

Remembering Africanization: excerpt of reunion transcripts

Edited by P. Wenzel Geissler¹

1. Amani Hill Research Station, 23 April 2015

Participants

Professor Bukheti Swalehe Kilonzo, born 1949: joined Amani in 1968 as a Scientific Assistant. Studied microbiology and parasitology in London; PhD in plague epidemiology from Dar es Salaam in 1984. Left Amani in 1982 as Research Scientist and became professor at Sokoine University.

Dr William Kisinza, born 1966: current Director of Amani Research Centre (now at Muheza), reunion participant *ex officio*. Studied entomology at the Liverpool School of Tropical Medicine; PhD in 2006.

Dr Edith O. Lyimo, born 1957: studied biology at the universities of Dar es Salaam and Jos, Nigeria; PhD in mosquito ecology in 1993. Entered Amani as Research Scientist III in 1982; retired as Research Scientist II from Ifakara Research Centre.

Mr Alban Machaga, born 1948: attended secondary school and joined Amani in 1973 as Laboratory Technician; retired in 2008 as Laboratory Technician.

Dr Stephen Magesa, born 1960: studied biology and ecology at Dar es Salaam and LSHTM; PhD on malaria in Copenhagen in 1999. Joined Amani in 1985 as Research Scientist III; Director of Amani Research Centre from 2005 to 2010.

Mr Lincoln Malle, born 1954: worked as Laboratory Technician at Amani from 1977 to 2004, when he moved to another National Institute for Medical Research (NIMR) laboratory.

Mr Y. G. Matola Matola, born 1941: joined Amani in 1963 as Laboratory Technician. Studied immunology at Brunel University in 1977; became Research Officer I in 1978, Senior Research Scientist II in 1985 and Principal Research Scientist in 1991; Director of Amani from 1992 to 1995.

¹The Amani reunion was organized by P. Wenzel Geissler, Peter Mangesho and Ferdinand Moyo Okwaro. The transcript was edited by P. Wenzel Geissler. Sincere thanks to Noémi Tousignant for commenting on both transcripts.

Two whole-day conversations between former scientific workers at Amani Research Station, Tanzania, during the time of Africanization (the 1960s and 1970s) were transcribed in full and are available online at <<https://doi.org/10.1017/S0001972019000925>>. For the excerpts here, we have selected two significant passages, so as to invite the reader to engage with the full transcripts.

Conversations among the Tanzanian scientific workers at the reunion in Amani were to a large extent by surname, often using titles, or substituting the whole name with the title (especially ‘Prof.’). Okwaro, Mangesho and Geissler addressed most of the participants semi-formally, in accordance with professional and generational hierarchies. By contrast, conversations among the British and Dutch scientific workers at the reunion in Cambridge were on first-name terms, reflecting the long familiarity of the interlocutors and post-1960s Anglo-American conventions; this included the younger reunion organizers/researchers, in accordance with contemporary British habits of underplaying professional and generational distinctions. This difference in (in)formality is reflected in the names used for the interlocutors in the two transcripts.

Mr John Mganga, born 1949: joined Amani after school certificate in 1971, probably as Field Assistant; worked until 2000, being trained on the job.

Mr Richard Mtoi, born 1940: trained as technician at Muhimbili National Hospital, Kampala and Paddington College, London. Joined Amani as Laboratory Technician in 1975; retired as Principal Laboratory Technician in 1995.

Dr Abraham Muro, born 1950: studied at the universities of Dar es Salaam and Tulane, then the London School of Hygiene and Tropical Medicine (LSHTM), specializing in parasitology. Entered Amani as Research Scientist Trainee in 1976; left as Principal Researcher in 2010.

Dr George L. Mwaiko, born 1945: studied chemistry at Matera University and in Prague; PhD in immunology and biochemistry at Dar es Salaam in 1992. Joined Amani as Research Officer Trainee in 1966; retired 2008 as Principal Research Scientist II.

Mrs Prisca Mwaiko: nurse midwife; wife of George Mwaiko; worked as a nurse at Amani from 1975 to 2011.

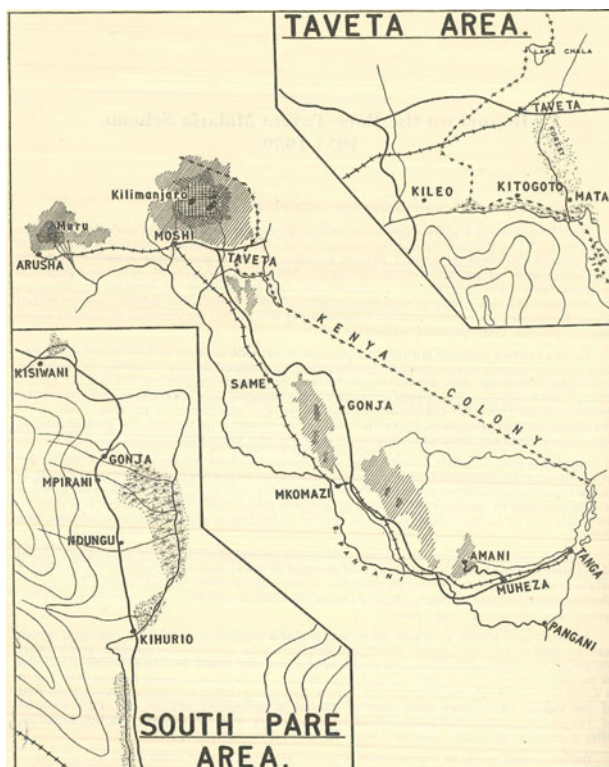


FIGURE 1 Amani and its field stations – Muheza, Tanga and Gonja/Pare – in 1960. Source: East African Institute of Malaria and Vector-Borne Diseases (1960: 2).

Excerpt from Amani transcript, 9–15

Kilonzo:

[...] I can start – I came in 1968. It was around June, immediately after my National Service training.² In fact, when I came, the Director, the then Director Dr Lelijveld,³ renamed me Major Kilonzo. [*laughter*] I walked in with my uniform, went to his office, I saluted him, [*laughter*] ‘So is this a major?’ he asked. So the name of Major actually stuck. I was known all around as ‘Meja Kilonzo’. And on my first day I was told to report to the board council; by then there was Dr Fletcher⁴ and Dr Mwaiko of course, [who] was Mr Mwaiko by then. [...] And Dr Fletcher asked Mr Mwaiko to interview me. [*laughter*] [...] So I was interviewed and the interview was very positive, of course; he recommended [me] very well, so I was recruited at that time as a lab assistant on temporary basis, waiting for the position of [permanent] scientific assistant to be advertised. Scientific assistant was equivalent to technician. So, [...] I stayed on that basis or position for [...] some months. In April 1969, I was called to Arusha to attend an interview that was very competitive, where there were applicants from Kenya, Uganda and me from Tanzania, applying for a single post of a lab technician or scientific assistant on permanent basis. [...] So good enough, I passed [*laughter*] the interview, so I got the first letter of permanent employment as a scientific assistant, in 1969. Then I had to go to Kampala College to study for a diploma in laboratory technology. But before I left for Kampala, I discussed with my Director, at least to get his advice on what was best for me.

[...]

So the Director told me: ‘But you are still young, and you are hard working.’ In fact, all that time I was here I was assisting him in arithmetic analysis of his PhD data. He was working on malaria; I think malaria and pregnancy or whatever. I think Mr Matola was one of his very senior technologists. He saw how hardworking I was, then he told me: ‘You are still young, don’t go off, I

²Since 1963, the newly independent Tanzania had obligatory national service including military training (see Anonymous 1973).

³Jan Lelijveld, born in 1929, a Dutch MD and the first non-British – and last European – Director of Amani, lived in Amani from 1966 to 1970.

⁴Tom Fletcher was head of the chemistry laboratory at Amani. Fletcher had started to work in Amani in 1957, during colonial times, and continued for several years after independence, leaving after 1969; he was widely considered an exemplar of the old-fashioned colonial type (see Graboyes 2015).

advise you not to go to Kampala, try to apply for a university position to study for a degree.' Well, I applied to University of East Africa; by then [...] Tanzania had no university, it had only Dar es Salaam University College, it was just a college. I applied [...] but then I was not successful getting the position. They told me to wait until I become 25, so that I go there as a mature entry. I was still very young, I was far from 25 years. So when I told my Director, 'I've missed the University of East Africa, what would I do?' Then he said, 'If you were able to speak Dutch, [*laughter*] I will get you a place in my university, the University of Nijmegen, but it will take you two years to study Dutch. Let me call the English researchers who are here to give you addresses of English universities.' So he called Dr Graham White,⁵ he was a mosquito entomologist from England, [and he] called John Raybould⁶ – by then he was known as 'Kidevu'; people used to call him Kidevu because of the beard, [and] Kidevu was [a] very common name around. So we sat [down in] the Director's office, so he asked them, 'I like this young man. I would like him to become a scientist, would you give him addresses of universities in England?' He said, 'No problem, give us a day. Kilonzo, see us tomorrow.' The next day, I saw most of them; they sat down, the two researchers they gave me several addresses of English universities, and I applied, I sent my application. Within few, less than a month, I got admission to Queen [Mary] Medical University of London for my bachelor.

So I went away in September 1969 for my undergraduate in microbiology. In 1972, Mr Wegesa⁷ had become the first African Director; he came to England to London, he visited me – of course his wife was there, so he came to visit his wife and he saw me. He said, 'Kilonzo I want you to come back with a good degree.' 'Okay, what do you mean?' He said, 'I'm now the Director [and] I want you to come back with a good degree – good degree I mean a master's.' I said, 'Okay, will the Community pay for me?' He said, 'I'm the Director now. I will make sure that you are sponsored for that.'

⁵Graham White, born in 1941, was a British medical entomologist who lived and worked in Amani from 1967 to 1972.

⁶John Raybould, born in 1935, was a British medical entomologist and blackfly expert who lived and worked in Amani from 1960 to 1976.

⁷Philip Wegesa, the first African Director of Amani, took over from the previous, Dutch, Director Lelijveld. He was a Kenyan graduate of the LSHTM, and, before his directorship, he worked with John Raybould on onchocerciasis. He returned to Kenya in 1977, and died in 1995.

That's why from that statement from my immediate boss, I needed to apply for master's. So 1973, October 1972, I joined the [...] London School of Hygiene and Tropical Medicine for MSc in medical parasitology [...]. There are some degree courses that take two years, but that course at that time was [a] one-year course. So, I came back here after my master's; that was August 1973. Then I came back, now my employment was research officer, by then we were research officers. But the first day I reported to the Director, Mr Wegesa, he told me, 'Kilonzo, me as a Director of Amani I have been assigned by the East African Medical Research Council to initiate [a] research programme on plague.' 'But I told you, Mr Director, I'm prepared for mosquitoes, even my master's research was on mosquitoes!' He said, 'No, you are prepared to do that, but I already have researchers on mosquitoes' – that is Professor Mosha, by then [he] was Mr Mosha, and Ms Frances Bushrod.⁸ 'So I cannot have three researchers working on mosquitoes, while I'm being pushed by my bosses to start [a] research programme on plague. Now since you did microbiology, [...] I assign you to start a research programme on plague, otherwise I lose my job as a Director because this was [a] directive from above.' Now, how, where do I start? [...] There was a building here, it was used by artists [scientific illustrators], you saw it last night on a picture, that was a building used by artists. So he said, 'I give you that building' – it was just a hall – 'Establish a laboratory!' But, 'I direct you to go to Dar es Salaam first hand, seek Mr Msangi, he is the only man in Tanzania who has worked with plague, he can give you some advice.' So I went to Dar es Salaam, I saw Mr Msangi, and, of course, if you are a young man and he shows interest in your field, there is some kind of ... you feel like very happy. Then Wegesa told me, 'When you come back from Dar es Salaam you go to Nairobi; see the only German, called Dr Guggisberg,⁹ he also works on rodents, he is a rodentologist.' Something which I did then after those two

⁸Frances Bushrod, born in 1947, was a British parasitologist and entomologist and was in Amani as a PhD student of the Liverpool School of Tropical Medicine, studying Bancroftian filariasis, from 1972 to 1978.

⁹Charles Albert Walter Guggisberg was a Swiss-born biologist who lived and died in Nairobi. From 1947 until 1970, he was affiliated with the Division of Vector-Borne Diseases, part of the Department – later Ministry – of Health in Kenya. His passions were wild mammals, and he authored well-known books on East African wildlife, while his wife Rosanne is remembered for her 1958 cookery book, *Eating in Africa*, aimed at colonial households (see Christen 1981).

visits, I came to settle, started to set [up a] laboratory. Meanwhile, proposing progress for plague research in East Africa – not Tanzania, it was East Africa, [because] by then the Community was still alive. [...] So I designed the laboratory as the Director said, ‘I’ve given you some assistants.’ John Mganga was one of the recruits. [laughing] Later on Mr Matola was transferred from Mwanza to Amani and was attached to my lab.

[A little noise]

And Mr Mtoi, Richard Mtoi, [laughter] as a very senior technologist. So then [...] my challenge was to design how to catch rodents alive. Because of plague you cannot kill them when they [are] trapped. [...] If you kill it, [the] fleas will jump away, if they jump away they will bite people and if they are infected with a *Yersinia pestis*, you are going to spread the disease. So I had to design – how do I catch these? There were some old people, old technicians at the workshop, one called Mr Mndolwa ... Is he alive?

Mtoi:

He died.

Mwaiko:

Died.

Kilonzo:

And the other man ... there was this artisan that was very good ...?

Mtoi:

Julian Mgaya.¹⁰

Kilonzo:

Well, I bought a trap [...] in the shop down there [in Muheza], [which was a] break neck trap. [So I sat down with the technicians], ‘Now tell me my fathers’ – they were old – ‘I want this trap, [it] is a break neck, I want it to catch rodents alive, so build a box around [it] so that when the rodent touches it, it is pushed inside instead of being killed.’ Hence the men said, ‘Okay, give us time, we shall see you in two days’ time.’ After two days that old man came and said, ‘Look, is this okay?’ Aah, it was very good, the box trap, but [inaudible, about publishing this invention] there was somebody else in Dar es Salaam [who] called it ‘Serengeti trap’. [laughter] But then, to us, we don’t have that kind of [problem]. If it is published by anybody, it is still something [inaudible]. So I designed the [plague] programmes for East Africa, they were approved by the necessary bodies, and for obvious reasons waiting to start in Tanzania, because of all these expenses. But before we even went to Kenya for research activities, there was a political hazard that

¹⁰These technical support staff could not be further identified.

came in and the [East African] Community disintegrated.¹¹ So my programme for Kenya and Uganda never worked; we stayed in Tanzania and worked on plague from 1974 to December 1982 – that’s the time I changed my position; I went to Morogoro because by then the government through the Ministry of Agriculture had started the so-called Rodent Controls Centre in Morogoro.¹² They looked around to see a Tanzanian who is interested in these rats; they saw Kilonzo. So they told me to go there, but then it was not easy because my Director [...] – then it was Dr Temu¹³ and Director General was Mr Kilama¹⁴ – they didn’t like me to leave. But eventually [...] I went to Morogoro, but I continued working on plague, and I’m working on that until now. [*laughter*] I would like to see NIMR establishing programmes on plague. Good enough the centre Director is here, because I’m retired, [and] young people [don’t study plague]. I don’t know if it is fear or whatever, yah. When I went to Muhimbili [in] 1973,¹⁵ there was one head of department for microbiology, [...] a professor from India, and I told him, ‘In Amani we’re starting a programme on plague research but we don’t have facilities to do culturing in Amani, can we do [it] here? I just collect my specimen [and] bring them here for culture?’ He said, ‘No, no, no!’ [*laughter*]

Okwaro:

Just to recap: you started when Lelijveld was Director. And you went for studies and when you came back, Wegesa was now the Director. [...] How was this transition for you from when Lelijveld and Fletcher were in charge, to the time when Wegesa was in charge? [...] This Africanization process – how was it?

¹¹On the history of the East African Community, see Beck (1973) and Hazlewood (1979).

¹²The centre subsequently developed into the Sokoine University of Agriculture, Pest Management Centre (SPMC) (see <<http://www.spmc.sua.ac.tz/>>, accessed 9 January 2018).

¹³Simon E. Temu was Director of Amani after the first African Director, Wegesa, left following the collapse of the East African Community, and after the interregnum overseen by, among others, Mwaiko. Before this, he worked on the research focus on Bancroftian filariasis, established in Amani during the 1970s (see, for example, Temu and McMahon 1981).

¹⁴Professor Wenceslaus L. Kilama was the founder and first Director General of NIMR from 1980 to 1997. Professor Kilama studied in the US and founded the Department of Parasitology and Medical Entomology at Muhimbili University in 1970 before he set up NIMR. In 1995, he was a member of the Africa Malaria Vaccine Testing Network, one of the leading malaria research organizations. He has co-authored over 100 articles and served on various WHO, World Bank and EU commissions as an expert in malaria, research ethics and sustainable development (see <<http://budefo.org/wence-kilama/>>, accessed 11 January 2016).

¹⁵Founded as Dar es Salaam Medical School in 1963, Muhimbili University of Health and Allied Sciences is Tanzania’s leading medical school (see <<https://www.muhas.ac.tz/pages-a-brief-history-of-muhas>>, accessed 12 January 2018).

Kilonzo:

To me I think there was nothing wrong. Moreover, this is a national institute, and it is just good if it is made mostly by nationals. But collaborations with externals are important ... But I don't know. What do you want me to say, to say it was a successful transition or Africanization ...?

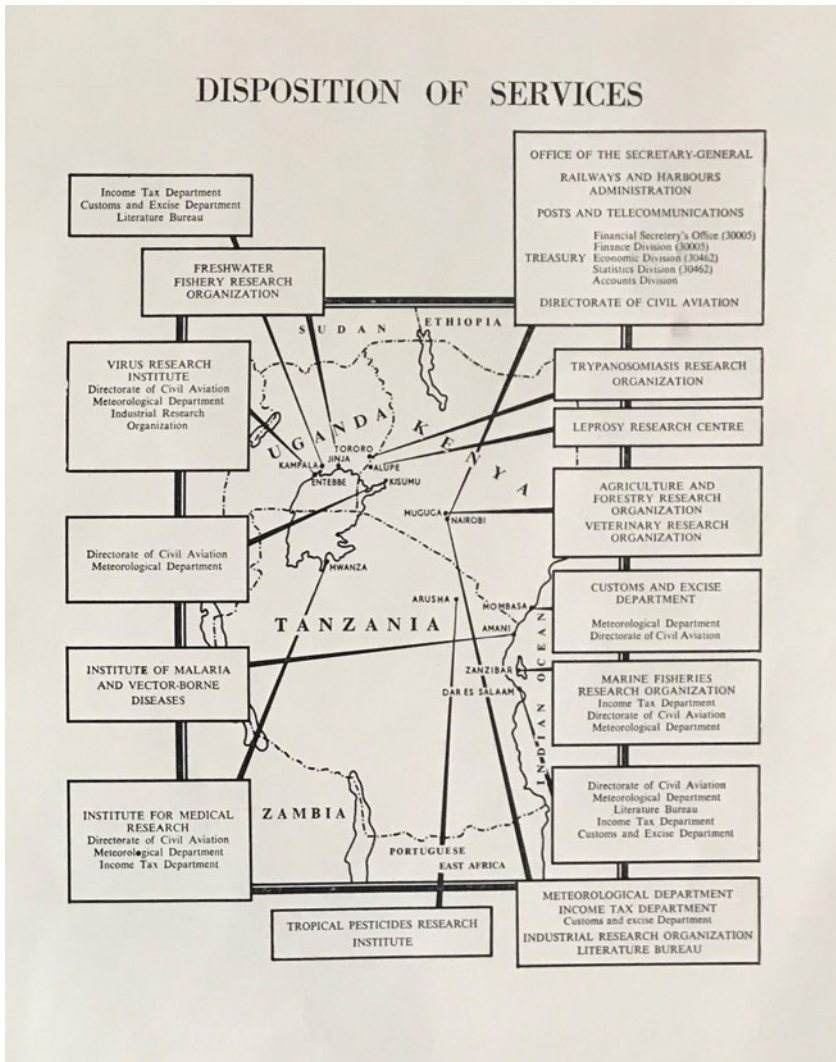


FIGURE 2 Institutions and services under the East African Common Services Organisation, including the Institute of Malaria and Vector-Borne Diseases. Source: EACSO (1960: 17).

Okwaro: No, not really. My question is: was there any change in the working arrangements, the scientific relationships and in the science that was conducted? Not if it's good or bad or whether it should or should not have been – you as a scientist working in Amani, what were the notable differences between one time and the other, and how was the transition?

Kilonzo: To me the transition was smooth, but the disintegration of East African Community had some notable effects. Because even the funding was not as good. For example, my plan was to carry out research and establish endemicity levels of plague in Eastern Zone, Central Zone, Southern Zone, Western Zone, Lake Zone and Northern Zone. So that I would have covered the whole of Tanzania. But every time I wanted to go to the Lake Zone, there was no money, it was too expensive. So I never went there. I only went to Southern Zone after a directive from [the] then Prime Minister's [office]. There was, at one time, [...] a severe outbreak of rodents, [and the] Prime Minister gave directives. You know our countries, when the directives come from above, they are respected, but I can say generally the funding deteriorated somehow. But this is not because of Africanization, it's because of economic problems!

2. Darwin College, Cambridge, 6 August 2013¹⁶

Participants

Ms Vyvienne Attenburrow, born 1946: British laboratory technician; went to Amani in January 1972, staying until 1974; hired by the UK Overseas Development Agency (ODA), she was seconded to the East African Community.

Dr Frances Bushrod, born 1947: British parasitologist and entomologist; worked with the Liverpool School of Tropical Medicine; in Amani as PhD student and researcher on Bancroftian filariasis from 1972 to 1978.

Dr Aleid Kortmann, born 1939: Dutch MD; in Amani from late 1960s to 1970s as accompanying wife of the late MD and researcher Henri Kortmann.

Mrs Ineka Lelijveld, born 1930: Dutch wife of Dr Jan Lelijveld; lived in Amani from 1966 to 1970.

Dr Jan Lelijveld, born 1929: Dutch MD; first non-British and last European Director of Amani; lived in Amani from 1966 to 1970.

¹⁶The Cambridge reunion was organized by P. Wenzel Geissler, René Gerrets, Ann H. Kelly and Branwyn Poleykett. The transcript was prepared by P. Wenzel Geissler, helped by research assistant Francesca Raphaely. Sincere thanks to Gisela Tuchtenhagen for filming and to Andy Michaelis for sound recording and photography.

Mr Daudi Lelijveld, born 1959: son of Ineka and Jan Lelijveld; raised in Amani with his brother Hubert and sister Carmen.

Dr Hubert Lelijveld, born 1961: son of Ineka and Jan Lelijveld; raised in Amani; brought his daughter to the reunion.

Dr Katsuko Raybould, born 1945: Japanese botanist and ecologist ('plant sociologist'); lived and worked in Amani from 1969 to 1976, where she met John Raybould, her future husband.

Dr John Raybould, born 1935: British medical entomologist and blackfly expert; lived and worked in Amani from 1960 to 1976.

Mrs Eva Voller, born 1944: Swedish wife of Alister Voller; did not live in Amani but named her first daughter Amani.

Dr Alister Voller, born 1937: British immunologist; lived and worked intermittently in Amani in 1970, 1971 and 1973; based at the London School of Hygiene, where he was a reader.

Dr Graham White, born 1941: British medical entomologist; lived and worked in Amani from 1967 to 1972.

Mrs Dorothy Wilkes, born 1933: wife of Tony Wilkes; lived in Amani from 1958 to 1965 and later, during the 1980s, at Muheza field station.

Mr Tony Wilkes, born 1933: British entomologist; lived and worked in Amani from 1958 to 1965 and later, during the 1980s, at Muheza field station.

Excerpt from Cambridge transcript, 37–42

Jan:

[...] And I think that was the real problem when we were there. The African interest [by contrast] ... We, we didn't recognize that; but I think many of our African friends there, they didn't recognize that either: what [would have been] really needed at *that* time, at that stage, for making progress in *Africa* in the health field.

In that, I think, we failed. Let's say [*laughs*] where we failed, it's in the 'Africanization'; that if we had, how do we call it, the *insight*, we should have stimulated much more [the question of] 'What's the African ideas?', and foster *African* ideas. Not that it would have been easy to get them, really, because most of our friends were trained in the Western ... were also thinking that the Western things were good. But let's say ... when we were doing the ... bringing in the serology,¹⁷ that *was* important, I think, to *start* something like that in Africa; OK, that's true. But at the same time ... I came in as a Director and I had no *clue* of what research was in Africa, what it should be about [...] So we had to *start* somewhere and we started something about new ideas

¹⁷Serology is the study of serum and bodily fluids; here, it refers to the types of diagnostic techniques the group mentioned as having been developed in Amani, particularly immunofluorescence work and subsequent work on ELISA (enzyme-linked immunosorbent assay) techniques.

in, from Europe [...] – to start with, that would bring research.

But I think if we had been better trained and better *prepared* for our jobs, we would have done things quite differently. And later, in later years, I've been *thinking* quite a lot about this. Because, I think, the, the serology in Africa was *nice*, that it happened was nice. But it didn't really contribute much to the malaria situation [in] any of the territories that we had. So, would that money and would that energy not have been better used to promote techniques and knowledge that was of direct ... that would have had direct impact on the health situation in the country?¹⁸

Graham:

No. No, you set a bar much *higher* than they can yet *use*. [*others agree*] You created the necessary knowledge and the ways of finding ...

Jan:

Ja, ja, OK, but ...¹⁹

Graham:

And it is a very slow process, apparently, for all the African countries to tackle malaria. It's amazing in the past decade how much the Roll Back Malaria programme has really gotten rolling, and it's tremendous because – I'll speak from an American point of view – they implant their people working under what's called the President's Malaria Initiative, which is a billion dollars a year [*chuckles*] *added* to the Global Malaria Programme that is run out of Geneva.²⁰ And the top entomologist in that global programme in Geneva is Abraham Mnzava, who grew up in Amani and in Muheza, and got promoted steadily to become the number one!²¹

¹⁸John notes that this was done earlier in the Pare-Taveta Malaria Scheme, 1954–59, and later with the chloroquinized salt scheme (in *Mto wa Mbu*).

¹⁹Jan notes: 'I still wonder.'

²⁰Graham is citing major US and multilateral programmes here (see <<https://endmalaria.org/>>, <<http://www.pmi.gov/>> and <http://www.who.int/malaria/about_us/en/>, all accessed 22 January 2016).

²¹He became Coordinator of the Malaria Vector Control Unit within the WHO's Global Malaria Programme (Mnzava 2019). Graham notes: Dr Abraham E. P. Mnzava retired in 2016 (aged sixty-two) and lives in Arusha, Tanzania, ready for consultancy work on malaria elimination. He ranks high among successful Tanzanian careers (with forty refereed publications in PubMed) thanks to the Amani traditions. His PhD project thanks the Amani Director for granting him permission to publish (Mnzava *et al.* 1993). That Director was Dr Sebastian Irare, who died from a heart attack while on duty travel, a dynamic leader and good manager; subsequent Amani Directors have been less successful. Dr Mnzava's PhD was awarded by the Swiss Tropical Institute, Basel. His project was also supported by the UK Medical Research Council (MRC): Dr Chris Curtis served as mentor for project design and analysis; fieldwork was facilitated by Tony Wilkes; and insecticide and equipment were donated by ICI, facilitated by myself. Whereas Dr Mnzava's career thrived internationally, he broke his bonding for government service required in Tanzania after his scholarship; instead he went to work for the International Centre of Insect Physiology and Ecology (ICIPE) in Kenya, which helped many African entomologists develop professionally with more scope for research and innovative application than contemporary university posts or government service. Mnzava then went to the WHO Eastern

Jan: But, but being a pupil of Swellengrebel, who was a top malariologist from the – how do we call it – the League of Nations in those days,²² I think I was taught that success in malaria control and malaria eradication was, in the end, [dependent on] the economic progress and the *social* progress in the country.

Vyviene But surely, the two are linked ...

[in the background]:

Jan: And I should have kept *that* in mind, really, that it was not this high technology that should be there, but that we should have focused on the community aspects of malaria and do our research from there.

[Commotion – various people start to respond]

Jan Ja, OK, but that's ...

[answering

someone – Graham?

– in disagreement]:

Alister:

What I'd say is that those things that were being developed [by us] at that time have ultimately led to the malaria vaccines! And the DNA work now, today – it all was a logical progression from one to the other. And if you are just talking about increasing the whole, the economic output in Tanzania at that time, you know, that's a joke, quite honestly!

[Laughter – various people agree]

Jan: No, no, I am not saying *that*, I am not saying that. I am saying ...²³

Alister: You have to make a *specific thing* and deal with it, and that was ... I mean, each of us has got our own capabilities! And that was a way of increasing a *scientific* know-how there,

Mediterranean Regional Office in Cairo, then the WHO Global Malaria Programme in Geneva, and so he remained a 'sought after man' in Tanzania until Professor Kilama retired.

²²Nicolas Swellengrebel (1885–1970). According to a review of a 2011 biography, Swellengrebel was a founding father of malariology, who combined various disciplines of entomology, epidemiology and vector control in research in both the Dutch East Indies and his native Holland, which led him to the insight that improved living conditions and economic development were key to effective malaria control. During the major outbreak of malaria across Europe and America following the First World War, Swellengrebel was part of the League of Nations Malaria Commission (see Schiff 2012).

²³Jan notes: 'I was saying it should have had a place within the framework of *Ujamaa!*' *Ujamaa*, the Swahili for 'familyhood', was President Nyerere's progressive social and economic policy for post-independence Tanzania, and included an emphasis on education and the use of Swahili to foster a culture of collective responsibility, national unity and freedom from colonial authority. In particular, Jan may be referring to the use of villages as the basis for production, via a system of cooperatives based, in principle, on equality of opportunity and self-help.

and it spread out, *from* there. Right across Africa they use techniques like this today.²⁴

- Jan: Ja, they use techniques like this everywhere, but ...
- Alister: And finally it came to the immunoassays, which is now the dipstick, and that is used all over the world!²⁵ And so, you can't just say, you know, 'We can't have any high technology, we've got to increase the whole, the, the, the whole *economic* performance' – it doesn't work!²⁶
- Jan: I'm not saying that, I'm not saying that; but I think that the kind of work that we were doing was done already well in *your* labs, in Europe and in America. And ... I don't ... I wasn't *sure afterwards* if *that* was the thing we should have, at *that* stage, introduced in the research institutes in Africa. So if I had been better prepared, I think, I would have ...
- Alister: Yes, but ...
- Jan: ... followed a different policy.
- Alister: No, you're *wrong* there, because the same techniques were later used for AIDS all over Africa, *exactly* these techniques.²⁷ [*various people comment in agreement*] They became the standard techniques, and if they hadn't already been introduced to Africa, then ... Like this, already they were sensitized to be able to use those methods.²⁸

²⁴Alister notes: 'That is, techniques like those we developed in Amani. Immunoassays, which are now used all over the world in rapid dipstick format, were developed from the early studies in Amani.'

²⁵Graham notes as an example Matola *et al.* (1989): Sebastian Irare, MD, and Yohana Matola were respectively the first and second Tanzanian Directors of Amani. Among the other authors, Annette Habluetzel (Swiss) and Fulvio Esposito (Italian) were put in adjacent rooms in the Amani Rest House, where they fell in love and later married (this was Dr Irare's romantic intention, as he told me). Their successful family and careers would have delighted Dr Irare. They have twenty-five joint publications listed in PubMed. During the 1990s, Annette was jointly responsible for the WHO Special Programme for Research and Training in Tropical Diseases (TDR) multicentre trials of insecticide-treated bed nets, which led to the Roll Back Malaria Programme adoption of this valuable new intervention. Fulvio has been a Professor of Parasitology at Camerino University since 1987, working with the WHO TDR, the European Commission, and the Italian Ministry for Education, University and Research.

²⁶Alister notes: 'If we had waited to introduce high technology in Africa until the whole economy was increased, it wouldn't work, and we would wait for ever!'

²⁷Graham notes: 'Though he refrains from bragging here, Alister was the key inventor and developer of successive immunoassays, which revolutionized medical diagnostics. Briefly: first fluorescent antibody test methods, then indirect haemagglutination test methods, then enzyme-linked immunosorbent assay (ELISA) methods, becoming a trillion-dollar industry. His periodic immersion in the needs and opportunities at Amani (thanks to Jan and his mentors like Joep Meuwissen at Nijmegen University) gave Alister the scope and motivation to transcend research into business. The inspiration came from Amani, by implication thanks to Jan and Matola and their enthusiastic team of locals.'

²⁸Alister notes: 'That is, because they had already been used in an African setting, they were seen to be acceptable elsewhere in the developing world (presumably, by local health practitioners).'

Jan [still against various background comments]:

OK, but now we start looking at things from a different point of view. I was later on teaching in Wageningen, at the agricultural university, and we started teaching health science there, because the agriculture experts – which we call ‘engineers’ in Holland – they were intent on improving the production in the countries where they were working, with the best techniques that were available, beautiful irrigation schemes, etc. But they had no *clue* what the side effects might be from it. And there were *huge* side effects: there was a lot of malaria, a lot of schistosomiasis going on, there were all kind of things. And then we came – not me, but people that were around me ... We came to the conclusion that they should start training those engineers on the *health* impacts of it. And that means *community* health; so, that means that the – how do you call it? – the *activity* that you start, channelling, you should channel it into [a] much *broader* social perspective.

Vyvienne:

But shouldn’t they go together? Shouldn’t they ...²⁹

Jan:

Oh yes. That would be best, but ...

Vyvienne:

I mean, you know, it’s a feed-in loop, isn’t it? The social goes with knowledge, which means that the stuff [*addressing Alister*] you like, to put it bluntly [*laughs*], is the knowledge [*addressing Jan*] you need to inform your social, your social policy.

Jan:

I agree with that as well, but it is the *balance* that we should have, should have ...

Alister:

But I think you take AIDS, for example; I mean, you could have as much sociology as you like about it, but if you don’t have a test to find out who’s got AIDS ...

Vyvienne:

Exactly.

Alister:

... it’s totally useless!

Various:

Yeah.

Vyvienne:

If you don’t know what causes malaria, you can’t control it, or any other disease.

[Various people speak in agreement in the background]

Graham:

And that’s where ... I am really sort of energized by listening to Jan with his current self-doubts about the *achievements* that he led. Because it is true that most medics, especially as they get older, feel somehow that they’ve got to just be helping sick people, or communities or whatever. I think I see this often.

²⁹Vyvienne notes: ‘Shouldn’t the consequences be considered before the activity takes place? Isn’t this what an administrator should do? This is difficult if you are a trained scientist – it is not what you are trained for after all. However, you should be able to advise and think of the problems.’

[Various background comments continue]

But the contributions that some, each of, the scientists in Amani have made are *vastly* more valuable as times goes on. I suppose there were quite a few that were used in the end, but I'm suggesting that if you [Alister] are now modestly not bragging about the immunology you pioneered with a great range of back-up from Holland and England, you should! [laughter] And I do, often! Because in America they are still struggling to fill that gap, they spend their money through government programmes to do what you would classify as the 'operational implementation' and helping people as best they can. But they need the surveillance and the monitoring, which is, curiously, often missing out of aid packages. And, of course, missing out of local government budgets.³⁰

Jan:

No, but what I was trying to say is: I was sent there with a particular mission, and the mission was to run that institute and prepare it for the future, which was a different role as to the one that *you* had. *You* had roles to be good in your own fields, and to contribute as well as possible, so ...

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³⁰Graham notes: 'The new phase of the President's Malaria Initiative and Roll Back Malaria's Global Malaria Action Plan 2 (2014) put more emphasis on these strategic functions.'

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