

Growing for a clear conscience: mint in Afghanistan

Key fact:

By adding value to mint and creating a strong market demand, ICARDA has transformed a kitchen-garden herb into a major source of income for hundreds of Afghan families.

Summary:

Farmers in conflict-affected regions of Afghanistan are receiving support to grow crops other than opium. Opium poppies, which can earn up to 12 times the amount received for wheat per hectare, are the only source of income for about 1.7 million rural people in Afghanistan.

But introduction of high-value crops such as mint has helped to change the lives of hundreds of Afghan families in four provinces (Helmand, Kabul, Kunduz and Nangarhar).



Farmer (left) supplying mint water to satisfied shopkeeper (ICARDA)

With support from DFID to the collaborative project on Research into Alternative Livelihoods (RALF), led by the International Center for Agricultural Research in the Dry Areas (ICARDA), eight Mint Producer Associations, including two all-women associations, were provided with new equipment to produce and package mint water and mint oil. Farmers were also provided with cuttings of higher oil yielding varieties and trained in growing, drying, packaging and marketing of dried mint leaves, which yield up to 250 per cent profit in the urban markets. Although the RALF pilot project ended in June 2008, development and training centres have been established at the Badam Bagh Research Station and at Kabul University.

Facts & figures¹

- ❖ Pilot project was active in three provinces and extended to Kabul province.
- ❖ Eight mint producer associations were established, including two women associations with a minimum of ten farmers.
- ❖ Eight mint oil and mint water extraction units were established.
- ❖ Due to diversification attempts, association members were able to produce and market five other herbal products not in the project proposal - distillate and oils of thyme, fennel, cardamom essence, rose and mint tea.
- ❖ The majority of the mint associations are now self-supporting.
- ❖ By June 2008, trained farmer associations had sold over 200,000 bottles of herbal mint distiller and mint oil and over 70,000 packets of dried leaves, providing much needed income.
- ❖ Over 6,300 women, including housewives, were trained in collaboration with two NGOs.
- ❖ Dried mint fetches a 250% profit in the urban markets. In winter, mint prices rise ten fold.
- ❖ Each household involved is earning up to US\$500 per month from mint production.
- ❖ The annual net profits amount to US\$7,000 to US\$8,500 per hectare (ICARDA, 2007).

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Farmers in conflict-affected regions of Afghanistan are receiving support to grow crops other than opium. Opium poppies, which can earn up to 12 times the amount received for wheat per hectare, are the only source of income for about 1.7 million rural people in Afghanistan. But introduction of high-value crops such as mint has helped to change the lives of hundreds of Afghan families in four provinces (Helmand, Kabul, Kunduz and Nangarhar).

In Afghanistan, mint is grown widely for household use, but by increasing production and adding value to fresh mint, farmers are now earning net profits of US\$7,000 to US\$8,500 per hectare per year. Before the implementation of the project, an average mint plot size was 5 m² but many farmers have now expanded their mint growing to 2,000-5000 m² (half a hectare). Thus, a kitchen garden crop has been transformed into a commercial crop.



Mint oil and mint water are used as remedies for common ailments, including for throat infections and toothache (ICARDA)

With support from DFID to the collaborative project on Research into Alternative Livelihoods (RALF), led by the International Center for Agricultural Research in the Dry Areas (ICARDA), 1,200 male farmers including members of associations, as well as extension agents and MAIL (Ministry of Agriculture, Irrigation and Livestock) researchers have been trained in cultivation, processing, packaging, and marketing of mint and other medicinal plants.

Market research studies at the start of the project revealed that farmers could significantly increase their profits if they could deliver value-added mint products such as mint water and mint oil. In winter, with fields covered in snow, the price of mint rises ten-fold. At these prices, it became profitable to encourage farmers to set up greenhouses for growing mint in winter and cucumbers in summer.



Women have also been trained to use the distillation equipment (ICARDA)

Building on traditional practices, new varieties and improved farming methods have been adopted along with novel techniques for drying and distillation. Developed in collaboration with private sector entrepreneurs, processing equipment was specifically tailored to local conditions so that no electricity and little water are required.

Eight Mint Producers Associations (MPAs), including two all-women associations, were provided with the new equipment to produce and package mint water and mint oil. In addition, each farmer was provided with cuttings of higher oil yielding mint varieties (30-40 per cent more than traditional varieties) and trained in growing, drying, packaging and marketing of dried mint leaves. Over the course of the project, more than 6,300 women have also been trained in domestic and commercial production of mint and other herbs, and on their uses.

In the absence of a well organised healthcare system, associations are marketing dried mint, mint water and mint oil as domestic remedies for common ailments. In addition to trilingual labels and posters, and radio and television documentaries, a TV commercial

produced by the project helped create awareness of the medicinal benefits of the mint products, which has boosted sales and created a strong market demand.

Initially supported by DFID funding, most of the associations have now become financially self-supporting. Collectively, over 200,000 bottles of herbal mint distiller and mint oil and over 70,000 packets of dried leaves have been sold, providing much needed income. Each household involved is now earning up to US\$500 per month from mint production alone. However, many associations are also now using their equipment to produce other niche products, including products from thyme, fennel, cumin, rose and cardamom. During 2008, and again in 2009, associations' products were showcased by the United Nations office for Drug and Crime (UNODC) at the annual *Squisito* event in Italy, which has helped to boost the regional export of mint products.

Although the RALF pilot project ended June, 2008, development and training centres for mint and mint products have been established at the Badam bagh Research Station and at Kabul University. Not only are these linked to credit agencies and development agencies, in order to provide loans and facilitate enterprise creation, but they will also continue to research and develop new technologies and train farmers how to use them. Therefore producers and traders are confident that production - and profits - will continue to grow.

Box 1. Worldwide medicinal and industrial uses:

Mint oil is the most extensively used of all the volatile oils, both medicinally and commercially, and has been since ancient times. The characteristic anti-spasmodic action of the volatile oil greatly adds to its power of relieving pains arising in the alimentary canal due to its stimulating, and stomachic properties. It is valuable in certain forms of dyspepsia, being mostly used for flatulence and colic.

Menthol (the main constituent of mint oil) is used in medicine to relieve the pain of rheumatism, neuralgia, throat infections and toothache. It acts also as a local anesthetic, vascular stimulant and disinfectant, and helps relieve sprains, swelling and muscular cramp. For neuralgia, rheumatism and lumbago it is used in plasters and rubbed on the temples; it will frequently cure neuralgic headaches. It is inhaled for chest complaints, and nasal catarrh, and laryngitis and bronchitis are often alleviated by it. It is also used internally to relieve intestinal gas. On account of its anesthetic effect on the nerve endings of the stomach, it is of use to prevent sea-sickness. The bruised fresh leaves of the plant will, if applied, relieve local pains and headache, and in rheumatic conditions the skin may be painted beneficially with the oil.

The oil itself is often given on sugar and added to pills, as is a spirit made from the oil, but the preparation in most general use is Mint Water, which is the product of oil and water distilled together. Peppermint Water and spirit of Peppermint are official preparations of the British Pharmacopoeia. Mint oil is also used extensively in cough syrup, toothpaste, mouthwash, candy, liqueur, soaps, shampoo, cream, candy, chewing gums, and cigarettes. India, China and Brazil are the top exporters, but India dominates the market by producing 19,000 to 35,000 mt annually.

Testimonials:

- **Mohammad Yaseen, President, Naghrak Mint Association, Nangarhar Province:** “Our association has got 50% female beneficiaries and, due to capacity building on mint processing and marketing, on average each beneficiary is receiving US\$500 each month. We are all very happy, thankful, and appreciate MAIL/DFID-RALF/ICARDA for its tremendous job.”
- **Naseer Ahmad Fayez, Director, Agriculture, Irrigation, and Livestock, Ministry of Agriculture, Nangarhar Province:** “The farmers are very happy with this project and now are earning few more times compared to other field crops. Being Director of Agriculture, Irrigation and Livestock in Nangarhar Province, I am very thankful to the support provided by RALF for providing such a tremendous, advantageous and productive opportunity for the poor farmers of Nangarhar Province.”
- **H.E. Mohammad Sharif, Afghanistan’s Deputy Minister of Agriculture, Irrigation and Livestock:** “The mint project is one of ICARDA’s most successful activities in Afghanistan. It has enabled farmers to produce and market the first herbal medicine in the post-conflict period.”

Additional case study information

Costs and benefits:

- ICARDA’s research on improved mint varieties, associated agronomic practices, simple value addition techniques, development of easy-to-use non-electricity based distillation plant, easy but standard packing techniques, and marketing research has resulted in a cost: benefit ratio of 1:3.²
- Farmers previously involved in poppy cultivation or the opiate business are now working as ambassadors to spread the message and convince others to join licit livelihoods.
- Access to mint and other herbal products (thyme, fennel, cumin, rose and cardamom) have resulted in improved quality of life for rural communities who have no access to a health care system. Access to mint products helps in treatment of ailments as described in Box 1.

DFID contribution to research:

- Pilot project under the Research into Alternative Livelihoods Fund (2005-2008).
- Total RALF fund: £3 million (11 projects within programme management budget).
- Fund for mint project (US\$490,640).
- DFID provides ongoing core-funding to ICARDA.

Research milestones:

- March 2005 Implementation starts in the provinces of Helmand, Kunduz and Nangarhar.
- April 2005 Research starts into market price of mint.
- During 2005-08:
 - Twelve local and improved mint varieties are evaluated for their herbage (leaf) and oil production; best practices are evaluated and tested on research farms, and at farmers’ fields.
 - Over a period of three cropping seasons the project establishes 40 farmers’ participatory demonstrations to educate farmers on best practices to grow mint, and to promote adoption of high yielding varieties.
 - Simple techniques of drying and packing mint leaves are developed and farmers trained

- Undemanding process and non-electricity based distillation equipment are developed, manufactured in partnership with the private sector, and farmers' associations are trained to use these and produce mint-distillate and oil.
- Packing techniques are adjusted to Afghanistan conditions and farmers trained.
- Processing and extraction techniques are approved by Afghanistan's Ministry of Health.
- Marketing strategy is developed.
- Diversification possibilities are tested and farmers trained in production of diversified products.
- June 2008 Project ends

Photo credits:

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Multi-media materials:

ICARDA, *Rebuilding Agriculture in Afghanistan*, 2009

<http://www.youtube.com/watch?v=piDDSIldMRt0>

Links:

ICARDA: www.icarda.org

Main reference:

ICARDA, (2008) *Cultivation of mint as a viable alternative livelihood in East and North East of Afghanistan*, Final Report

http://www.icarda.org/RALFweb/FinalReports/I_MintProduction_RALF02-11_FinalReport.pdf

Other key references:

Edwards H., (2007) *In Afghanistan for the long haul*, BBC News, published 21 June 2007

http://news.bbc.co.uk/1/hi/world/south_asia/6225970.stm

Grieve, M., *Mints*

<http://www.botanical.com/botanical/mgmh/m/mints-39.html#pepmed>

New Agriculturist, (2007) *Afghan mint - cleansing body and soul*, published January 2007

<http://www.new-ag.info/focus/focusItem.php?a=11>

Padma, T.V., (2008), *Afghan agriculture: Dropping the poppy habit*, SciDev.Net, published 20 August 2008

<http://www.scidev.net/en/features/afghan-agriculture-dropping-the-poppy-habit.html>

Rizvi, J., M. Athar, K. Wadan, and W.G. Rasouli, (2007), *Mint-ting Money*, ICARDA Caravan Issue Number 24, June 2007

http://www.icarda.cgiar.org/Publications/Caravan/Caravan24/Focus_3.htm

UNODC, (2009) *Afghanistan Opium Survey 2009: Summary Findings*

http://www.unodc.org/documents/crop-monitoring/Afghanistan/Afghanistan_opium_survey_2009_summary.pdf

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¹ Unless indicated otherwise, facts and figures sourced from: ICARDA, (2008) *Cultivation of mint as a viable alternative livelihood in East and North East of Afghanistan*, Final Report

² Rizvi, J., M. Athar, K. Wadan, and W.G. Rasouli, (2007), *Mint-ting Money*, ICARDA Caravan Issue Number 24, June 2007



DFID, the Department of International Development, is the part of the UK government that manages Britain's aid to poor countries and works to get rid of extreme poverty.



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