

Six Myths about Livestock Rangeland Development South of the Sahara

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The performance record of large-scale, donor-funded and government-sponsored projects in Sub-Saharan livestock rangeland sector is a dismal one:

To meet a rapid rise in demand for additional livestock products, African governments have invested an average of about \$1 billion per year over the past 15 years in attempts to improve pastoral systems. But, despite this apparent large input, assistance agencies and governments concur, in general, that results have been disappointing... (McDowell, 1984: 44)

The total costs of [aid-assisted] livestock development efforts between 1960 and 1975 in Tropical Africa are estimated at over \$600 million. But there is general disappointment with the performance of livestock projects up to the present. Major development agencies are contemplating withdrawal from the African livestock sector altogether. (Jahnke, 1982: 46)

Over the 1965-80 period, it is estimated that donors channeled around \$600 million into livestock projects in Africa. It is now clear that foreign aid was far ahead of basic science and applied research base. (Eicher, 1985:31)

Evaluations of livestock projects financed by the World Bank have shown that generally, livestock projects have proved more difficult than projects in other sectors especially in the Bank's West African Region and Eastern African Region where performance has been particularly poor. (World Bank, 1987: 21)

The picture that emerges from this review [of 50 years worth of pastoralist development projects in Africa] is one of almost unrelieved failure. Nothing seems to work, few pastoral people's lives have improved, there is no evidence of increased production of meat and milk, the land continues to deteriorate, and millions of dollars have been spent. (Goldschmidt, 1981: 116).

Such consensus among animal scientists, economists, anthropologists, and government agencies is rare in the field of Third World rural development. Obviously, some unheralded or under-appreciated successes in livestock rangeland development exist, but there are too many half-built cattle dips, overstocked or unfenced ranches, and broken down water supplies standing in the way of debunking or undermining this consensus among the experts.

The problem, though, is that this disappointing perfor-

mance record is frequently used to support several other received wisdoms about Africa that are considerably less well-founded empirically. Indeed, they are just plain wrong and, worse yet, continue to obscure our understanding of Sub-Saharan livestock rangeland development to great degree. Six myths in particular cry out for debunking.

1. The scenario for rural development in Africa is increasingly dismal. The well-known Gloomy Scenario for Sub-Saharan Africa so favored by many of the larger donors and lenders runs something like this: The birth rate of (name of country) is rising; its death rate is plunging; human and other animal populations are bounding forward exponentially; overutilization of the country's scarce resources accelerates unabated; the government is under increasing pressure to find more and more jobs and seems less and less able to do so; as the public sector expands, the private sector withers; rural people pour into the cities and the government's rural development policies are helpless in stemming the tide; political unrest becomes explosive, while civil servants grow even more self-serving; and, unless something is done to reverse this process, before you know it (name of country) has become another basketcase of Africa!

The Malthusian logic of the Scenario seems compelling, but a moment's reflection shows some of the flaws in this line of reasoning. For example, if this scenario is correct, then we would expect to see similar incapacities among Sub-Saharan governments and their development strategies. More specifically, if the Scenario's logic holds true across the continent, then governments would be expected to have very similar and equally ineffective national budgeting systems. This is precisely what we do NOT observe. The Government of Botswana has a more fiscally conservative budgetary system than does Kenya, while the government of Kenya's budgetary process looks very conservative when compared against that found in Nigeria or Ghana (see Roe, 1988). Similar differences can be found in the Ministries of Livestock of different countries: For example, when faced with comparable budget reductions, some ministries will institute percentage cuts equally across all activities, while others are more willing to prioritize ministerial projects and activities when budget cutting. Such distinctions are absolutely crucial to make, if you believe that government budgeting can and does have an impact on national development in general and livestock development in particular.

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2. There is little economic reason to remain in the arid and semi-arid lands of Subsaharan Africa in the absence of interventions to improve livestock rangeland production there. A particularly pernicious line of reasoning haunts rural development in Subsaharan Africa. Its extended argument runs something like this:

Major Premise: The investment resources of the donors and government operating south of the Sahara are scarce. Their net marginal benefit has to be maximized.

Minor Premises: Higher potential areas exist with better soils, rainfall, infrastructure, and the like in rural Africa. Substantial productivity increases at the margin are still possible for crop and livestock agriculture in these areas. In contrast, the agricultural track record of the arid and semi-arid areas leaves much to be desired. Efforts to reverse the continuing decline in resource productivity there have met with little success. The much-touted Trinity for expanding dry zone development—low-cost irrigation that will make the desert green; cheap dryland crops that will turn the sand into a breadbasket; and a magic livestock price that will keep both rural producers and urban consumers happy—has yet to reveal itself to more than a select few.

Conclusion: At the margin, donors and governments should put their agricultural investment in the higher potential areas.

This indeed is the major implication many donors and governments have drawn. Better to make agricultural investments in, say, Kenya than in Somalia and better they be made in highlands than elsewhere in Kenya. Unfortunately, two other extremely important minor premises are missing from this line of reasoning, which, when added to the above, lead us to a very different conclusion:

2': Although the number is not known with any degree of accuracy, millions upon millions of people live in the arid and semi-arid lands south of the Sahara. Or to make the comparison more immediate, a quarter of Kenya's population of 22 million live in areas receiving some 500 mm of rainfall or less, and that proportion is increasing yearly. These people, however "marginal" socioeconomically, command resources regardless of the country, political regime or donor in question.

3': A number of the major donors and nongovernmental organizations earmark a portion of their funds and projects to the drier areas, in spite of and at times precisely because of the overall poor project implementation record there. In short, they refuse to fund activities in the comparatively better off, high potential areas. As such, donor investment in the arid and semi-arid areas is not necessarily investment forgone in high potential areas.

Conclusion': It is important both to maximize resource productivity in the high potential areas and to minimize the cost of government and donor provision of services to the people living elsewhere.

Just as there is a strong economic argument for a continued presence of the donors and governments in areas of high marginal productivity, so too is there a compelling economic argument for them to remain in the drier areas,

regardless of the political and equity considerations that reinforce this involvement. Rather than being mutually exclusive, the development of both areas should be seen as complementary and reciprocal. The productivity of high potential areas needs to be further exploited to the extent that resource allocation in the arid and semi-arid areas remains unavoidably inefficient, e.g., people are there to stay in the dry zones, but are too sparsely settled for economies of scale in provision of government services. In addition, the cost of dry area development needs to be minimized to the extent that surpluses in the higher potential areas becomes more and more difficult to realize, e.g., when agricultural investment in the Kenya highlands reaches its absorptive capacity, no one can expect the donors to usefully shift their funds and attention to, say, Somali livestock production unless they know beforehand something about what works in the dry zones of Somalia. The problem, unfortunately, is that implementation of conventional livestock rangeland projects in Africa would have by and large increased the costs of production in the dry zones, not decreased them.

3. Marginal lands are marginal. Some of the dry zones of Subsaharan Africa have faster rates of growth in per capita income, wage employment, and informal sector growth than do some of the agro-ecologically high potential areas. Better to call them "low density" in terms of human population than "low potential." While these percentage figures start from a lower base, it is precisely this rate of growth that is critical to a country whose resource constraints means eking out economic growth at the margin. For example, although the percentage of the population in wage employment in Kenya's arid and semiarid lands (ASALs) is less than half that in non-ASAL areas, its annual growth rate is almost 50 percent higher. A similar trend can be found in wage earnings per capita. Nor has agriculture been left behind, at least for some ASAL areas in Kenya: Seven of the top ten districts in terms of average annual growth rates in total and per capital crop and livestock sales between 1980 and 1985 were classified as "ASAL districts" (see International Fund for Agricultural Development, 1988). Similarly, implementation rates for ASAL areas in Kenya have been frequently no worse than they are for non-ASAL areas for projects like cattle dips and small-scale water supplies (Roe, 1984.a.). Obviously, many of those who live in the arid and semi-arid lands of Subsaharan Africa are not prosperous, but we should not let old terms like "marginal" and "low-potential" blind us to new times, particularly to the economic progress and development actually taking place in some of the drier zones now. Unfortunately, many of the livestock rangeland projects promoted in Subsaharan Africa have treated these areas as if they were still "marginal."

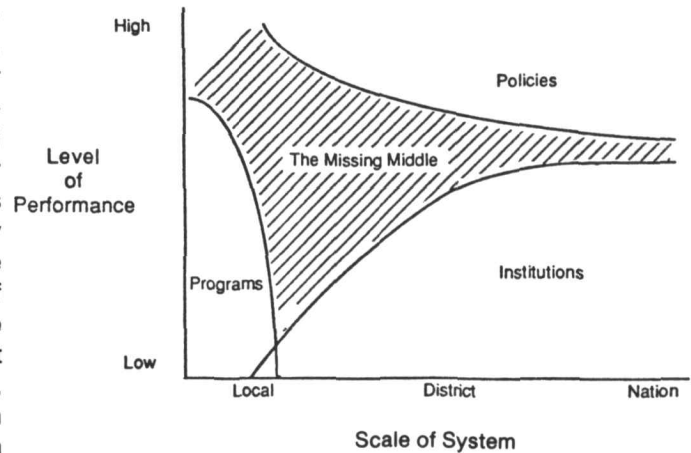
4. Communal management of grazinglands is worse than private management. In the last decade researchers have added considerably to the body of case study material describing how rural people manage their common property resources in a restricted access, rather than

open access, fashion (see Panel on Common Property Resource Management, 1986). A number of these studies provide evidence that runs counter to the Tragedy of the Commons argument that when no one owns the land, no one manages it: Rural people by no means always overutilize their communally-held renewable resources, or if overutilized, the resources have been collectively managed in a way that is at times equivalent to or better than what would have obtained under private ownership or management. For example, an earlier article in *Rangelands* described how farmer groups in the overstocked eastern areas of rural Botswana have managed their communal watering dams in such a fashion that ensures less over-grazing around them than found around many private-owned or managed water sources in the same area (Roe, 1984.b). Moreover, communal management of these dams was not only ecologically efficient relative to the next best private alternative, but cost figures suggest it was economically efficient as well (Fortmann and Roe, 1986). Such findings are supported by other research indicating that privatization of the Botswana commons in no way increases the likelihood of improving range conditions there (see Odell and Odell, 1986; Bekure and Dyson-Hudson 1982; Animal Research Production Unit, 1980). Unfortunately, many livestock rangeland projects are still designed as if the Tragedy of the Commons argument held universally across Sub-Saharan Africa.

5. Most livestock rangeland interventions have a dismal performance record. It is one thing to conclude that the implementation record for livestock rangeland projects has been disappointing. This does not mean, however, that *non-project* interventions have also performed poorly. When it comes to livestock rangeland development, it is important to think of coordinating three instruments—projects, policies and institutional development. For example, the Government of Kenya has repeatedly found that specific projects, institutions and policies perform differently at local, district, or national levels. Projects—or more typically programs revolving around different types of projects—are the primary mechanism the government uses to manage and administer rural development in the countryside and they have been found to work best, if they work at all, at the local level. Such programs, however, are frequently unable to radically transform the local production system into a high performing one (this holds true whether “high performance” is defined by herders or donors). This range of performance has been mapped in the Figure, showing that local livestock rangeland projects, like cattle dips and with small-scale water supplies, can at times move what are frequently perceived to be low-performing livestock production systems to medium levels of performance (a not-insignificant feat, by the way). These local programs, though, are most effective at the farm level.

In contrast, the administrative apparatus of government institutions works best at the district and national levels (government offices and officials are not found in a number of the low density, drier zones of Sub-Saharan

Relationship of Government Policies, Institutions, and Programs to Scale and Performance of System



Africa). Government institutions, though, are unable to perform at high levels by administrative rule and procedure alone. Better policies are often required to supplement institutional activities, particularly if substantial production increases are to be realized: For example, improved performance of national research institutes will only expand livestock production to a certain point; thereafter a policy to encourage rising livestock prices will very likely be needed to increase aggregate production further. In other words, even mediocre government agencies can sometimes improve their performance considerably at the national level by developing a range of policies to compensate for their institutional limitations (for a study of how central government bureaucrats in Kenya helped to avert a widespread famine during the 1984/85 drought by implementing a set of innovative famine relief policies, see Cohen and Lewis, 1987). But the ability of national policy management to realize high production increases becomes less and less effective as one moves to the sub-national level. Government penetration is weak or non-existent in some areas and national policies are notoriously difficult instruments if the aim is to earmark high performance only to specific localities or herds. These relationships between institutions and policies and the levels at which they perform best are also been shown in the Figure. The Figure also shows the resulting “missing middle” for which we have few, if any, proven livestock rangeland interventions, e.g., about the best we have to recommend for enhancing the performance of district-wide livestock production units is their decentralization into local-level cooperatives or their centralization into nation-wide marketing systems.

Yet what the Figure illustrates is that, while there is much that remains to be done in terms of knowing how to promote improved livestock rangeland development in the “missing middle,” we have learned a great deal about

the variety and coordinated mix of livestock rangeland interventions beyond the project and site levels.

6. Most livestock rangeland projects are designed to solve a problem, not cause it. While having many variants, the conventional livestock rangeland project in Sub-Saharan Africa has some fairly well-known features. The project is typically staffed by a team of technical assistance experts, often expatriate and including a range ecologist, an animal production specialist, and small-stock and water development specialists thrown in for good measure. Among this personnel is the project's Chief-of-Party, who handles the administrative and political obstacles in the way of the other staff's "doing the jobs they were hired to do". In practice, all project staff frequently draw on a wide range of technical expertise: Some time is spent on research, off-farm trials, prototype development, extension, and marketing, among other tasks. Equally important, these jobs almost always turn out to be different from what their original job descriptions said they were, namely, the project's technicians are all-too-often required to have organizational and cultural skills for which they were not trained. The project site, in turn, is typically located away from heavily populated areas, either on a government research station or some equally remote demonstration ranch, though some of the project staff might be working with herders on their own farms from time to time. As such, communication between the project site and the Ministry headquarters is often difficult and time-consuming and adds to the frustrations already experienced by the Chief-of-Party and other project staff. As for the project itself, its design by and large follows from the aforementioned Tragedy of the Commons argument. In this design, the problem is fairly straightforward: Individual stockholders are trying to maximize their herd numbers on an open-access commons. Solution: privatize the commons, enforce external controls (such as a grazing tax), or both. The specific means: Use the "stick" of threatening to destock the area and the "carrot" of technical support, including improved livestock prices, ranch development credit and construction, and improved marketing infrastructure.

Unfortunately, it is this conventional livestock rangeland project and its variants that have, with some exceptions, failed repeatedly across Africa. Indeed, given the aforementioned hundreds of millions of dollars spent on such projects to little or no avail, it is no exaggeration to say that the standard livestock and range project is just as much a major problem afflicting the Sub-Saharan livestock rangeland sector as are the low-performing livestock and range it is meant to improve. While there continues to be need for projects having the objectives of improving livestock production and range conditions, what is also sorely needed at this stage are livestock rangeland projects whose primary objective is to stop poorly designed conventional projects from ever starting in the first place.

For example, instead of technical experts in the field, an advisor could be placed at the center in the government

agency whose portfolio responsibility is the budget review and evaluation of projects and related development activities affecting the livestock rangeland sector. His or her responsibilities in the Ministry of Finance or Office of the President would be to identify, evaluate, and provide supplementary project funding for those budgetary expenditures, whether they be in the development or the recurrent budgets, whose increased funding would lead to an improvement in the existing levels of common property resource management by herders in the field. More important than being a source of additional financing, the advisor would identify proposed or current budget activities whose funding, if not cut, or whose implementation, if not redesigned, would lead to declines in such local management. Needless to say, prospective activities for cutting or redesigning would include not only livestock rangeland activities in the Ministry of Livestock but also budget interventions proposed by other ministries negatively affecting the livestock rangeland sector. That some donors are already moving in this direction indicates this is less a proposal than a prediction of what is in store for future livestock rangeland projects in Africa (more details of this type of unconventional livestock rangeland project can be found in Roe, 1987). Thus the good news for project designers is that livestock rangeland projects are still needed in Africa. The bad news is that the real need is for a new type of project that most livestock rangeland specialists have not been trained to undertake.

In conclusion, a number of other conventional wisdoms about the Sub-Saharan livestock rangeland sector can be debunked, e.g., pastoralism dominates the sector (not so in many cases) and women do not play an important role in livestock production (they do). The more general point of this article however has been to focus on those myths that over-exaggerate and over-generalize the poor performance of livestock and range projects south of the Sahara. The impression that "nothing works" in this sector has clearly led some of the major donors to ask, as did a recent USAID taskforce on livestock rangeland projects, if it is not better for them just to withdraw from the sector altogether. "In light...of the failures over the past fifteen years of interventions to manage the rangelands of Sub-Saharan Africa, should AID try to promote development of sustainable extensive livestock production in that region?" (USAID Taskforce, 1985; original underlined). Things are bad, but not as bad as that. Indeed, now is the time for the major donors to *increase* their activities in the sector in a major and innovative way, since we now know that not all Sub-Saharan governments and their ministries are equally ineffective, that there are strong economic reasons to remain in the livestock rangeland sector regardless of past project performance, that a number of marginal lands are only "marginal" in a limited agroecological sense, that rural people in some cases manage their commons better than would be the case under the best private alternative, and that not all livestock rangeland interventions are disappointing. One type of new project has been identified, but many others are possible.

Just as the dismal performance record signals the end of an era revolving around the conventional livestock rangeland project, so too should the demise of these six myths and others be read as the start of new opportunities in the same sector.

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