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The doubtful prospects of land rehabilitation in the Pokot lowlands in the mid-1980s – and its current success

In 1987 the Chepareria area, West Pokot, was an arid steppe. (1) The ground looked like the skin of a hippo. It was badlands, land eroded down to the bedrock. Only visionaries could think of this as a green, healthy landscape. Today we find ourselves in a transformed landscape (Grönvall 2015, Nyberg et al. 2015, Saxer 2014, Svanlund 2014, Wairore et al. 2015a+b, and Wernersson 2013). The change is stunning, and encouraging.

Back in the 1980s the Pokot did not plant trees, they saw trees as appearing, not being planted. Some trees were indeed protected. These were the sacred trees, where meetings are held, and where sacrifices are made. God resides there, and such trees cannot be felled. The *Ficus natalensis* of the highlands and the *Ficus sycamorus* of the lowlands both belong to this category. Trees good for placing beehives were likewise not cut. Fodder trees were lopped but not felled.

A particularly valuable tree is the Desert Date, *Balanites aegyptiaca*. At the time of the year when it is hot, dusty, and nothing is left in the stores – at that time the *tuyunwo* (as the tree is known in Pokot) produces its sweet fruits, even in very dry years, and people can prepare a vegetable relish from its leaves. Livestock feed on its fruits and leaves until the new grass appears.

“We eat trees”

I got a vivid illustration of the importance of this tree one of my first days in Morpus village. A small group of men told me about how the livestock were away on dry season grazing at the Uganda border, that they waited for the rains to arrive and that there was no food in the area. One of the men said: “We eat trees”, referring to that the only fresh food available was the green leaves of the Desert Date.

¹ I had come to Chepareria Ward to suggest ways to promote tree planting in cooperation with the management team of VI Agroforestry, a Swedish development cooperation organisation started in 1983. Through agroforestry it aims to contribute to poverty reduction, increased biodiversity and climate adaptation. Today VI Agroforestry works in four countries, Kenya, Rwanda, Tanzania and Uganda. In 1987 it was a rather small organisation active in the Trans Nzoia and West Pokot districts in Kenya. My field studies came to focus on two lowland villages, Morpus and Pserum, situated in the lower parts of Chepareria ward, in Agroecological Zone V, where livestock production dominates. What follows refers to this part of Chepareria Ward more than to the upper parts of Chepareria, situated in AEZ IV with a more humid climate and where farming plays a bigger role.

Later I came to think that the phrase “We eat trees” was true also in another sense. Trees are felled as fields are cleared to cultivate crops for a growing population. Trees are “eaten” to build houses, and as firewood. They provide fencing material. The many goats of the area hamper their regeneration. The environment gets impoverished, and this process was well captured in the phrase “We eat trees”. The phrase was poignant and I came to use it as title for my report from Chepareria Ward (Östberg 1988), which was intended to suggest ways to promote land rehabilitation and tree planting in the area.

Some trees are valued, but the idea to plant trees and to preserve land was definitely not part of Pokot life. They preferred open pastures and in cultivated fields the Pokot felt that trees compete with the crops for water, nutrients and sun.

The obvious conclusion was that interventions that were not productivity oriented would fail. There was just no point to preach general value of environmental care, tree planting or land rehabilitation. There had to be direct gains involved.

The colonial government had organised various land rehabilitation efforts in the area in the 1930 and 40s, with limited success. One of the last interventions, two years before Independence in 1963, was the construction of a major cut-off drain at Morpus village. Reports confirmed that it had successfully protected the eroded area below. But by 1987 the big cut off drain had completely silted up, and could only be traced as a vague contour in the hillside. The gullies below were moving into cultivated fields and homesteads.

Why had this obviously useful cut-off drain not been maintained?

- Was it because people did not know how to do the job? Nonsense. The Pokot around Sigor, NE of Morpus, desilt irrigation canals as a matter of routine.
- Was it because it required too much work? No, in fact not much work was required compared to the value of the cut-off drain.
- Was it because the cut off drain was nobody’s direct concern? Perhaps that. If so, the lesson for the project was that it was not enough that something is technically sound, it must also fit into the local organisational set up, and the colonial cut off drain had not been integrated into the local decision-making system. Here was something to consider when planning how VI Agroforestry could promote tree-planting in Chepareria.

In 1987 VI Agroforestry, or the VI Tree Planting Project as it was then known, had taken its first initiatives in West Pokot, established a couple of tree plantations, and was searching for ways to support land rehabilitation and improved livelihoods in the area on a considerably larger scale.

Mobilising skills and labour

I had worked among the Marakwet, the neighbours to the south, and with whom the Pokot share language, basic social institutions (2), and also a hill furrow irrigation

² The Pokot are divided into two sections, the mainly pastoral East Pokot and the agro-pastoral West Pokot. They belong to the larger Kalenjin group of peoples who include

system, established in the late 1700s, and which is still functioning and form the basis for farming in the arid Kerio Valley. It is a large-scale complex, consisting of more than 90 main canals, totalling over 300 km, which take water down the steep Cherangany escarpment to the Kerio Valley where it is being used for irrigated agriculture. This large irrigation complex is run without any centralised form of management. It is organised in local water management meetings where local residents meet, reason, plan, and decide on what land to cultivate the coming season, how to divide the water, agree on responsibilities to remove sediments from the canals, make repairs, etc. Big and small issues are solved in the same manner, which is that people meet and discuss (Davies et al. 2014, Östberg 2004, 2014, Ssessennyonga1983, Watson et al. 1998).

It beggars belief that this vast and sophisticated complex can be run without any centralised authority, but this is exactly what happens. It may appear equally remarkable that the land can be cultivated for generations without major problems of salinization of soils (Caretta et al. 2015). Certainly, the area suffers from soil erosion. But again, the land continues to be cultivated by generation after generation and people subsist from it.

One finds the same, more or less, irrigation system among the Pokot although not in the Chepareria area itself (Davies 2008). However, it seemed reasonable to take this striking capacity of the Pokot to undertake major projects, and also the efficiency of what may appear a haphazard and unstructured decision-making system, i.e. people meeting in shade of a tree to discuss, as a point of departure for drafting a strategy for tree planting in West Pokot. We concluded that the Pokot had in place the planning capacity and decision-making structures to undertake large-scale projects. It was, of course, important to work with these structures, and not to sidestep them. (3)

The strategy

In 1987 the project had been around for a bit more than a year. It had carried out trial plantations on land belonging to primary schools and churches. Now it was time for expansion, a more offensive stage. The manager, Tor Nyberg, had an idea that appeared reasonable: "We now have trees growing in a few places. After only some three to four years, these small plantations will represent a significant value. They contain a wealth of fodder in an area where there is seasonally absolutely no grazing. There is thatching grass, as well as bee forage. There will soon be timber. Could all this wealth somehow be traded with the local communities, so that they themselves start to plant trees and to rehabilitate land, if they were offered to use the fodder in the enclosures?" That is: enter into dialogue with local communities, create binding agreements with those who are prepared to create new enclosures in exchange for the available resources in the existing plantations.

the neighbours of the Pokot, The Marakwet, the Sengwer and the Tugen, but also the Keiyo, the Nandi, the Kipsigis, the Sabaot, and the Terik.

³ The report (Östberg 1988) contained numerous practical recommendations. These were chiselled out in close cooperation with the VI management team. I much appreciated the creative and intense interactions with Anders Carlsson, Norman Kimanzu, William Makokha, Gert Nyberg, Tor Nyberg, Margret Silali and Bo Tegnäs.

Traditionally the Pokot closed some areas with termite-resisting grass from grazing during the rainy season to have something to rely on later in the year and thus become less dependant on migrations with the livestock (Schneider 1953, 1959). The Colonial government had tried to create rotational grazing block in the area (Gallé 1987, Vermaat 1986, Widstrand 1973) but these had not survived. While I was in the area in 1987 a local decision was taken to remove all cattle from the area West of the River Tatwa, but it was never implemented.

We could draw a conclusion from these experiences: enclosures should be relatively small areas, and they must be based on contracts with farmers who have undisputed usufruct rights to the land.

It was not possible to subsist on only crop production in Pserum and Morpus – keeping livestock was a necessity in this area. But again, in 1987 the area could only support the livestock for part of the year. They were seasonally moved to higher grounds where it was still possible to find forage and still later in the year people were forced to take the livestock to the Mt Kadam area in Uganda, which was dangerous both for the herders and for the animals, and much resented. Furthermore some children were sent away seasonally because it was difficult to feed them in Morpus and Pserum. If there were more fodder available for the milk cows remaining at home during the dry season, this would be a real bonus.

Seasonal movement between different ecological zones was an inherent feature of life in Pserum and Morpus. When resources of one area were finished the animals were moved to another place. When they later returned to the first area, it had recovered. Describing this annual rhythm, and the erratic and insufficient rainfall and recurrent crop failures and outbreaks of livestock disease, the conclusion became obvious. People in Morpus and Pserum adjusted to scarcity as a matter of routine. People here were more familiar with fluctuations than with regularity. Land conservation in one particular area was obviously no priority to the people of Pserum and Morpus. What would make them prepared to consider the idea?

The role of livestock

As the study proceeded I described how livestock served many vital functions in addition to offering some security against the recurrent droughts. Livestock facilitated marriage transactions and they were used to establish relationships of cooperation with other households. Fines were paid in livestock. There were in fact some 20 different uses and roles that livestock had in Pokot society and economy.

A characteristic feature among the Pokot is that some of a family's cattle will be under the management of another household, while one's own herd is partly made up of animals that other people hold varying rights to. In this way cattle owners have animals distributed in different areas and are thus to some extent able to reduce the threat of both drought and cattle raiding. Strong social partnerships are established between men exchanging livestock. Cattle are repositories of value, allowing people to make transactions that extend over long periods of time. One ethnographer of Pokot society went as far as arguing that this is the ultimate concern of cattle keeping in Pokot: "whatever may be the optimum arrangement of a herd for the production of milk and

meat, this will largely be subjugated to the need of stock associateship” (Schneider 1981:216). This was relevant to our deliberations, particularly so as no cattle auctions were held in Chepareria division.

Livestock was an integral part of the local economy, and any plans for tree planting had to take this into account. To improve fodder supplies seemed a reasonable path to follow.

Channels of influence

There were diviners, and also the *kirwokin*, someone who became noted because of his skills in solving disputes. They could be termed “good talkers”. This may sound somewhat unimportant, but it is in fact an apt designation of how they exercise influence. Both the diviners and the “talkers” have important roles in Pokot society. But they cannot command others. Authority is never passed on from people assembled in a meeting to a higher office, because none such exists.

Elders were respected, and they were the ritual leaders in ceremonies. They also lead the blessings. But again: they could not command. To tell others how to organize their affairs is not done.

The neighbourhood, the *korok*, was the most important social unity. Most of the daily work was carried out together with neighbours, as was most of the ritual life. This was the obvious social unit for the project to cooperate with. It is characterized by intensive social and work interaction. It is easy to convene meetings within the *korok*.

But perhaps the neighbourhood was a too small unit for the project? And since the project was an external organisation it of course also needed to cooperate with the administration, the sub-chiefs in the first place.

Another problem with using the *kokwo*, the neighbourhood meeting, as a principal venue for promoting tree planting was that it was the men’s world. Since women generally are more involved in farm work than men, they must have an important role in a tree planting campaign. They also spend more time around the home and are better able to help protect young trees planted close to the homestead. Men and women lived rather lives. The project had to plan separately with each group on its own terms.

To create arenas for interacting with women the project could develop an extension service, and initiate small on-farm nurseries. If women got equal access to information about the tree planting initiatives, they would influence their husbands, and they would see to it that their opinions reached the *kokwo*. We reasoned.

There was also a middle-way between the *kokwo* and field activities, and that is the *baraza*. This is the Swahili word used for the meetings called by the administration and in which information is passed on to local communities. On the surface it looks much like a *kokwo*. It is people meeting in the shade of a tree to discuss. However the conditions are different. In the *baraza* it is staff with formal authority who set the agenda. People may have a chance to ask questions and air opinions but it all happens on the terms set by the administration.

For cooperation where local authorities were involved the *baraza* would be the adequate venue. An added advantage is that a *baraza* better allows space for women groups to air their opinions.

There were pros and cons with the different alternatives, and in this situation we thought that the project could learn from how people in Pserum and Morpus organise their lives. The vagaries of climate forced them to be responsive to what happens. Likewise, the project needed to be sensitive to the relative importance of the *kokwo* in different local communities. The social environment is as difficult to predict in all its local variations as is the natural environment and therefore, we argued, the project should maintain a flexible and responsive relationship to the communities, as responsive to changing conditions as the Pokot themselves are. Or as trees are: Their roots search windingly for moisture and soil nutrients. They do not hurry. Meeting a stone, they make a deviation. Eventually the roots reach favourable conditions and the tree is established.

Another important advantage with planning project activities in *kokwo* (in contrast to just calling a meeting to announce the project's intentions) is that exact and relevant information on local land use will surface. In a group ranch (as Morpus and Pserum were) the internal land rights may not appear very distinct during abstract discussions. Once infringed upon, however, they are very quickly defined. Working through the *kokwo* could help to anticipate such clashes.

As the field work proceeded it seemed reasonable that the basic idea was sound: if tree planting was integrated into a general land-use plan that guaranteed people increased harvests and access to more fodder for the livestock, the project had a solid ground for realistic negotiations. There were precedents: In southern Baringo, among another Kalenjin speaking group, the Tugen, and in a rather similar ecological environment, land had been adjudicated into individual ranches. Before adjudication the area was badly eroded. But with private title, reseeding and stock reduction, a considerable improvement in the productivity of the land had been registered, and, importantly, a market for grass and forage had developed (Gichohi and Kallavi 1981, Livingstone 1981).

Negotiating for change

I compiled a list of previous development interventions in Morpus and Pserum. It was discouraging reading (Östberg 1988:83). What the Vi Agroforestry for their part so far had done was that it had produced seedlings in nurseries they had started in the centres Chepareria and Marich. There was no local interest for the seedlings, but on the other hand the project needed them for its own plantations in Morpus and Pserum villages. And the project was popular for creating jobs in the area, both in the nurseries and the plantations. Apart from that it had not yet created the impact it aimed for.

An episode captured, I thought, the lay of the land. The Morpus plantation was started in haste just before the rains in 1987. A planning meeting was held with the headmaster of the school, five members of the school committee and staff from the VI Tree Planting Project. The committee had no specific demands regarding what trees should be planted

around their school. The vice chairman of the school committee summarised their stand: “We are here and we wait. You may say what trees can be planted. We have agreed that you plant trees around the school. That is good. People must have an example to learn from. If other areas can be planted as well is something to discuss another time. If it turns out well and people like it”.

This was a subtle statement. He had sensed that the project was interested in enlarging the area to be planted. The project needed land. The committee could not offer that, but it could bargain with the possibility. Maybe the committee would later on be able to convince people to make land available for tree planting – if people were now employed and thereby learnt about the benefits of tree planting.

At the same time he surrendered to the project all responsibility for the outcome. The project was to take the risks. It should hire people to prove that trees will survive. He designated the project staff the experts, “you may say what trees can be planted”. While being totally in favour of the idea of tree planting and land rehabilitation, he made no concrete commitments.

The school committee did not need a project. They could do without as they had done before. But if the project came with gifts, they were prepared to accept these. Now they could wait and see how the planation develops. They earned a salary in the meantime, and the whole thing may develop into something useful for the future. No harm in this: both the project and the committee achieved what they wanted at the meeting. They had made a good start.

In 1987 I commonly heard people in Morpus and Pserum say that it would be good if “someone” did something about the gullies, for instance the government, or the Catholic mission, or some other resourceful organisation. People were happy to pass on the responsibility to someone they felt was better equipped than they themselves.

People involved in improvement programmes in West Pokot had reported similar sentiments for a long time. In the 1950:s District Commissioner A.D. Shireff noted that “The attitude of the average Suk (i.e. Pokot) parent is that once he has been compelled against his will to send his child to school, it is up to the government to feed and clothe the child” (Patterson 1969:29). The same argument was now heard about the school plantations. The local communities happily handed over the responsibility to the project, and it became logic that the project also footed the bill. The villagers created a bargaining situation, and this was not a bad starting point for realistic planning. It was not ideas of land rehabilitation that governed but the employment offered.

The rains were due. Time was short to get terraces and micro-catchments ready for planting. The only practical solution was to hire day-labourers. The project established itself through a tangible offer. The trees survived in both the Morpus and Pserum plantations, grass was established, and the project had created a resource to start negotiate with. This was not at all a bad start.

The report (Östberg 1988) listed in considerable detail how the developing assets in the school compounds could be offered to farmers and neighbourhoods who enclose areas on their own land, and how agroforestry systems could be established over a period of

five years. It discussed the pros and cons of enclosures, for instance the risks that resourceful persons will use tree planting to lay claims to land they have no absolute rights over, or that entrepreneurs might steal plantations. There are sections on extension, on women's group nurseries, and other topics.

The transformation

To recall how it was in the late 1980:s: The rain skidded over hard and crusted soil, unable to infiltrate the ground, carrying with it whatever loose material it found. When the floods rushed down the slopes into the gullies, the ground was ripped open in a mighty and devastating spectacle. Today the picture is very different: The open landscape has been complemented by private enclosures protected by live fences (euphorbia, sisal, agave) and thorns. Perennial grasses have come back, fodder trees have been planted, in places gullies have been stabilised and healed. The area looks green. Not all farmers use enclosures but many do. It is definitely possible to talk about a transformed landscape. Enclosures appear to have become a self-generating process. VI Agroforestry phased out its activities in 2001, and a recent study shows that almost 40% of the enclosures had been established after 2004 (Nyberg et al. 2015).

The enclosures make sense, both ecologically and economically. Predictably the enclosures show increased soil organic carbon, better vegetation cover (Nyberg et al. 2015, Svanlund 2014) and improved biodiversity. There is more grass for livestock in the enclosed areas, land degradation is reduced. (4)

Farmers with enclosures appear to migrate much less with the animals during the dry season while those who do not use enclosures continue to migrate seasonally (Grönvall 2015, Saxer 2014). When farmers rank benefits derived from enclosures this factor is given prominence. Reserve grazing pasture was the most mentioned benefit, followed by healthier livestock and improved livestock productivity. The enclosures also generate direct incomes as both grazing rights and fodder, and also roof thatching, can be sold (Wairore et al. 2015a, b). Furthermore, farmers with a reasonably long experience of enclosures tended to have considerable more animals (Grönvall 2015). Everything points in the direction that enclosures provide opportunities for improved living standards, and that in particular it is the livestock based activities that generate incomes. Admittedly much more can be done, not least in terms of improved livestock productivity.

Problems ahead?

There are, of course, also problems with enclosures. They require an initial investment, they need constant maintenance, and it becomes more difficult to water the animals. The enclosures make it (even more) difficult to transport household water from rivers to the homesteads. Possibilities to free forage are diminished which can increase conflicts, as can trespass and encroachments (Saxer 2014, Wernersson 2013). Enclosures can also be used to lay claim to land one has not undisputed rights to. And, as predicted,

⁴ Many more changes are noted in the recent research reports, like increased incomes, increased milk production, poultry development, changing gender roles, land tenure changes, etc. However, my focus here is on landscape changes.

enclosures lead to economic stratification; Wairore et al. (2015b) found that incomes rise with increasing holdings so that it seems that enclosures drive a process of income differentiation.

Worries have been expressed that the new opportunities might lead to rehabilitated range lands reverting to their previously degraded state (Wairore 2015a). I visited Morpus and Pserum together with one of the pioneers of the area's land rehabilitation efforts, William Makokha of VI Agroforestry. For good reasons he is satisfied with the results, but he shares the concerns that the success could also have negative consequences. The improved soil quality encourages farmers to put more and more effort into growing maize and beans. In a year with good rains quick profits could be realized. However, tractor ploughing means cutting trees and making the land more vulnerable to soil erosion. The County administration used tractors when it prepared a large grass-bulking plot. That set a bad example, William thinks. Another impending threat is a projected dam intended to service the lowlands below Chepareria with water. Much needed, of course, but it may also lead to plans for cotton growing, for instance, that could jeopardise agroforestry activities and the livestock economy.

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