

Changes in Pastoral Society in Syria and Resource Management

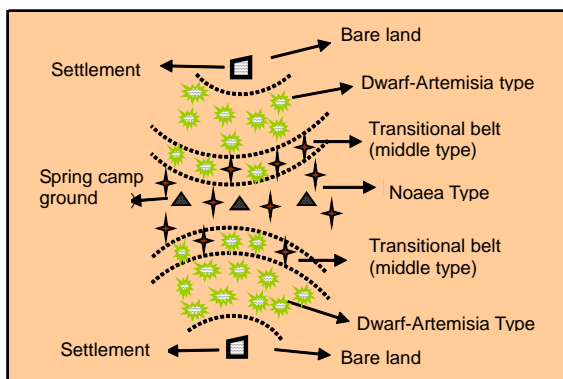
Part 5: Formation of human-induced grassland landscape

Around the Jebal Abd al Aziz (JAA) mountains, there are 58 livestock farming settlements of different sizes. However, in reality livestock farmers repeat seasonal movements along with their animals. Therefore it is very rare that all residents stay in a “settlement” throughout a year. The distance for migration is some 10 km, however as they basically move as a family unit, the seasonal move removes a part of the resident community, and at the same time brings in new livestock farmers from other settlements. In JAA, every year from late autumn, the population and livestock numbers start increasing, reaching a peak between March and May; from spring to the wheat harvest season.

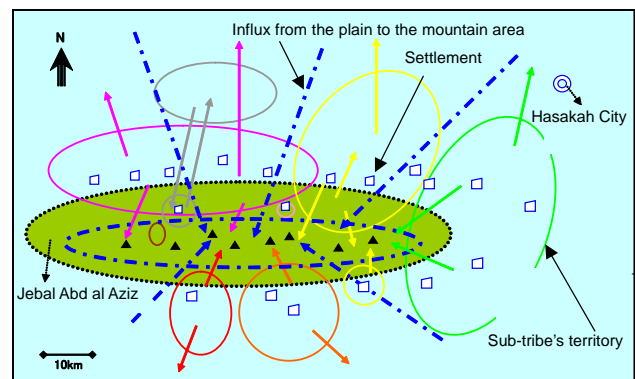
It was the spring of 1996 when a location survey of spring camping grounds was conducted throughout the JAA. We had great difficulty in understanding their highly scattered movement patterns within a limited timeframe. Their movements covered vast areas and were influenced by micro-topographies, resulting in very complicated patterns. In those days, the accuracy of GPS was not as good as it is now (average error of $\pm 100\text{m}$). We ran around the JAA with our Pajero, and recorded the geographical coordinates of all the 466 households that had moved in temporarily. In addition, we conducted a hearing to gather information such as tribe and sub-tribe names, home villages, duration of stay in JAA, billeting history and motives for migration.

I cannot go into the details of the survey results due to the limited space in the newsletter. In a nutshell, we found out that billeting places are freely chosen through an individual household’s connections however they are regulated by a certain territorial system, divided and allocated between sub-tribes. It was also found out that people tend to use the same places every year. The figure on the right indicates territories between tribes and sub-tribes in JAA and their migration patterns. The green oval indicates the central area of the mountains (center) and this area does not have any perennial water resources. Therefore, there is no settlement in the area. However, from winter to spring, it is this central area rather than the surrounding area of settlements, where spring camping grounds are set up, using temporary pools created by rainfall and water ferried by water tankers. People and livestock from settlements in JAA as well as from plains areas outside JAA flow into this area. Households with relatively high numbers of livestock tend to migrate more actively. This leads to over grazing in the center, resulting in receding vegetation and a landscape with scattered pig weed (*Noaea mucronata*). In contrast, at the foot of the mountains, despite the constant pressure from grazing around the settlements, the impact of grazing on vegetation is relatively low, as the pressure from the important spring grazing tends to be avoided due to the seasonal migration to the center.

In addition to the utilization of rangeland, another human pressure on grassland is firewood harvesting practiced for daily bread baking as discussed in the previous issue of AAI News. As for the wood harvesting amount, the impact on vegetation is far greater around settlements than around spring camps whose temporary residents make short-term use of firewood. In addition, *Artemisia herba-alba*, which has been dwarfed due to grazing pressure, is selectively untouched and unaffected by harvesting pressure, as this particular species is not suitable as firewood. Therefore, as long as the human population and livestock numbers are appropriate, the typical vegetation type in areas around settlements would be the Dwarf-Artemisia type grassland dominated by dwarfed *Artemisia herba-alba*. Furthermore, there is a transitional vegetation type between the settlements and spring camps. This means that the grassland landscape of JAA is formed in belts from the north to the south. It is considered that the establishment of a human-induced grassland landscape is heavily influenced by the way livestock farmers have systematically used their surrounding environment. This usage includes territorial partition between sub tribes, seasonal migration routes and species selective grassland utilization, which were all gradually formed over years through changes towards a more sedentary lifestyle.



Belt Structure of Grassland Landscape



Migration route and territories of individual sub-tribes

¹ This survey was conducted as part of the ecological and socio-economic survey concerning utilization of environment by livestock farmers. The survey was part of the JAA Resource Management Project (1993-96); a joint project of the International Center for Agricultural Research in the Dry Areas (ICARDA) and Syria's Hasakah Agricultural Directorate. The author was involved in the project as a Japan Overseas Cooperation Volunteer (JOCV).