Range Management in the Developing Countries

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Highlight

Programs for developing countries involve considerations of anthropology, sociology, education, and general planning, as well as the usual sciences basic to range management. The program should include 3 different phases that consider: a) evaluation of the resources, the people, and their cultural, social, and economic interests; b) training and feasibility studies; and c) implementation and technical assistant.

In the U.S. and in the developed countries “Range Management” means essentially the adoption of specific techniques for maximizing the productivity of grazing lands.

It is a science because it relies upon climatology, geology and pedology, botany, animal physiology and genetics, and lastly, on economics. It is an art because, in the combination of so many sciences, experience and individual capacity plays an essential role.

Such an approach is accepted by every modern stockbreeder, who would readily apply any sound technical and economic advise aiming at “maximizing the productivity of grazing lands.”

But is this really so in the great pastoral areas of the underdeveloped countries? I have in mind here the Middle East from Iran to Iraq, to Saudi Arabia, to North Africa—all along and south of the narrow strip of cultivated land on the shore of the Mediterranean down to the Sahara—to the Sahel and Sudan belts of West Africa, to many areas of East Africa—the pastoral zones of Ethiopia, etc.—all countries of which I have experience.

I am convinced that in these areas range management should mean something more, and would therefore require a different and somewhat more complex approach: we would certainly add anthropology, sociology, education, and general planning to the list of sciences involved. Human implications are so important there, and the evaluation of the development periods so essential that, without the aid of these sciences, any program of range management based on purely technical assumptions is bound to fail.

The comprehension of the herdsmen’s behaviors and attitudes is not an academic approach, but permits an assessment to be made of the positive contribution they can make to the objectives of the projects in which they are involved.

In many cases it would even be of great value to investigate in depth the psychology of the herdsmen, so as to understand which are the moving forces that determine their fundamental behaviors. But, nearer the surface of the problems, one should always understand their attitude towards management.

In the developed countries, for a rancher, livestock breeding and, therefore, range management has an essential goal: profit. It is not the sole aim, but is the fundamental one. In the countries I have referred to, and probably also in others, pastoralists are even today still seeking security and survival.

Most of the pastoral areas are located in arid or semi-arid zones, where rainfall is low, strictly seasonal, and where periods of drought are frequent and often pluriannual.

The life of the flocks of sheep and goats and the herds of camels and cattle as well as the stockbreeder’s income are strictly correlated with the climatic variations, but the effective income—the amount of money available for satisfying the needs of the family—does not vary as much as is generally thought.

In fact, when rainfall is poor the crop of lambs, kids, and calves is small and there is little milk: the income will therefore be low. If the drought persists the breeding-stock will shrink and the newly born animals will be insufficient to replace the old ones. If the breeder sells some of his stock, it will be for buying food for the animals, which will be filled up with dry matter without their nutritional requirements being met.

At this time part of his income will come from realizing part of his capital, while in the same time, inputs will grow. This is also the period in which the breeder gets into debt.

At the end of the drought, the animals left will be in poor condition and their number reduced. When rainfall comes at last, everything seems to rejoice: very often desert animals have an extraordinary capacity for regaining their weight and for reproduction as soon as the vegetation starts a new growth. But the stockbreeder has to rebuild his stock; all newly-born females will have to be raised for this purpose and production will be low because the breeding stock is reduced in number and many sales of slaughter animals, wool, hair, and animal-ghee will go to pay off the debts. Accordingly, in this period also the real income will be small.

The only policy the stockbreeder can conceive is to maintain the maximum possible number of animals, hoping that most of them will survive the drought.

Another important reason which dictates the same policy is the high incidence of infectious diseases and of internal and external parasites. In spite of the application of veterinary measures in many countries, the loss from animal diseases is high and for the majority of the stockbreeders the only way to overcome this problem is still to main-
tain a great number of animals, with the hope, here too, that the majority of them will survive.

In this situation there is no place for a real concept of profit-making and for what we mean by management capacities, and consequently for the development of needs which are not strictly connected with subsistence and survival.

That is why all measures, which seem realistic, such as the selling of old and crippled animals and young stock, so as to avoid depletion of ranges in drought periods, are not accepted.

The stockbreeder is suspicious towards such measures, firstly because without Government aid to support prices, he will make very little money; secondly because when vegetation growth starts again, he will not be in a position to buy fresh animals.

He will also accept reluctantly the idea of feeding his breeding stock with reserve feeds until the range improves, for the fear of being unable to provide for family needs and of running into debt; debts are a tragedy because usurious interests are always charged. He will be compelled to buy feed for his animals but never in sufficient quantity to maintain production and reproduction at normal standards.

For him also, the financing and setting-up of a farm for producing reserve feeds is a remote possibility, for lack of capital and also of technical ability.

It is certain that lack of capital, of technical know-how, and of management capacities hamper the development of the pastoralist enterprise, but to what extent this is due to primitiveness and not to a logical response to an adverse environment should always be understood.

What should be stressed is the principle that all the reasons which underlie the behaviors and attitudes of the pastoralists should be made clear before suggesting new solutions. This approach is generally of great help in choosing the measures that can lead to a consolidated sense of security, which must be considered the first fundamental step towards a more positive and managerial—in a modern sense of the word—attitude.

Great attention should be given also to the character of the pastoralist society. All the traditional forms of social organization are also built for security.

If one observes the fundamental characteristics of pastoralist societies, it appears clear that all of them are based on the same structure: the tribe.

There is a large amount of literature on this subject, but very often one is concerned with a sort of archeological anthropology and sociology: great importance is given to cultural aspects, but little to the basic reasons which have led to the fundamental structure of the tribe.

The tribe, from the qabila of the Arabian countries, to the Taife of Persia, and to the Kedo of the 'Afar of Ethiopia, was and still is to a large extent, the most logical socioeconomic organization of the pastoralist.

The tribal system permitted:

a) the assignment, to each tribe and to each specific group of the tribe, of a determined area of grazing land and the right to water the animals at given water points.

This matter was usually governed by well determined rules. These rules also made an exception, in the Muslim Countries, to the precept of the Koran which makes grazing resources and water free to everybody;

b) the possibility of establishing alliances and agreements between the tribes for the migration into the respective tribal territories in given periods of drought, when the pastures were too poor for grazing;

c) prompt defense against enemies or sudden attack to conquer new lands, when the weakness of other tribes allowed, or also, to raid passing caravans.

The tribe was generally seen as an autocratic organization, ruled despotically by its chiefs. On the contrary, very often, it was a democratic organization because power derived, through the different sections and sub-sections, from the will and the agreement of the majority of its members. And, also, if the leaders generally inherited their title to rule from their ancestors, they had to prove, as was the case in Arabia, they were loyal, brave, and hospitable; if not they could lose their right.

Certainly the struggle to survive in a harsh environment like the pastoral areas would have been impossible on the basis of a simple familial conception which would have led to anarchy and disorder.

But what must be noted and stressed is that the tribal organization permitted in some way the best utilization of the grazing resources and a sort of primitive range management in the sense that each group of pastoralists was aware of the necessity of preserving his resources from over-stocking. I do not want to over-stress this point because the effects of overgrazing and tree cutting from time immemorial are so evident in many grazing areas; however, I feel that this feeling of defending their resources was always a main concern of the pastoralists.

There are also astonishing examples of proper range management like the "hema" institution of Arabia, which dictates strict rules for the use of natural vegetation in the areas surrounding the villages, to obtain the highest yields. Some rules dictated the total enclosure from animals of some zones, to be kept only for the benefit of bees!

With the birth of the national states, the tribal institutions entered a more or less open conflict with the forces who were planning national unity and were building-up a centralized administration. All the efforts of the state were directed towards the elimination of local power and disparities, for the application of principles of equality. In this direction for instance many
governments have declared that the grazing lands should be considered public and free to everybody.

Governments did their best—and are still doing so—to break down the tribal organization which has been always considered a centrifugal force against national unity. The newly-born states had to fear the influence and power of the tribes, who were very often well equipped with arms, jealous of their independence and of their own rules, and unwilling to become subject to a centralized power which could only mean a constraint to their freedom and probably the arrival of tax collectors.

The newly-born states have meant also development and specialization of agriculture and an accentuation of the struggle between farmers and stockbreeders: the settled farmers no longer accept the leadership of the nomads and they are unwilling to permit grazing on stubble and fallow lands.

Mainly for these reasons, many governments have a policy for the settlement of pastoralists: results are different between the various countries, according to the character of the groups involved and the soundness of the settlement schemes.

In general the results are meager; certainly the schemes often fail through lack of facilities and technical assistance. All in all, the problem of pastoralism is still largely unsolved in many countries, and many of these groups are often pushed aside from the new social categories and classes which are being created.

There is no sense in defending the tribal system as a whole, even if it is a fascinating world which is bound to disappear; but at the same time what is still vital in it should be saved: the capacity to organize life in a harsh environment, the feeling of solidarity between the members of the group, the readiness to accept discipline if it is within the framework of the regulated life of the group: all these are positive attitudes that can help enormously in the reorganization of pastoralism in new and stabilized forms.

All this should be clear to those who are called upon to implement range management programs.

Also the schemes for education should be studied case by case and not generalized because behaviors and attitudes are often quite different from one situation to another. They should start from an attentive study of human and social aspects.

Planning of range management projects and programs in the developing countries should be first examined in the light of the lines of each country’s general development. There are situations of great misery that should be eliminated: the Bedouins who still live with their camels in the Empty Quarter of Arabia should be helped to move away, as soon as the state can provide alternatives for them.

When it is clear that there is a reason for implementing the program, the adopted approach should be global. All measures should be strictly integrated so as to maximize the effect of each one.

We should no longer see separate measures such as the drilling of new wells without a contemporary range-use program, or the implementation of veterinary services for animals which cannot be properly fed: all this leads to overstocking and therefore to depletion of fundamental range resources.

The measures should start from the evaluation of the resources and go up to man, to his cultural, social, and economic interests.

Schematically, the measures may be divided into 3 different phases.

The first phase should comprise:

a) Inventory of grazing resources, with assessment of range-potential and range-condition. The maps of the range-units or sites should be at an operational scale.

b) Inventory of land and water which can be utilized for the production of reserve feeds.

c) Study of the pastoralist population, their behaviors and attitudes, their social organization, the actual range-use practices, and the economic situation.

d) Market study for animal products.

The second phase should comprise:

e) Staff training of personnel. Trainees for “Rangers” should be selected from young men coming from the pastoralist population. These young men already have very often a good knowledge of the environment in which they will be called upon to work and are familiar with the customs of their people and with life on the range. They must be given basic scientific knowledge to enable them to understand the nature of familiar occurrences, and must be trained in the techniques they will have to apply.

f) Feasibility studies concerning the setting-up of farms for the production of reserve feeds and other necessary facilities: slaughter houses, cold storage, dairies, plants for processing wool, hides, skins, slaughter house wastes, etc.

The third phase could comprise:

g) Construction of farms and facilities.

h) Creation of range management technical and financial services.

i) Implementation of all other services: adult education, schools for children, medical assistance, etc.