

# Surveying Africa: Local Agricultural Surveys and the Creation of Development Knowledge

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(Sorry, didn't make it in time; this is still work in progress)

We have come together today to talk about the interrelationship of science and colonial development. Taking into account the Leitfrage of our conference, "On Whose terms?", the answer does not seem to be too difficult. Both western science, with its claim for universal truth, and development, one of the core concepts of the western 'history of the same', defining cultures in their diachronic relationship with the West, have long been recognized as being representative of a hegemonic discourse that tends to ignore or subjugate local voices. What probably first springs to mind is the archetypical modernizing bureaucrat or development expert. Trained in western institutions and equipped with a western methodology, the expert's main preoccupation seems to be, to impose his western outlook on the rest of the world, oscillating between being a zealous ideologist or of merely serving the political economy of his mother country / the development industry. As an agronomist he might advocate mono-cropping, artificial fertilizers, the introduction of exotic cash crops, large-scale irrigation, mechanization or mechanical conservation work (James Scott); even though criticism has by now extended far beyond the classical set of modernizing assumptions and tends to include many of the new fads of the development economy, variously labeled as alternative, green or sustainable. The modernizing bureaucrat is conspicuously apt to subjugate local knowledge, to disturb local distribution systems, cropping and work patterns, and consequently to endanger the livelihood of local communities, earning him the title of the "worst plague of locusts ever to descend on the poor countries" (Jean Houbert).

Recent research in the history of science, on the other hand, has questioned all-embracing categories like "colonial science". Historians, among them William Beinart, Helen Tilley or Joe Hodge, have argued that research within the colonies – especially in fields like anthropology, agriculture, botany, ecology or medicine - was a much more ambivalent business, that scientific research not merely strengthened colonial narratives, but also undermined wide held assumptions, revealed complexities and transformed colonial understandings. Different schools of thought, conflicts between scientists from different disciplines - all claiming expertise, conflicts between different strata of the colonial societies, and various processes of hybridization (of farmers successfully adopting and re-interpreting western techniques or of scientists adopting local concepts), all seem to suggest that merely

classifying science as a “handmaiden of colonialism” or as a “tool of empire” rather tends to obscure than to further elucidate the interrelationship of colonialism, science and development. To put it another way: In trying to overcome the dichotomy of ‘the West and the Rest’ we should not refrain from breaking down the category of the West as well, even if it might force us to forfeit a useful straw man. Historians have – of course – always been aware of some of these ambivalences, but many approaches have rather tried to label expressions that do not seem to fit the established narrative as ‘dissenting’ or ‘minor’, stemming from outside the ‘establishment’, rare occurrences of good science in a field dominated by ideology. The obvious risk being that one remains entrapped in a Manichaeian worldview structured by simple dichotomies, e.g., of artificial vs. organic, global vs. local, culture vs. nature, science vs. religion, hegemony vs. resistance, subconsciously maintaining the position that ‘non-western’ societies merely represent a moral negative of the West.

What about “science” and “development”? James Ferguson prominently argued that scientific discourse and development discourse follow different rules and allow for different statements, picking up a line of thought that, taking a starting point with the seminal critic of Albert Hirschman, has argued that development rhetoric follows extremely simple narratives and often relies on unproven assumptions and conventional wisdom. In this context surveys represent an interesting genre of texts insofar as research & development are closely interwoven in them and cannot be easily disentangled. Colonial surveys were usually intended as a stock-taking effort – to compile as much information as possible, on which to base future development planning. They were thus – hypothetically – at the very centre of colonial efforts to create what may be called “development knowledge”. There were many different types of surveys in Africa. There were surveys in the fields of agriculture, botany, geography, ecology, nutrition, medicine; there were population-surveys and town-surveys, and meta-surveys like Hailey’s African Survey. Whereas I will today focus on local agricultural surveys conducted during the 1930s in East and Central British Africa, a clear cut differentiation by topic of research is not really feasible. The very way how surveys were conducted implied that the subject matter of the survey was often subordinated to the idea of describing the (human) geography of an area.

While surveys were compiled in many different ways, one of the most frequently employed methods was to ask district or agricultural officers to answer a questionnaire relating to a specific region, and thus to help in identifying a regions needs and prospects. Several reports for different regions were then compiled together in a single volume and added with a foreword that tried to assess the survey’s implication. Essentially being a mass of different texts written by different authors at different times and in different circumstances, surveys often lacked a concise narrative.

Almost all of the surveys conducted in East and Central Africa during the 1930s nevertheless shared a common set of questions that mirrored wider colonial preoccupations. Typically three basic aims are formulated: conservation of fertility; production of food crops; production of cash crops.

Conservation – at least in the 1930s - invariably takes precedence, while food crops and cash crops are seen to be dependent on the maintenance of the fertility of the soil. While this observation is often claimed as the result of a report, it is already inherent in the very way how reports were structured. A general description of the physical environment, topography, rainfall, soils, is typically followed by an assessment of the size of the district, population density, of the area available for cultivation, and of the area cultivated per head of population; agricultural practices are described in relation to the staple crops grown, the rotations employed, how long rotations last, if they have to be alternated with fallow periods, whether manuring or other practices prolonging cultivation are employed. Food habits, potential for economic crops, markets, etc. are discussed as follow-up topics. Taking into account the geographical focus of the surveys, calculations of human carrying capacity and estimates whether a district can be described as over- or underpopulated follow quite naturally.

Within this scope opinion could and did differ widely, for example whether it was better to intensify methods of production or to scatter populations more evenly; whether it was better to stick to development on “native lines” or to try to revolutionize agriculture. I will just give two examples relating to two of the biggest problems that preoccupied the minds of agricultural officers: (i) The derogatory effect of ‘slash&burn agriculture’ (frequent shifting of fields & cutting down and burning of trees in the preparation of gardens) on African woodlands; (ii) the severe soil erosion following the frequent cultivation of steep hills and the building of ridges up and down the slope, which were perceived to lead to massive soil wash.

At the beginning of the 20<sup>th</sup> century, the British South Africa Company conducted a survey in Southern Rhodesia in order to assess the impact of ‘shifting cultivation’ on woodlands. Both in Northern and Southern Rhodesia the cutting of trees for gardens was subsequently prohibited leading to famine, protest and the revocation of the order. The survey papers reveal that opinion among colonial officers was much more divided than official policy might lead one to presume. While many officers had affirmed that the cutting of trees for gardens led to deforestation, desiccation and soil impoverishment, a significant number was of the opinion that ‘shifting cultivation’ was necessitated by the infertility of tropical soils; several officers were even of the opinion that the cutting of trees increased tree re-growth and that there were no trees where there were no people.

In the late 1930s Nyasaland conducted an Agricultural Survey of its Northern Province, known as the ‘dead north’. Later a scenery for massive conservation campaigns which led to major protests and fueled political opposition to the Colonial Government, the ‘Dead North’ was seen to be extremely

infertile, lacking any prospect for development, constantly on the verge of a complete ecological breakdown. The cultivation of steep slopes was seen by many officers to be at the core of the problem leading to massive soil wash and soil erosion. Opinion among the agricultural officers involved in the survey was nevertheless divided. One officer prominently claimed that ridging up and down the slope – the anathema for many conservation officers – was more suited to steep slopes than parallel ridges and even managed to get his article printed in the East African Agricultural Journal, edited by the prominent Soil Chemist Geoffry Milne, who himself was of the opinion that Nyasalands 'Dead North' was anything but dead.

Doubts raised were nevertheless usually neither visionary nor did they merely pay lip service to research ideals. They rather tended to reflect contemporary research programs at local experimental stations, the content of recent articles published in scientific journals and topics raised at conferences or in private correspondence. All of these differences arguably represented contents of a wider discourse on population. And even though different contents might lead to different directions of intervention, they seldom questioned the legitimacy of intervention itself – even those denying a need for intervention tended to affirm the basic methodology on which their statement was based and thus implicitly validated interventionist programs. We should not forget that the study of African agriculture – at least in the 1930s – was something of a fancy for many agricultural officers. The close study of local conservation techniques, crop rotations, and other successful 'adaptations' to a 'hazardous environment' doubtlessly helped to reaffirm the position of the agricultural officers in the field whose authority was often anything but tightened; while people were widely perceived to be indifferent to and to resist agricultural improvement, these examples affirmed that conservation & agricultural development were both possible and desirable and that doubtlessly much more could be done.

Now, to which extent did these research findings ever enter into development praxis? Admittedly, many of these reports were merely produced but never used. Examples being Northern Rhodesia's Human Geographical Survey – a Survey consisting of 31 lengthy District Reports on agricultural systems, village structures, division of work, and many other topics of concern, which somehow got lost (Max Gluckman snatched some of the reports and used them for his work on the Barotse; many of the other reports might have suffered a similar fate).

Northern Rhodesia's Ecological Survey – a thorough investigation of African agricultural systems that came closest to contemporary aspirations of creating an 'African Domesday Book' – seems to be more promising. The Survey was conducted by the ecologist Colin Trapnell in collaboration with many other officers over a time span of 12 years and was – in condensed form – appended to Northern Rhodesia's Agricultural Development Plan. Most of his recommendation indicated further

topics of research and possible local improvements based on existing Agricultural practices. But I am as yet not aware if they were ever systematically tried out on the spot. Northern Rhodesia research staff from the 1930s had been completely replaced after the war, partially due to conflict with the Colonial Office about the proper organisation of colonial research and development programs. Northern Rhodesia's Agricultural Department was criticized for lacking seriously behind in Development work and endangering the political legitimacy of its Reserve policy. Its Director of Agriculture was subsequently forced into retirement and a Development Adviser appointed – who was unable to gather much sympathy with local officers. With the colonial office being unable to reconcile its position, most of the plans for rural development seem to have been dropped in favor of improved and master farmer schemes. Work conducted by Kusum Dutta, Megan Vaughan, Henrietta Moore at least seems to suggest, that no systematic use was made of these more intricate research programs.

Nyasalands Nutrition Survey – conducted in the late 1930s by an interdisciplinary research team – was immediately followed by a Nutrition Development Unit intended to directly test the survey's findings and apply them on an experimental scale; the Nutrition Development Unit would then seem to represent a perfect example to study the interrelationship of science and development, apart from the fact that the unit had to work without having the survey's findings available. Furthermore it failed to keep its survey team together and had to be re-staffed due to loss of many officers to the war effort. The unit's newly appointed agricultural officer tried out some exotic cash crops – without success – and conducted some experiments in supervised conservation – failing with a big bang (obviously he had not read Nyasaland's Agricultural Survey and had ordered the building of contour ridges on steep slopes). He then ordered the building of contour ridges combined with bunds, with unsurprisingly did not meet with much enthusiasm. The whole unit completely failed to get into contact with the local population, taking refuge in advocating the enforced stabilization of the environment, while keeping education in nutrition and husbandry for later. This plea for the forceful creation a more ordered and stable landscape should not be read as merely exemplifying the erosion mania of colonial officers. It is rather symptomatic of the struggle with what contemporary observers perceived as extended "realms of uncertainty and instability". In effect it amounted to capitulation and it was decided that the unit would not continue its work. At the Colonial Office it was well recognized that the situation on the spot must have been very depressing for the officers engaged. Eastwood, responsible for nutrition work in the empire, questioned whether experimental work – based on schemes effectively enforced and supervised by capitaos – could really be combined with development work based on careful education and the work of local communities. This was implicitly admitted by the Unit's medical officers who stated in a private letter to the Nutrition Survey's Director that the failure of the unit ('our failure') could not be excused by reference to the war, lack

of funds, time, or staff, but that somehow “the whole concept of the Nutrition Unit was based on too superficial a view of the problem.” He nevertheless expressed the hope that subsequent workers might at least learn and profit from the many mistakes the unit had made (even though he did not know whether the Governor at Zomba would consider the unit’s expense “too high a cost for the results achieved”).

How science and development played out on the spot then seems to be of some importance for understanding their interrelationship. Apart from conflicts and loss of information within the colonial bureaucracy itself, resistance to development schemes obviously – as has been indicated by the example of Nyasaland’s Nutrition Unit – did play an important part. It has often been argued that colonial conservation schemes triggered colonial resistance. What I would like to stress is that development praxis did not merely provoke resistance or that development efforts failed due to resistance, but that development praxis in itself was often the very site of intensive struggles over both political and epistemological authority; a field where political and epistemological authority was continuously claimed, endangered, had to be defended and to be re-negotiated. I would like to exemplify this by drawing on the Diaries of a District Officer – Bevan Jones – who was on his Ulendo in Nyasaland in 1951/1952. Accompanied by an Agricultural Officer for significant parts of his Ulendo, the team had two tasks: (i) To discuss conservation methods and to encourage the proper conservation of the soil; (ii) to discuss the opinion of the people with regard to the planned Federation of Rhodesia and Nyasaland, a political decision strongly resented by many Africans in Nyasaland. The diary is of special interest because the author recorded many of the doubts and challenges brought forward at the village meetings as well as his own personal impressions and reactions, often depicting himself as somewhat bearish, overstrained, sometimes depressed, sometimes careless, sometimes suspicious, often implicitly taking sides with the villagers, while at the next moment shutting them down and doing ‘his work’. Villagers frequently challenged the epistemological authority of the agricultural officer, a man they “would not touch with a barge pole”. They pointed out that he had not been in Nyasaland for long and thus would not be able to teach them anything as they had been growing crops there all of their lives; they argued that in neighbouring districts A.O.’s had merely brought hunger and poverty; that they were not suffering from hunger and that it was useless to send a Doctor to healthy people; and that he should first show them that he could be a good farmer before making recommendations. These arguments were supplemented by a lot of individual observation as to the negative effect of contour ridges, bunds, of early instead of late burning of gardens, all of which – as Jones had to admit – were ‘fair enough’. Where the challenge to epistemological authority became mixed up with politics, power relations proved to be extremely unstable and far from secure. One meeting was recorded by Jones as especially depressing. After a fruitless discussion about soil conservation, Federation had to be

discussed as well: "This they Tikanad firmly & that was that. I talked about Ostriches for a while but they think Ostriches are very clever beasts. I was so depressed I went & sat by the lake & looked at the sunset, & felt better, & thought up marvelous metaphors about Canute tikana-ing the waves, but of course it doesn't work because the lake is non-tidal. More depression... Another thing I've forgotten is the Camwaka Pad. Sheer incompetence. Gloom, gloom, what am I doing in this country? Never mind, I'll go to farm sheep on Snowdon." There are many other examples of the constant difficulties he faced in establishing authority and of the way how people challenged and parodied his narratives.<sup>1</sup> The agricultural officer, of course, does not seem to have been off better and Jones clearly sympathized with him, especially after he had found out, that the A.O. had almost been stoned with mangoes at a village. At other occasions he rather seems to have been concerned with defending his own position, arguing that he was not responsible for the decisions of the Colonial government. At one occasion, after having been blamed for being oppressive and enforcing bad agricultural practices, he recorded that he simply "did a pantomime of Gay Godden & Derek McLinden arguing in the Nat. Resource Board, & of the chiefs deciding, which went down big until they realised they couldn't blame the Boma."

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<sup>1</sup> See for example April 5<sup>th</sup> 1952: 3 hours walk on a very pleasant path, which Mwefukicsa said was unnecessarily roundabout. Tunduwe has made us effort to clean up the mess he made cutting down trees to make gardens; they are still lying all over the slope, & erosion is thus unchecked. I called on him to say that he was the biggest fool I'd met in Nyasaland, & that his grandchildren could spit on his grave. He was so unruffled & polite that I had to laugh, so he had the last laugh. [...]What a nice(?) old rogue Dewe is! His obstruction is so honest! I told him that if I grew a beard longer than his I would be obviously wiser than him & he would have to strip-crop. He said, oh, but the Agricultural Officer would be kicking his buttocks long before that!

June 7<sup>th</sup> 1952: There was some general matter at the end. They complain that the Azgurgu take no notice of their arguments, or what they have learned from their fathers. They like the hospitals & schools we have brought, & the peace in the land, but it was better in the olden days when that was all. So I said how we thought of the land, & the hunger of their grandchildren, & repeated the story of the monkeys in Usisya & the ants. Some dumb duck stood up & said what did the story mean? So I called for an explanation, & a young bystander stood up & turned the story upside down by saying the ants were the Azgurgu! At that I gave up [...] & had some tea. /

August 2<sup>nd</sup> 1952: Ted got involved in an argument about the Garden of Eden. Ted said that the Garden of Eden was now a desert, because they hadn't put in any bunds-man, & nobody lived there anymore. An old soldier got up & said T. was talking balls; he'd seen to Aden & they still had lots of people living there, with gardens, too. Ted had to take refuge in the Gobi desert, where nobody had been. He was brought back with a bump to Egypt & the Jews & Pharaoh, made a sortie to Cyprus & finished up in Malta, by which time everyone was exhausted. Some ulendo, this.

