strengthened in 2003, when Marap formed its DP subsidiary to establish a permanent presence in the country. When the PPP was launched in 2006, the SFA was a willing partner due to its past success with Marap.

The SFA manages land for the Government of Uzbekistan. In that capacity, SFA leases land to DP and buys produce from farmers and sells it to DP — so long as farmers do not opt to directly sell to DP. Initially, the SFA was the only authorized buyer of fruits and nuts from farmers. However, DP negotiated the right to serve as an additional authorized buyer (aside from the intermediary buyer Kantor), so long as purchases are fully disclosed, taxes declared and leases paid.

The SFA also played a crucial role in working with the ADA and the UNDP in changing traditional leaseholder contracts. The new contracts allowed DP to lengthen leases from one to 10 years or longer. DP also negotiated with the SFA to increase the share of revenues from farming from 30 percent to 85 percent for fruit, and 90 percent for walnuts.

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22 The land in question for this orchard belongs to the State and is administered by the State Forestry Administration. It does not form part of the villager’s household plot (i.e. it is not a dehkan farm).
23 Due to the informal link between farmers and their seasonal employees (who are mostly family members), it was not possible to ascertain the value in wages paid. It is more reasonable to assess the total value creation by assessing the amount paid for each annual harvest per plot.
SHREDDER UZBEK SCIENTIFIC INSTITUTE OF GARDENING, GRAPE AND WINE MAKING

The Shredder Institute was founded in the beginning of XX century to promote the development of agriculture in Uzbekistan and other Central Asian countries through ongoing research. The Shredder Institute’s main interest is horticulture, with a particular focus on irrigation, productivity and plant protection. Headquartered in Tashkent, the Institute has major outposts in Samarkand, Postanlik and Fergana and employs 4,000 people.

The Shredder Institute’s office in Samarkand in southern Uzbekistan employs 800 people, and directly participated in this program in several ways.

The Institute provided 150,000 seedlings from its own nurseries for the fruit and nut crops. The Institute also trained four agricultural extension workers, who then trained and supervised the small farmers in planting, maintaining and cultivating crops. ADA and Marap financed this operation. In addition to its proximity to the project in the Amankutan Valley, SFA’s focus on fruit (apples, pears, sour cherries and apricots), nuts (walnuts and almonds) and wine also made it an ideal project partner.

6. AUSTRIA BIO GARANTIE (ABG)

ABG was founded in 1993, and is the first certification body for organic products in Austria. ABG inspects and certifies organic produce in Austria and abroad. ABG has three offices in Austria, with 40 full-time employees and 100 external inspectors that work on a contract basis.

Its involvement in Uzbekistan has included:

- training of four agricultural extension workers in organic cultivation and land management practices in 2006
- ongoing annual cultivation inspections to assure organic quality that in line with EU standards

ADA provided 45 percent of financing for this process, and Marap 55 percent of financing. Marap will also provide 55 percent of ongoing certification expenses.

Marap’s Results

This case study was chosen as it describes a sustainable and inclusive business model that has beneficial environmental and socio-economic components. Socio-economically, for instance, the project promotes development at the base of the economic pyramid (also known as the ‘Bottom of the Pyramid’\textsuperscript{24}), and includes private and governmental partners.

\textsuperscript{24} In economics, the ‘Bottom of the Pyramid’ is the largest, but poorest socio-economic group. In global terms, this is the four billion people who live on less than US$ 2 per day. Most people in this category
Although the fruit and nut trees planted under the Marap-ADA partnership will not carry crops until 2011 and 2013, respectively, the anticipated benefits are numerous.

From a business perspective, global markets for certified organic produce have grown by more than 15 percent a year in the past two decades (also discussed in the following section). Assuming future demand mirrors this trend, Marap’s future success will depend on the quality of its products. Through its Uzbekistani programme, Marap could increase its fruit and nut harvests from the current 2,000 tons to an estimated 5,000 tons per year by 2013. At the same time, this yield would allow Marap to meet growing global demand for organic dried fruit and nuts. Critically, the quality of its fruit and nuts will also increase when new orchards replace old trees, and when proper cultivation techniques are fully implemented.

From a human development perspective, the project also has numerous benefits. The number of full-time employees of Marap subsidiary, DP, is expected to double by 2012 to 60. The number of seasonal workers is also expected to double to 300 people. In addition to the anticipated job creation, 150 rural farmers – supporting up to 1,000 family members–now manage farm plots and organically cultivate orchards. These farmers earn on average US$2,000 per year from the sale of fruits and nuts to DP.

This income in turn brings money into chronically impoverished rural communities and promotes sustainable jobs. Additionally, jobs and income are created through seasonal harvest periods, (summer for fruit and in autumn for nuts). The creation of rural employment is also expected to help the rural poor shift away from subsistence farming on household plots, to dependable employment and increased income that will also boost local quality of life. Indirectly this will also reduce the rural to urban migration currently taking place in Uzbekistan.

In addition, SFA employees in Samarkand were trained in the EU-accredited organic inspection (co-financed by Marap and the ADA). As a result, SFA employees are now certified to provide organic inspections for other businesses in Uzbekistan. The SFA also provided crucial support to Marap, the UNDP and ADA by allowing DP to lease land to farmers, SFA also allowed DP to change the leases to ensure long term commitment from farmers, thereby promoting sustainable land management practices. Additionally, local residents’ trust in leases has improved through open discussions and negotiations with relevant stakeholders.

Environmentally, the planting of 150,000 fruit and nut trees on roughly 750 ha of barren hillsides of the Amankutan Valley represents a return to traditional orchards in Uzbekistan, and rehabilitates environmentally degraded land. This reforestation also reduces soil erosion and helps the regional micro-climate. Additionally, since the cultivation relies on organically

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25 As an incentive to farmers, DP pays premium prices of 10 to 20 percent above market prices – subject to quality – directly upon receipt of the produce. If the farmers choose to sell to the SFA, their annual net incomes could be roughly US$400 less than DP generated income.
certified techniques, no artificial pesticides, herbicides and fertilizers are used. This has a positive impact on the long-term health of the soils, regional ecosystems and biodiversity, and of local communities. Organic techniques can also improve food safety, taste and quality. These positive environmental and socio-economic results also provide a model for other regions in Uzbekistan.

Marap’s Future in Uzbekistan – Challenges and Opportunities

The future of Marap’s operations in Uzbekistan, particularly its subsidiary, DP, hinges upon continued demand for its products. So far, the trends are in DP’s favor. In a research note, UNCTAD reported that global organic markets have been growing at rates of over 15 per cent a year over the past two decades. It also projected that global sales of certified organic products would reach US$ 67 billion in 2012, up from US$ 46 billion in 2007, and from about US$ 23 billion in 2002. Despite the current economic crisis, UNCTAD also predicted growing demand for organic products.26

Assuming that demand for quality organic fruit and nuts continues to grow27, Marap’s success depends on the quality and stability of its supply of fruits and nuts. Since both Marap and DP own state-of-the-art processing machinery (used for sorting, cleaning, pitting, shelling), and have professional and well-trained staff, they can guarantee continued superior quality once the fruit and nuts from the newly planted trees have entered the supply chain.

Therefore, Marap and Uzbekistan’s must continue to stress sustainable cultivation practices, and continue following cultivation practices that meet the standards for organic certification. Additionally, the quality of future supplies will depend on the planting of new orchards since trees now used are between 30 and 100 years of age.

Other important factors for continued Marap operations in Uzbekistan include:

- **Continued participation of partners.** This project included several successful partnerships that provided initial financial support, technical expertise, training, seedlings, a favorable regulatory framework (through leaseholder agreements) and organic certification. With ADA’s 45 percent financial contribution ending in 2009, DP’s future success is dependent on the continued involvement of institutions, communities and enterprises.

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27 Within the EU, there is a tremendous potential for increased trade in fruits and nuts with Uzbekistan. Sales of organic fruit and vegetables in a number of EU countries have grown at annual rates ranging between 20-30 percent, especially in Italy (85 percent between 1998 and 2000), the UK and France, according to a FAO study (“Organic markets for fruit and vegetables in Europe”, Paul Pilkauskas (Senior Commodity Specialist), FAO, Rome, October 2001). Although harvested production of the main types of fruit and vegetables in the EU-27 remained remarkably stable between 1996 and 2006, there was growth in the volume of fruit and vegetables imported from non-member countries, particularly for fruit and nuts (up 37.2 percent between 2000 and 2007; “Fruit and vegetables: fresh and healthy on European tables”, Ana MARTINEZ-PALOU and Elisabeth RÖHNER-THIELEN, Eurostat, 60/2008). For Marap, the advantage of Uzbekistan compared to countries is Uzbekistan can provide the full portfolio of goods sold by Marap.
- **Continuation in sustainable land management and organically certified cultivation practices.** Long-term commitment and co-responsibility from local communities also needs to continue. As an incentive, DP is currently providing payment upon delivery at premium prices (10-20 percent above market value) for organically certified crops.

**Conclusion**

Marap’s inclusive business model and its interaction with crucial stakeholders have created many shared benefits. Rural mountain communities in Uzbekistan have benefitted from reforestation and improved land management. The communities have also benefitted from sustainable jobs and increased income. Marap has also benefitted from the creation of a sustainable supply chain to help the company meet market demand for its product—a relationship that should continue to bear fruit in the future.
References

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Annexes

Annex 1. Economic Analysis of Leaseholder Agreements

Stronger property rights have been the main driver in Uzbekistan for engaging leaseholders in reforestation activities. Leaseholders are more likely to invest in reforestation when their contracts with the State Forestry Administration allow them to profit on a long-term basis. The economic analysis on which the project is based suggests that the breakeven point for investments made under this scheme occurs after the fifth year of the lease (see the bottom row in Table 1, below). Net incomes grow substantially after the fifth year, when sales of products from mature fruit and nut trees bring significant increases in revenues.

Table 1: Estimated leasehold income (per hectare, in USD equivalents)

<table>
<thead>
<tr>
<th>Year of Lease Agreement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Total income generated</td>
<td>44</td>
<td>45</td>
<td>43</td>
<td>70</td>
<td>545</td>
<td>1622</td>
<td>2891</td>
<td>4102</td>
<td>5495</td>
<td>6883</td>
</tr>
<tr>
<td>B Leasing fee*</td>
<td>0</td>
<td>0</td>
<td>19</td>
<td>22</td>
<td>263</td>
<td>781</td>
<td>1389</td>
<td>1973</td>
<td>2642</td>
<td>3309</td>
</tr>
<tr>
<td>C Leaseholder gross income (a – b)</td>
<td>44</td>
<td>45</td>
<td>24</td>
<td>48</td>
<td>282</td>
<td>841</td>
<td>1502</td>
<td>2129</td>
<td>2853</td>
<td>3574</td>
</tr>
<tr>
<td>D Total costs (e + f)</td>
<td>392</td>
<td>393</td>
<td>388</td>
<td>393</td>
<td>453</td>
<td>597</td>
<td>771</td>
<td>932</td>
<td>1120</td>
<td>1308</td>
</tr>
<tr>
<td>E Labor costs**</td>
<td>11</td>
<td>12</td>
<td>7</td>
<td>12</td>
<td>72</td>
<td>216</td>
<td>390</td>
<td>551</td>
<td>739</td>
<td>927</td>
</tr>
<tr>
<td>F Non-labor costs</td>
<td>381</td>
<td>381</td>
<td>381</td>
<td>381</td>
<td>381</td>
<td>381</td>
<td>381</td>
<td>381</td>
<td>381</td>
<td>381</td>
</tr>
<tr>
<td>G Leaseholder net income (c – d)</td>
<td>-348</td>
<td>-348</td>
<td>-364</td>
<td>-345</td>
<td>-171</td>
<td>244</td>
<td>731</td>
<td>1197</td>
<td>1733</td>
<td>2266</td>
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</tbody>
</table>

* Paid to the State Forestry Administration.

** Imputed wage/opportunity cost of leaseholders’ foregone incomes from other potential income-generating activities.


---

Table 2: Uzbekistan Poverty Data

<table>
<thead>
<tr>
<th></th>
<th>Incidence of Poverty</th>
<th>Incidence of Extreme Poverty</th>
<th>Share of Population</th>
<th>Share of Poor</th>
<th>Share of Extreme Poor</th>
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<tbody>
<tr>
<td>Urban</td>
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<td>7.1</td>
<td>37.4</td>
<td>30.6</td>
<td>27.4</td>
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<tr>
<td>Rural</td>
<td>30.5</td>
<td>11.2</td>
<td>62.6</td>
<td>69.4</td>
<td>72.3</td>
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<td>Economic Regions</td>
<td></td>
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<tr>
<td>Tashkent</td>
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<td>3.4</td>
<td>18.2</td>
<td>8.8</td>
<td>6.5</td>
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<td>5.2</td>
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<td>8</td>
<td>27.6</td>
<td>28.7</td>
<td>22.8</td>
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<tr>
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<td>8</td>
<td>11.6</td>
<td>14.1</td>
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<tr>
<td>Central</td>
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<td>6</td>
<td>19.9</td>
<td>15.5</td>
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<td>27.4</td>
<td>16.1</td>
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<td>5.4</td>
<td>5.9</td>
<td>4.6</td>
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<td>8.7</td>
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<td>2.6</td>
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<tr>
<td>Navoi</td>
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<td>3.2</td>
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<td>1.8</td>
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<td>100</td>
<td>100</td>
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</tbody>
</table>

Figure 1: Map of Uzbekistan

Source: CIA – The World Factbook

Figure 2: Uzbekistan Incidence of Poverty

Uzbekistan
Incidence of Poverty - 2001

Incidence of Poverty
- 8.4 - 18.1
- 18.1 - 26.4
- 26.4 - 31.8
- 31.8 - 62.6

Data from "Uzbekistan Living Standards Assessment Volume II"
World Bank Human Development Sector - 2003

November 2010

The information presented in this case study has been made available to the company in subject to ensure its accuracy and is accurate to the best of the author’s knowledge. The views expressed in the case study are the ones of the author and do not necessarily reflect those of the UN, UNDP or their Member States.

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