

Problems of Population Pressure Upon the Desert Range

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You are not alone in the desert most anywhere in the Arab world. It appears to be devoid of human or animal life of any kind. You stop to eat lunch or to change a tire, or perhaps only to study a closely-browsed shrub. After a few moments your eye is attracted by a moving object. You glance up. A man has materialized from somewhere and is approaching. It happens every time! And soon you begin to realize how crowded the desert is—considering its meager resources for sustaining human life. You begin to appreciate how direct is the ratio of human misery to animal starvation, and you come to grips with the *Number One Problem*—How can you undertake a range management program, which invariably requires relief from grazing pressure, under conditions like these?

Problems are Manifold

But this is not all of the problem. You find that a fuel-wood

supply must also be drawn from this overgrazed range, not only for the desert-dwellers, but usually for the nearby towns and villages as well. The trees and taller shrubs have likely long since disappeared in this quest for fuel. So, within walking distance of villages or desert camping places you find the women and girls obtaining fuel by pulling up small shrubs or weeds, or even digging out the roots of perennial grasses and shrubs, as that is the last remaining source. Thus humans are competing directly with camels, sheep, and goats in utilizing the dwindling cover of shrubs and brush.

There is yet another problem. The desert-dweller, having practically no cash income, must raise his own cereals somewhere out on the desert range. The wadis (drainage bottoms) are the best place, naturally, but there are not enough of these to go around to all. So the marginal and sub-marginal soil types are plowed and put

into grain, with the bad results that we all know so well. A national range authority in one of the neighboring countries to Libya said that he was sure that over the long haul, cereal production in the deserts of his country was a losing business—both to the people and to the soil.

What effect has all this on the soil-erosion problem? Any good conservationist reading these lines has already formed a picture in his mind of the destructive erosion that is inevitably going on. At first I consoled my own mind as best I could with the thought that erosion must have reached its maximum rate a long time ago, and at least couldn't increase much faster. I was wrong. In Libya erosion has definitely accelerated over the past 25 years. We have proof of it. It's due to population pressure on the range resource. I've traveled enough in some of the neighboring countries to know that the same thing is true there too.

Can the Problem be Solved?

To summarize our problem: In the face of increasing population pressure we must sustain forage production, fuelwood production, and cereal production and yet improve ranges that likely have been declining in productivity for ages and are still doing so. Is the problem insuperable? Yes, if left to

the range specialist alone. No, if all agricultural and industrial specialists of a country join with the range specialists to turn the tide.

Where do the industrial specialists come into the picture? They must create jobs in new industries and train workmen so that industry can absorb some of the overpopulation on the range.

Foresters Can Help

For a solution to the fuelwood production part of our range problem we must turn to our old co-workers, the foresters. No doubt in their own programs they can take over the job of providing from improved forest reserves major fuelwood supplies for the larger towns and villages. However, it may take a bit of urging on the part of the range specialists to get the foresters to come down into the desert scrub country and help set up community-group fuelwood production areas. Rural society anywhere is always much better organized than meets the eye. The rural organizations of the desert will likely be found adequate to manage fuelwood production areas with help from the central government. There are tree species, such as the acacias, that grow surprisingly fast in arid climates.

Agricultural Programs

Land classification is needed to locate the suitable dryland cereal production areas. Agricultural programs must then be geared towards the goal of full productivity from such areas.

Long ago the Romans proved that sites can be artificially made suitable for cereal production by

surface water conservation methods. The remains of their old rock-dike waterspreading systems and the rock houses that sheltered the people are still common sights along many a desert wadi that now supports only a few migratory Bedouins. It is amazing how widespread was this system of agriculture and how completely it has been forgotten! Reintroduction of this technic is proving a great boon to desert peoples.

New irrigation developments from ground water supplies and perennial streams is one of the main hopes for taking animal and human pressure off the grazing lands. Arid and semi-arid areas also need irrigation projects to carry the breeding herds through the inevitable periods of drought. In some countries where no such reserves are available, when drought disaster strikes, death losses among livestock may reach as high as 80 percent in the worst affected areas. Droughts are frequent.

The livestock specialists play a vital role in helping to breed up better animals and in improving disease and insect control programs, so as to keep the animals in better health. I am reminded, however, that General Omar Draz, formerly chief veterinarian of the Egyptian Army, reported that he quickly discovered that the best preventive of sickness and insect infestation among the army camels was plenty of forage to eat.

The Bedouins follow the rain clouds with their herds, traveling hundreds of miles in the great free-grazing, give-and-take of the Arab world. Even national boundary

lines are ignored in this search for grass. Effective range management is impossible under such a system because controls cannot be set up.

This whole pattern of uncontrolled grazing in the countries of the Middle East and North Africa should be altered, but it is deeply entrenched, and can be changed only gradually. Land ownership titles, usually vague and often indefinite, will have to be put on a firmer basis. These problems call for assistance from the legislators and political leaders.

Teamwork Needed

All of the foregoing leads up to my main and concluding point—that in the Middle East and North Africa range management is difficult and requires the close teamwork of many types of specialists. It may possibly be one of the very last agricultural programs to achieve success, because in so many cases it cannot be undertaken until the other programs relieve the pressure on the range.

In the meantime the range specialists must exercise astute judgment and unflinching patience. They must "spar around for an opening" here and there to get small and large range management demonstration areas successfully launched as a necessary preliminary to the main event. And they must push along with the range extension program—particularly with local agricultural leaders. The goal of attainment, though difficult to reach, is well worth the effort, for in most of the countries mentioned the grazing resource will likely be called upon to sustain in perpetuity a goodly portion of the human population.

National Committee Notes

DR. R. T. CLARK, Denver, has replaced MR. A. L. BAKER on the Range Research Methods Committee. C. WAYNE COOK, Utah State, is chairman of the committee.

PAT McILVAIN, Woodward, Okla., is working on the program for the 12th Annual Meeting of the Society, which will be held at Tulsa, Okla., in January 1959.