

## Cactus in Ghayman: an Example of Qat Substitution<sup>1</sup>

### Introduction

Cactus is a miracle plant. It grows in arid places where no other fruit ‘fears to thread’ and during the most severe droughts the dried pads are the lifeline of cattle that have no other means of support. Cactus is a regular feature in dry areas from Mexico to Morocco.

For a long time the Indian fig cactus (*Opuntia ficus-indica*) cactus was considered a wild crop, at best grown as a live fence. In Yemen cactus for instance was popular mainly as an extra defence around fortified houses. Yet in a few decades this has all changed: *Opuntia* cactus fruits are recognized for the delicacy of their taste and in the last ten years the juice has found its way to the global supermarket racks.

### Research findings

In Yemen commercial cultivation started 40 years ago and was very much the making of a single man: Ahmed Motahar. Having worked for nearly twenty years abroad in commercial agriculture, he looked for farming opportunities upon his return to the country in 1967. He settled on cactus – it being most suitable in a natural environment defined by water scarcity.



In Ghayman in Sanhal District (Sana’a Governorate) he started a first farm of 4 ha of cultivated fig cactus, unheard of as previously the fruits were at best collected wildly. Ahmed Motahar also went a step further and set up a market chain: peeling the finely thorned fruits and selling them in one kilogram hygienic plastic bags at his own street side outlets. The slogans he used were remarkable, for example: ‘Figs with the Yemeni tie and belt are better than honey and cheaper than onions.’

As profits were high new land in Ghayman were developed for the fig cactus, whereas the area under the top crop, the groundwater guzzling qat did not increase. The cultivation of cactus also spread beyond Ghayman, with other farmers imitating Ahmed Motahar’s cultivation techniques. One problem was the large quantity of cactus pads after thinning. From 2005 a successful experiment was started to convert these pads into compost and waste was turned into an asset.

Moreover, new products were developed: juice, jam and the packaging of the fresh fruits in appealing boxes. In addition a market developed for the cactus seeds, for fodder from the pads and for the compost from the waste material.

<sup>1</sup> Contribution to the development of the Irrigation Sector Policy. Contribution by Ahmed Albakri, Bothinah Albakri, Sharafuddin A. Saleh and Frank van Steenberg.

In the last ten years the 'dry' fig cactus has made a steady march. It has replaced qat in Ghayman: more than 80% of the 800 ha is now under fig cactus. Ahmed Motahar's village is now one of the bright spots – suggesting that changing to low water demand crops can continue bring high farm returns. Cactus moreover, unseemingly as it appears on the outside, hold much appeal as a cash crop in other dry areas where it almost appears naturally.

## Recommendations

The example of Ghayman shows that there are more sustainable crops than qat or grapes – that are far less water demanding but also commercially interesting. Farmers are interested to convert their land to such crops. Obviously the market for cactus fruits is limited, yet there is interest in alternative crops.

What the case of Ghayman however also shows is (1) the importance of marketing to make such alternative crops worthwhile and (2) the importance of developing additional products – such as compost – from the plants – turning waste into an asset.

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