

Innovation by Tunisian women in dryland farming



Mrs Mbirika
incubates
chicken eggs
in cattle dung

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At the beginning of the Indigenous Soil and Water Conservation (ISWC) project, training was given in Participatory Rural Appraisal and Participatory Technology Development (PRA/PTD) in different regions to facilitate identification of farmer innovators, men and women. One-day workshops were also held at the Ministry of Agriculture's regional department headquarters. Some 160 staff members took part. After these workshops, most of the innovators identified were men.

Identifying women innovators

In the local culture, it is difficult and often unacceptable for men to talk with village women. The ISWC team at the Arid Zones Institute consisted of men, so 15 women were recruited and trained to make a special study. These included teachers and students returning to their villages for the summer holidays. They collected data on women's role in farming and food processing and identified 31 women innovators. Most were found in Gafsa and Sidi Bouzid regions, where population density is highest and agriculture diverse and intensive.

The 31 women were all married and between 23 to 84 years old. Most were in their 30s and 40s and had little formal education. Most came from mountainous areas where, until recently, there were few opportunities – especially for girls – to go to school. Over 70% (all those over 40) were illiterate. However, with the recent spread of electricity and education in rural areas, the women have more contact with a new culture through radio, TV and their school-going children.

Spheres of women's innovation

The women innovate in activities that concern them directly. The main economic activity of all but one of the 31 women

was farming, especially livestock keeping. Most also practise handicrafts. Women were innovating in animal husbandry (11 women), cropping (7), handicrafts (6), use of medicinal plants (3), efficient use of energy for charcoal making and improved stoves (2) and processing sheep and goat milk (2).

Handicrafts include making carpets and other products out of wool and weaving mats and other household items from alfa grass. Natural dyes are extracted from leaves, roots and bark. The oldest innovations – in handicrafts and medicines – are rooted in local knowledge but adapted (in design, materials, use) to the new socio-economic context.

The crop-related innovations include fig-pollination techniques and using plastic bottles for irrigation. Mrs Rgaya Zam-mouri in Médenine region, over 70 years old, uses 1.5 litre bottles to irrigate watermelons and melons. She buries each bottle upside-down in the soil. The cork has tiny holes in it made with a needle and the water infiltrates slowly near the roots of the plant. She fills the bottles from a cistern fed by run-off rainwater.

Hatching eggs without a chicken

Eleven women (35%) innovated in livestock keeping, specifically with sheep and goat feeding, and poultry and bee keeping. For example, Mrs Mbirika Chokri, a 70-year-old farmer in Gafsa region, specialises in poultry and incubates chicken eggs in dry cattle dung. She puts the eggs with some straw in plastic bags to preserve humidity. Each bag has 16-20 eggs. She puts the bags in small holes dug in the manure and covers them with cardboard and a thin layer of manure. Each day she opens the bags to check the temperature of the eggs and to turn and

aerate them. From day 20, the eggs start to hatch. She puts the chicks into a box to protect them from the cold and feeds them couscous, vegetables and bread. The idea came 5 years ago when one of her chickens, with eggs about to hatch, suddenly died. She put the eggs into a dung pile and they hatched after a few days. She decided to repeat this technique till she mastered it. She did not share her idea with neighbours, but accepted the ISWC team's request to present it in the "Agriculture and Innovation" programme on Gafsa regional radio and later on television. It aroused widespread interest among other farmers.

Potential for spread

Livelihood systems in central and southern Tunisia have changed radically in recent years. New production systems have replaced the traditional pastoralism and links between the countryside and urban markets are much closer. Rural women need more cash to satisfy new needs. Women innovate both to increase their income and to reduce their workload. For example, economising on water for irrigation reduces the time and energy needed to fetch water. Several women stated that their innovations came from their own idea or a chance discovery. Often, their innovations are practical and low-cost, and have good potential for spreading. More Tunisian researchers, development agents and policymakers at regional and national level are coming to recognise women's innovation. In 1999, researchers and several women innovators began collaborating on experiments. The challenge is to improve and expand this approach in Tunisia and beyond.

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