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## **Livelihood Changes and Anthropogenic Vegetation in Rural Asia and Africa**

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Today, various examples from around the world of anthropogenic vegetation that has been sustainably managed over the long-term are receiving much attention as tools for achieve the two goals of environmental conservation and poverty alleviation. However, there are few detailed studies demonstrating that such anthropogenic vegetation can only exists against the backdrop of the diverse livelihood bases of the people living there. In this presentation, we intend to elucidate the status of anthropogenic vegetation maintained by the Sereer people living in the savanna region of Senegal from the standpoint of (1) the relationship between people and trees, (2) the social relationships between community members mediated by this relationship.

For over a century, the Sereer people, who practice agriculture and livestock raising as their primary livelihood bases, have established and maintained anthropogenic vegetation in their agricultural fields consisting of a *saas* tree known as apple-ring acacia (*Faidherbia albida*) that can be used as fertilizer, fodder, and fuel. However, due to factors including changes in farm implements and population growth, no new *saas* have been recruited in recent years. As a result, *saas* have become an increasingly scarce resource, and the male villagers earnestly engaged in livestock raising have adopted more elaborative methods for collecting *saas* foliage than in the past. In recent years, livestock raising has become an important income source, and the *saas*, whose foliage and fruit are considered uniquely beneficial and important fodder for livestock, has become even more highly valued than in the past. Male villagers place great value on maintaining *saas* trees in such state that they readily regenerate foliage and work diligently to utilize *saas* in sustainable manner.

Meanwhile, *saas* trees are also frequently used by women as a source of fuel for cooking. However the methods employed by women to collect fuel differ from those practiced by the men, and have, in recent years, begun to include those that ultimately lead to the death of *saas* trees. Incidences where the bark of the trees has been stripped off for fuel have become increasingly frequent. This state of affairs is not merely the result of a shortage of fuel resources, but is a consequence of livelihood and dietary changes whereby women have begun to proactively participate in retail trade as means to earn income to purchase non-staple food ingredients, which leaves insufficient time and labor to invest in the careful collection of *saas* branches as fuel.

At present, the relationship between the Sereer and the *saas* tree differs significantly for men and women. In fact, the two relationships appear to be polar opposites. However, men are not observed to directly criticize the actions of women that lead to the death of *saas*. It appears that this is because the men, while being upset by the death of the *saas* trees, understand the role played by women in maintenance of household finances. However, the existing standards and rules in Sereer society, which retains such morals, are unable to deter the behavior leading to the death of *saas*. As such, the villagers have attempted to bring in an external rule in the form of Senegal's Forest Code to deal with the problem. As a result of assimilation of the Forest Code, there have been no incidences of bark stripping leading to the death of *saas* since 2010. At the same time, a new, easy method of fuel collection that does not lead to the death of the tree, i.e. stripping of only the outer bark was developed.

It can be said that the *saas*-based anthropogenic vegetation that has been an integral part of Sereer society for generations has been maintained through adaptive management that takes into account both the villagers' knowledge of ecology as well as social and economic conditions and through the continuous adjustment of social relationships among community members with regard to *saas*.