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CENTRAL RANGELANDS
DEVELOPMENT PROJECT
BOOKLET NO 9.
SYSTEMS OF GRAZING



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"THE AIM FOR SOMALIA"

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SYSTEMS OF GRAZING

INTRODUCTION.

1. No matter how much engineering work is done to assist production in rangeland areas, such as water spreading, bunding, terracing, water development, etc. the areas are so large that only a very small percentage of the land area can be improved by these methods. The most important method of range improvement is the control of grazing animals, because this method allows much larger areas to be improved.
2. It has been said many times that nature is the great healer. If nature is helped by intelligent plans made by humans, then there is hope for large scale improvement in the rangelands. The programmes of improvement which are needed are not difficult, but they need agreement by all the livestock-owners.
3. An interesting article by A.A.Elmi of the Faculty of Agriculture, National University, Somalia, published in the Somali Range Bulletin No. 6 in September 1978, has indicated strongly, by experiment, that the grass "Dareemo" produced a remarkable increase in herbage and root development when left to grow without interference, whereas other samples which were cut at various intervals were very poor in comparison. Resting land during the rains, or for longer periods, has the same effect as leaving the grass without cutting it, and grazing systems are designed to encourage a great increase in production of root and vegetation, by resting the roots and the foliage. Roots and foliage will be strengthened by resting and a stronger plant will grow more kilograms of fodder.
4. Overgrazing results in the best plants for animal production being reduced or destroyed. Land is then made bare and soil erosion occurs. Less animals can then be kept. For proper management, sufficient plants of good species must be allowed to remain uneaten in order that they can produce seed and so continue in production and increase their cover of the land.

GENERAL PRIORITY.

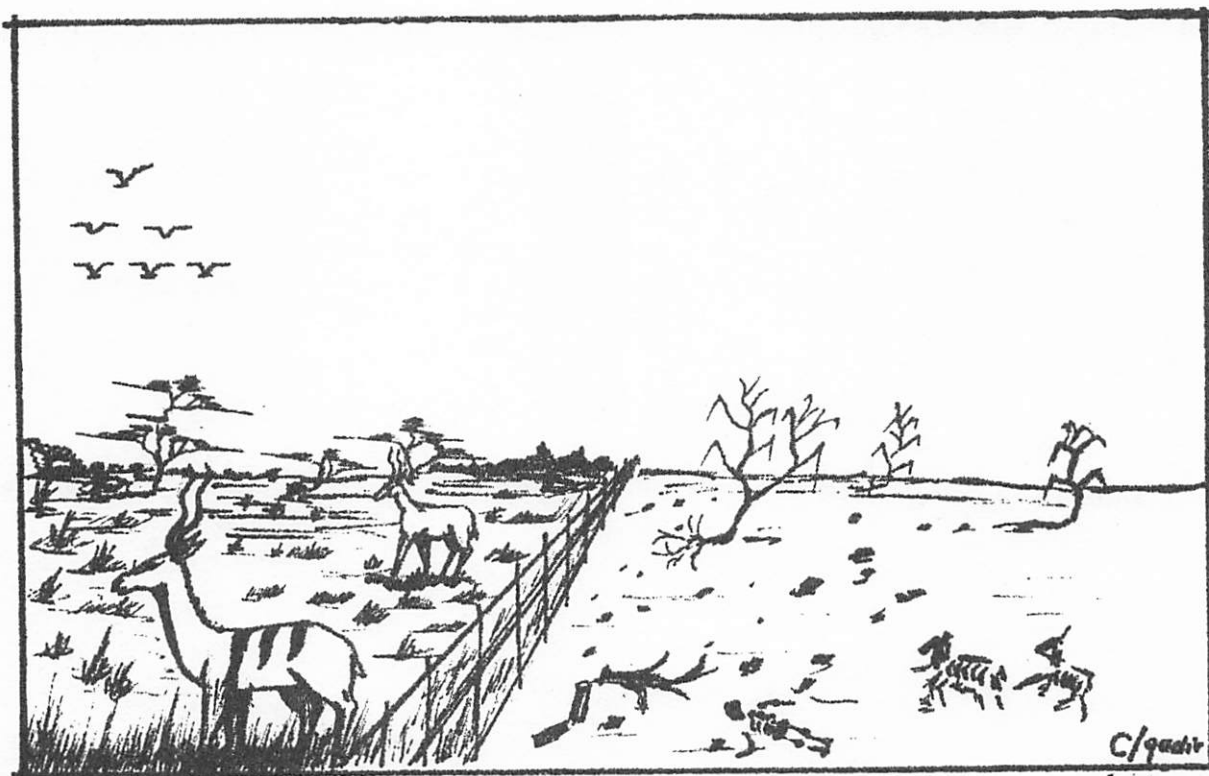
5. Because the future of livestock production can only be guaranteed by preservation of the range, then the range should take priority over the livestock. When this priority is established then a real benefit later comes back to the livestock through improved range production. Remember always that the first priority is the range. It is for this reason that grazing systems are now carefully discussed in this book. What is the best system for Somalia rangelands ?.

GRAZING SYSTEMS

A. OPEN RANGE FREE CHOICE.

6. This is the basic system which has been generally used in Somalia.

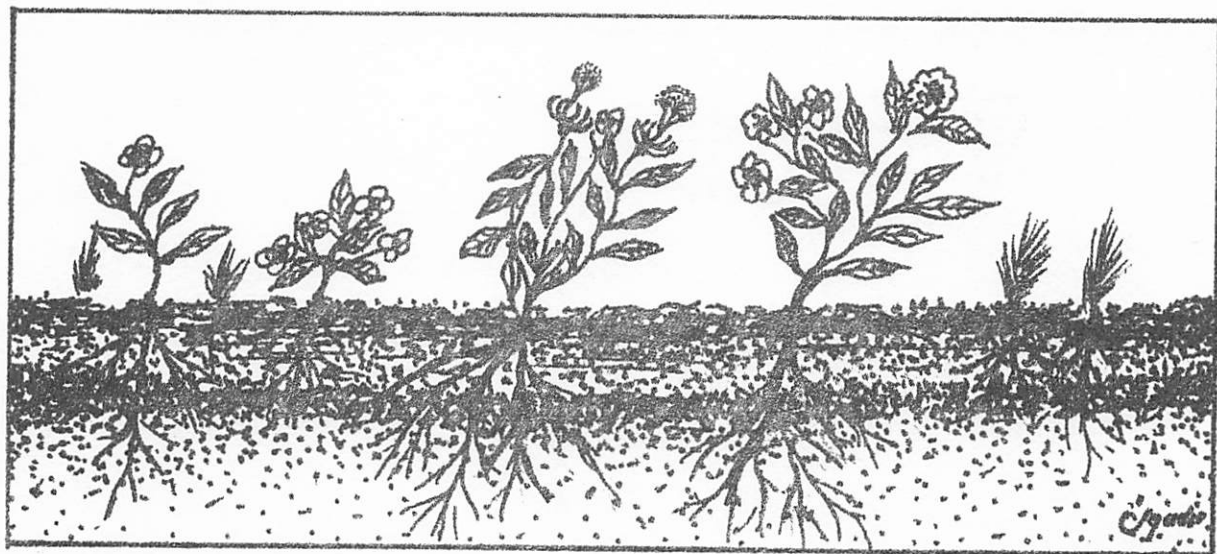
Livestock owners have moved about in the rangelands wherever they have wished, and because there is no restriction, the choice of where to graze is made by each owner according to his own programme and wishes. The only limitation is the availability of water. Generally the main movement relates to forecasts of the quality and the palatability of the forage, and the local step by step movement relates to localized selection by the animals themselves. Climate obviously helps to control the main movement. The system is satisfactory only where population densities of livestock are low and the rangeland is large enough and of sufficient variety to support the animals through every year; but even when these conditions are found, it is certain that there will be an unplanned pattern of range-forage use and the easily accessible areas may be overgrazed or destroyed completely. In particular the areas of best forage and water will be heavily grazed and may often be turned into desert or semi-desert.



THE OPEN RANGE, FREE CHOICE METHOD (RIGHT OF PICTURE) CAN LEAD TO LOSS OF SOIL AND PLANT LIFE. PROTECTED LAND (LEFT) CAN PRODUCE AN INCREASE IN FODDER FOR LIVESTOCK.

B. DEFERRED GRAZING SYSTEM.

7. Deferred grazing is the basic method of control of all good grazing management systems. A selected area is closed to livestock and this area is rested from the beginning of plant growth until full plant development, and then seed production, occur at the end of the growing season. Standing trees and shrubs also need time of rest in order to produce increased green fodder. The period of rest should be at least 90 days during the main growing season, that is during the rains, in order to help reproduction and to encourage the return of desirable forage plants. Badly used areas, where erosion has occurred and plant life has suffered loss of quality may need to be closed for much longer than 90 days. In Somalia, also, it is suggested that "famine reserves" may be kept closed for much longer periods as a reserve against serious drought or until their large-scale recovery is observed.

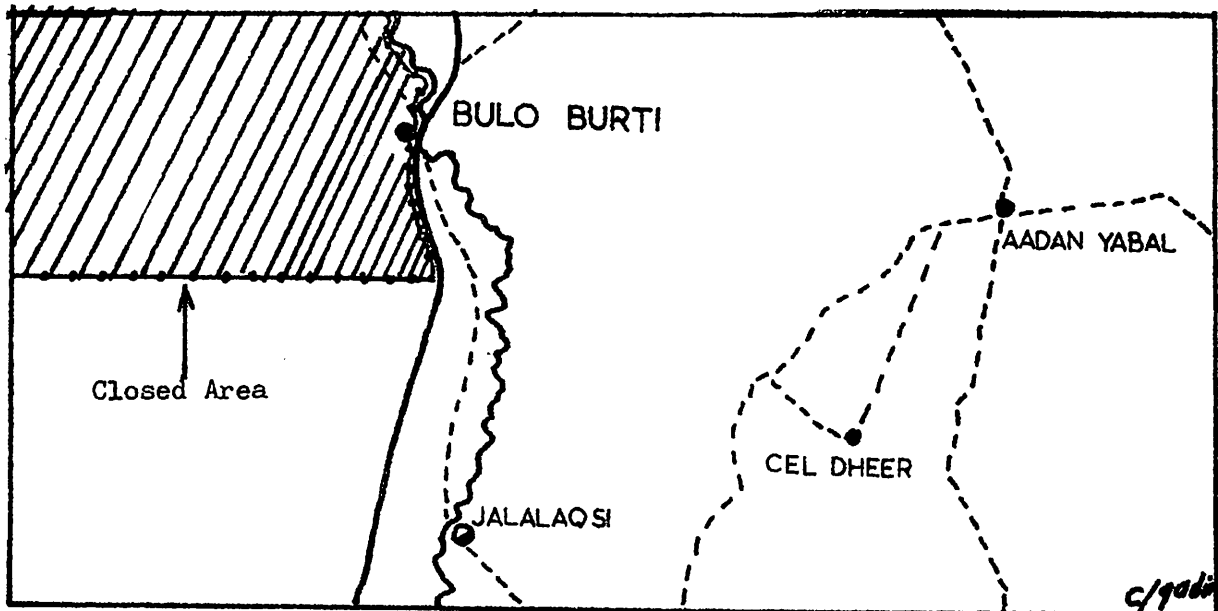


DEFERRED GRAZING ALLOWS PLANT ROOTS TO EXPAND AND BECOME STRONG. THE LEAVES THEREFORE WILL ALSO INCREASE AND SO THE LIVESTOCK HAVE MORE FOOD.

8. It has to be understood that an area which is closed does not result in a loss of grazing for livestock. The increased amount of fodder produced is still edible and nutritious after a period of closure and preservation. Such dry fodder is referred to as "standing hay".

9. A technique which may be of value in certain areas where there are a lot of undesirable species of shrubs etc., is to graze the selected area heavily for 30 to 45 days. The area should then be rested, as previously explained, in order to allow pasture plants to develop, having set back the growth of the poorer species by this heavy grazing or browsing. (Note: grazing refers to the consumption of grass species and browsing refers to the consumption of bush herbage).

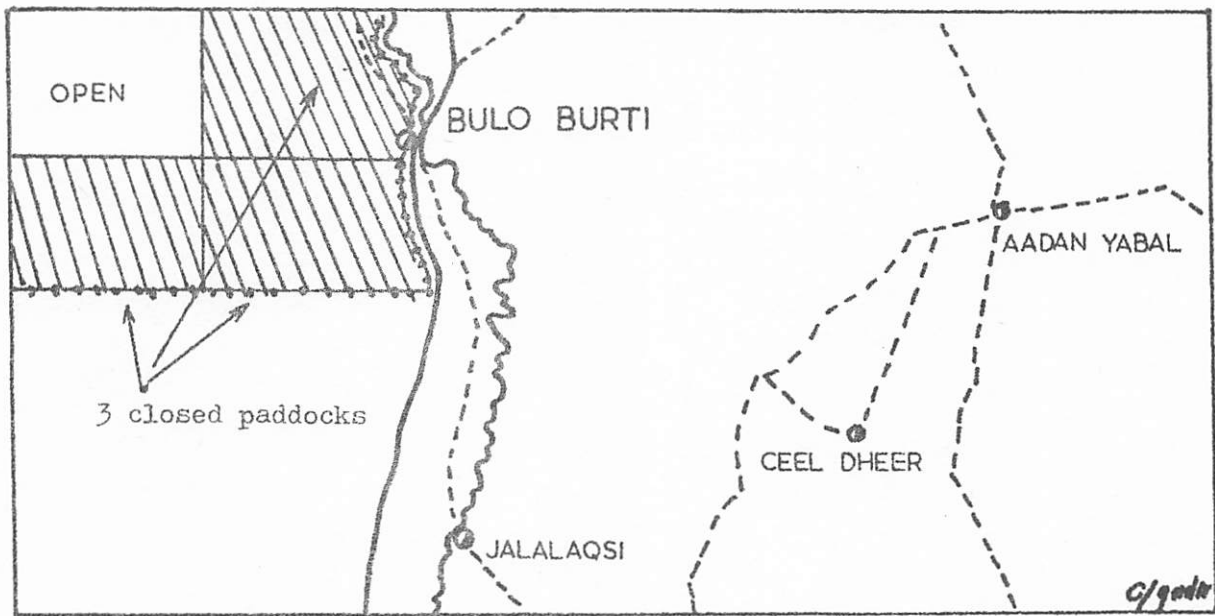
10. Because with a good system of deferred grazing the better food plants are allowed to develop fully and to give out seed, the quality of the range forage can be expected to be preserved. However if other range management techniques are also used; such as water development, stock sales, and sand dune control; then the quality of the range forage will not only be preserved and protected, it will be improved very much. Once again we can agree that nature is the great healer, but it is for men to allow nature to do its good work.



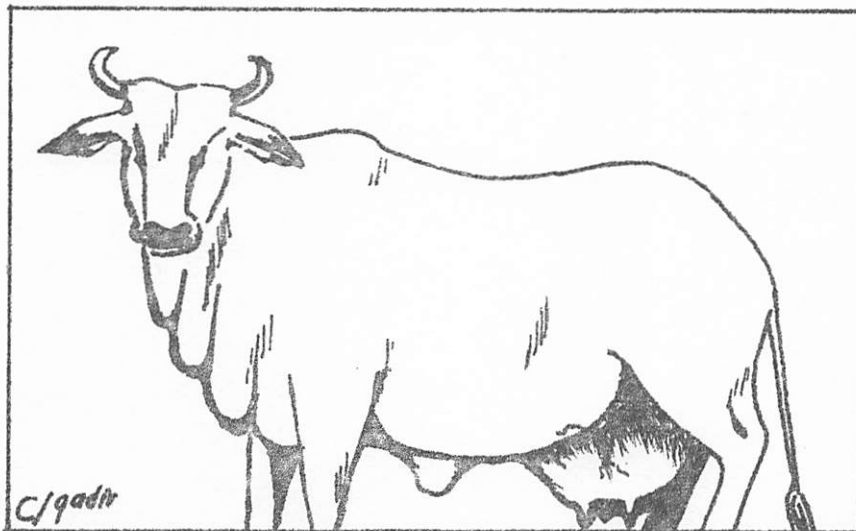
A SIMPLE SYSTEM OF DEFERRED GRAZING. IN THIS SYSTEM ONE LARGE AREA IS CLOSED DURING THE RAINS AND FOR A PERIOD AFTER THE RAINS. THE AREA SHOWN AS CLOSED IN THIS DIAGRAM DOES NOT RELATE TO ANY CLOSED AREA IN THE FIELD. IT IS IMAGINATIVE ONLY.

C. ROTATIONAL GRAZING SYSTEM.

11. The Rotational Grazing System involves dividing whole large units of land, that is a district, or sub-district, or village land area, into areas of approximately the same size. These subdivided areas are called paddocks. The simplest system is to have only two paddocks, one of which is closed whilst the other is open for grazing. It is necessary to have water in each paddock, or close to the boundary between paddocks, so that the closed paddock can really be rested completely.



12. An improved system is to have four or more paddocks in the large unit of land. All livestock use only one paddock at a time and they move to the next paddock after a period of time or by observation of vegetation in the used paddock, or by a combination of both. This system does mean that stock are much more concentrated on the open land and it means that water development has to take place in each paddock or on the boundaries of paddocks. The great advantage of the system however is that during the rains a majority area of the land is closed for varying periods, and one of the paddocks will be closed completely as explained in (B) above. (Deferred Grazing).



GRAZING CONTROL LEADS TO
BETTER ANIMALS.

13. It seems probable that the system of rotational grazing described could be suitable for co-operative ranches or for some districts where livestock are more settled. It is worth considering by district committees. One village with its own land and livestock could use this system to improve the grazing areas.

D. ROTATION - DEFERRED GRAZING SYSTEMS.

14. This system is a combination of the deferred and rotational grazing systems and it is probably the best way of managing livestock in rangeland areas. After a few years of using the system there should be an increase in livestock production based upon improvement of the ranges themselves.

15. In order to use this system the total grazing area to be taken as a unit has to be decided. It will normally relate to an established right of use by known groups of livestock owners. The unit is divided into four paddocks of approximately equal size and quality as far as possible. The animals which are to use the area are divided into three groups and each group is given one paddock, with one paddock closed to all the groups. This means that three paddocks are being used and one is closed.

16. The system operates on a four months cycle. After four months, one of the groups of animals moves into the empty paddock and the paddock from which the animals came is then closed for the next four months. The second group of animals moves into the rested paddock at the end of the next four months, and so on. The total cycle is completed in 16 months with each paddock being grazed for 12 months and rested for 4 months. It is obvious that paddocks will be rested at a different time of the year in each full cycle, and, over a 4 year period (3 cycles) each paddock will have been rested at every season of the year. Complex vegetation production and growth requirements are met by this system.

17. It will be seen that all stock-owners use the whole range unit in an organized rotation so there can be no criticism by one group that another group has a better paddock. The system can be prepared at any time of the year, but it should be put into effect when the rains are seen to have started. Visiting nomadic groups will need to be allocated to one of the paddocks, so some degree of control, by discussion, is necessary in the local committees.



For grazing control
it is necessary
that all people
talk and agree.

E. SEASONAL SUITABILITY SYSTEM.

18. Where rainfall is generally poor and also unreliable, then the areas where this occurs can be marked as useful for Seasonal Suitability only. This means that they are kept closed until the season is a good one. After rain arrives and the land is improved then the area can be opened to livestock until the feed supply has been used (not overused). This method of identifying and closing such areas has several advantages :-

- a. They are not overgrazed to the point where the roots die off in the normal dry-land, overgrazed, state of the area.
- b. The vegetation produced in good times is used at the time it is available and while it is edible and nutritious.
- c. It is in the good years that other areas will benefit most from being closed and therefore the use of the Seasonal Suitability areas will help other range areas by allowing them to be kept closed for longer periods in the growing period.
- d. By closure of Seasonal Suitability areas after correctly grazing them the more desirable plants are encouraged to live on and so improve the quality of the range.

F. TYPES OF LIVESTOCK.

19. Cattle, sheep, camels and goats have different potentials for production and survival. To some extent their different needs, and therefore the different methods by which they are herded, would disappear if water was more widely available and better distributed. Meanwhile the camels can go where the cows cannot. Systems of grazing need to be carefully thought about by all leaders of the livestock community in order to find the one most able to preserve and improve the ranges which they use. Remember that the range should have the priority. Animals should take only what the range can offer continually as each lifetime follows the next.

20. All grazing systems are designed to allow the grazing and fodder-bushes to rest from time to time, particularly during the growing and seeding periods. Because plant food comes from sunlight, a larger plant leaf helps to create more plant food. If the livestock owners help nature, then nature will help the livestock. This is what grazing control is all about. Each person should do his best to make grazing control into an effective means of producing more food for animals. All the users of the Somali grazing lands should work together to start the system of grazing control which is best for them. If in doubt, talk with the Range Education Officers of the Central Rangelands Project.