

El Minya, Egypt*

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Even in the Nile Valley, the Sahara feels very close. It is not always evident from the express trains whose tracks hug the river as they run up and down the valley, or from the narrow strip of cultivated land, five or ten miles wide, that runs mostly along the left bank of the Nile for hundreds of miles. The countryside in this strip is laced with canals and irrigated fields. Yet come into a village and you know that you are in a desert. Mud-brick buildings line sun-baked, unpaved and dusty roads. There is no greenery; the only color comes from people, especially children, their eyes often tragically infested by flies.

A village elder in one such village, Tanda, invites you into his two-story house. The front door leads straight into a room for barnyard animals. In this case, a female donkey stands ready to be bred, and her coat has been elaborately shaved into a pattern of decorative chevrons. Off to the left is a small receiving room, a good twelve feet high in the search for coolness. Chairs and sofas solidly line the walls. There is a worn carpet on the floor, and a telephone sits on a small table covered with oilcloth. The room is lit by naked fluorescent tubes. Its window shutters are tightly closed, and—perhaps the first surprise—pictures of a Coptic saint, along with the son of the house, hang on one of the walls.

A staircase leads up to the four rooms in which the family live. Here there is an electric refrigerator, a television, and a kitchen and bath with plumbing. The shuttered windows look down a vacant street. From a back landing, the view is equally quiet, except that between the houses there are coops with periodically flustered chickens.

Officers from Egypt's irrigation ministry had come to Tanda for a visit to the El Arous Canal, “the bride.” It’s a branch of the great Ibrihiya Canal, built in the mid-19th century. This canal and its branches like El Arous transformed the agricultural calendar of a great slice of middle Egypt. Lands that for millennia had been irrigated once a year by controlled flooding were now irrigated for 11 months. The lands under El Arous now grew cotton in summer and corn in winter.

For a century, water had been released into the canal for ten days out of every 20, year-round, except during January. The canal released water into field ditches long enough to serve 20 or more farmers, and the farmers long ago worked out a rough arrangement for sharing the water. The ditches are too small, in other words, to carry water to every farmer simultaneously. Rather than set up a one-by-one rotation, the farmers have divided each ditch into

several stretches. On the days specified for irrigation from that segment, the farmers on each stretch, and they alone, can take the ditch's water.

There used to be fights about the division, but Aswan High Dam put an end to most of them. Now there is so much water, and the farmers irrigate so frequently, that the water table is rising. True, the men at the end of the system sometimes find that the water is not reaching them, or reaches them only at night, when nobody wants to work. For most, however, there is as much water as they are willing to lift from the ditch onto their fields. That, in itself, is an interesting story, because the ditches could have been excavated at a level that allowed the water to run by gravity into the fields. The British in designing the system, however, put the canals deep into the ground, so the ditches had to be deep and farmers had to lift the water onto the fields. It was a way of conserving water—and brutally effective.

Still, labor is cheap: it hardly costs a dollar a day to set a man cranking away at an Archimedean Screw, the ingenious device of choice in this parts. The result is that drums rotate slowly, a stream of water is lifted onto the field, and many fields along El Arous are white with salt. A farmer points out a hole he has dug, and it is full of water to within a foot of the surface. Crop yields are suffering, but it would do no good for him alone to reduce the amount of water he applies to his fields; the rising water table is a community problem.

Now, in 1986, the ministry is experimenting with a solution. El Arous will be permanently closed, plugged at its headgate. Farmers will depend instead on a set of about 50 wells, whose operation will naturally tend to lower the water table. The water saved in the Ibrihimiya Canal will be diverted to new lands. There is another advantage for the Tanda farmers. With the pumps, El Arous will be rebuilt at a higher level. Gravity will do the work.

What happens if the pumps break down, or if there are persistent power failures? What happens, for that matter, if the farmers decide that, since they no longer have to work to lift the water, they will irrigate continually, letting water run off into drains at the far ends of the fields? Tail enders may then see no water at all. Wouldn't it be better to use the pumps to supplement the canal water and deliver supplies to tail enders?

The farmers will depend on this new system much more absolutely than the ministry employees building it, yet they have been told next to nothing about what the drill rigs are doing. Ask two farmers about the goings-on, and they say they know nothing. The irrigation ministry officers say it is merely a communication problem; the farmers do understand.

Can we clear up the confusion back at the village council hall? The building is modern, like village councils themselves for that matter, and pictures of Egypt's last three presidents line the wall. The council secretary says that he

first learned of the project when the ministry set up its camp on the edge of town. He had been promised an explanation of what was happening, but it never came. Sounds about right: passengers on a Egypt Air flight running late better not expect explanations, either.

A farmer joins in. He must irrigate at night, because too much water is being lifted from the ditch during the day. When his neighbors no longer have to turn cranks, will there be enough water for him even at night? Cannot the government at least work out some operating rules before the new system begins? Another man brings up the matter of the reliability of the electric pumps: the town's domestic water, he says, comes from a well whose pump is often broken. What's more, he wonders how long the government will bear the cost of operating and maintaining the pumps. Good question! Peasants aren't so stupid, after all. A ministry official says that the ministry is considering a standby pump at the head of El Arous -- an emergency system to tap into the old canal, in case the groundwater pumps fail. As for cost, the officials say that the government will pay the cost of operating the wells forever. The farmer is skeptical.

How about a public meeting to review the situation? The farmers are enthusiastic, and an official says that one is planned. Good. Why not leave a copy of the project documents in the council hall, so villagers can prepare for the meeting? After all, one of the farmers present in the room right now has a university degree in agriculture. No: the farmers will not understand the documents and will become unnecessarily confused.

So matters stand—or stood, that day in 1986. It would be interesting to see, 20 years later, whether the pumps of 1986 still work or have been abandoned, leaving the farmers to restore the system of their fathers.

* Revised 2004 but not updated from the version published in *Focus* (36:1), Spring 1986, pp. 16-19.