Getting the Fundamentals Right

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SOKOINE UNIVERSITY OF AGRICULTURE '1984' ARDHI NI HAZINA

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African Network for Agriculture, Agroforestry & Natural Resources Education

Introduction

A village woman in Gairo picks her hoe in the morning and off she goes to her field to till the land. Hour after hour, she scratches the soil that feeds her family. She knows that over the years, she harvests less and less because of the ever declining soil fertility; but it is beyond her financial or technological capacity to change that situation. The dreams of prosperity for her children keep fading away.

In a village in Matombo, farmers are celebrating a good harvest because the rains were enough this year. Food is plenty everywhere. Lots of bananas and yams are rotting due to lack of markets. No one cares, there is such a huge surplus anyway!

A farmer in Towero Village runs down the hill with a 20kg basket of cabbage and carrots. Sweating and panting, he hits Morogoro market. With five vendors confusing him with price offers, he gives away his merchandise for a fraction of the labour costs involved in the production. He feels the relief as the load is lifted off him. To fuel his trip back home, he spends half of the revenue eating at a city kiosk and takes some local brew at a bar half way up the Uluguru peak. He arrives home late, but in time to celebrate with his family the kilogram of beef he bought in town.

In Monduli, Ole Mekurut is a livestock keeper – more appropriately a herder. His 75 cattle are in a desperate state of health due to a declining supply of fodder and water. The animals walk their hooves off daily, in search of survival rations. Some die. The surviving ones hit the next rainy season, fatten up and reproduce. The cycle continues. Mekurut's children do not go to school. They herd the animals, from sunrise to sunset.

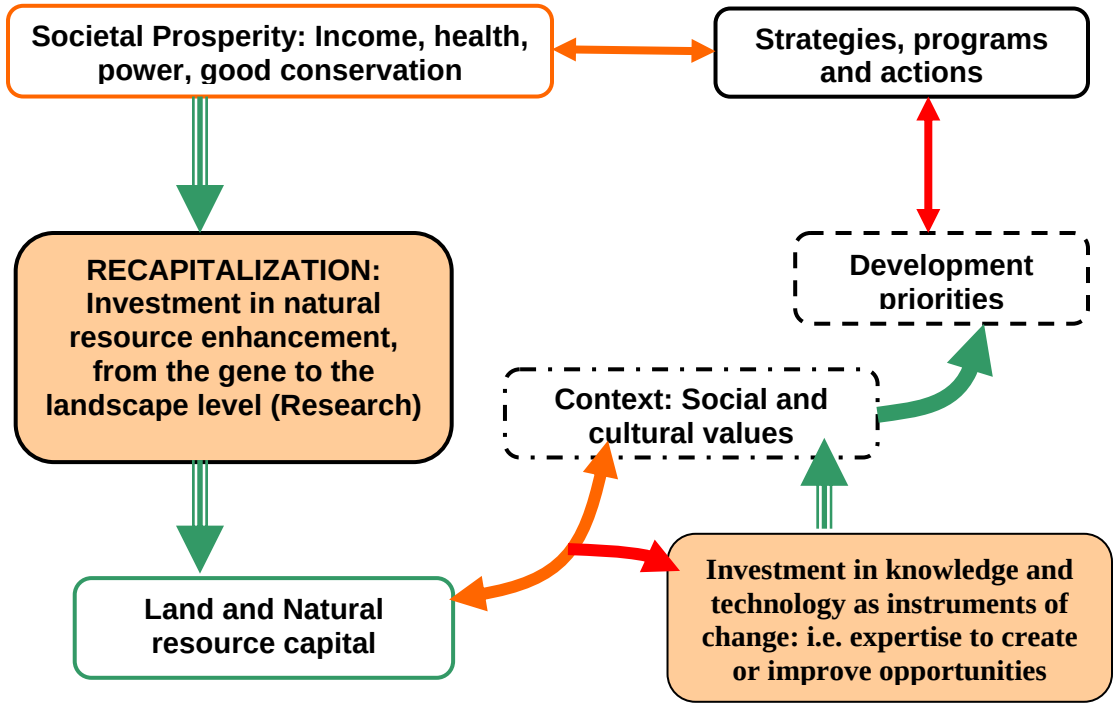
In Singida, Mama Neema walks her usual 3 kilometres to the drying river to collect some water. It takes her the better part of each afternoon. She washes the children's clothes there first before collecting the water. She and hundreds of others share the dirty water with thirsty animals. They scramble for their shares. Earlier in the day, she was busy collecting firewood. She has lived with this drudgery for so long, she no longer thinks about it. She sings her way to the woods; that is so long as the forest guard does not spot her, otherwise the song changes to a scream. The woodland is rapidly receding due to timber harvesting and charcoal burning. The drying river comes from the disappearing woodland.

The year is 2006, and the routines above were the same some 50 years ago. But wait a minute! Forty one years ago, the man from Towero Village with his basket of cabbage and carrots would have crossed plenty of bushes before reaching Morogoro city. But he now passes through bare land, then a sophisticated University of Agriculture campus. He hopes that one day his sons and daughters will settle here and enjoy what appears to be unlimited success and wealth.

Fellow graduates of Sokoine University of Agriculture; the stories above are our stories. They are part of our reality. They traverse the country and much of Sub-Saharan Africa. I want to put it to you that these stories are about the African University. They are about the African Elite. They are about the African dream – or rather, the lack of it! Let us look at the concepts in these stories in the context of what is expected of this institution.

The general purpose of education is to raise the overall amount of knowledge known about a particular subject or object, so it can solve societal problems. A conceptual model is presented in the diagram below, where knowledge is part and parcel of resource development, management and utilisation. Any natural resource would be valueless if it is not viewed in the context of society's social, cultural and economic needs. Research helps us to relate the physical condition of the resource with these societal values in order to articulate and prioritize strategies and interventions that bring prosperity. Again, research and education are necessary for us to develop and apply effective strategies for recapitalizing the natural resources so that they can in turn sustain the supply of goods and services for our prosperity.

Knowledge is capital for development



Investing in research is therefore necessary and complementary to investing in education. The former generates knowledge whilst the latter is a tool for sharing knowledge. Good education raises the level of knowledge in specific areas, enabling society to better analyze, make choices and take appropriate actions. Likewise, the experiences of society influence institutions of learning as well as the learning experiences by putting into context what happens when certain knowledge is applied in a particular circumstance. In an ideal situation, there is a dynamic reciprocity, where education and research influence choices by society, and likewise, society

influences the content of education and research. Thus, both knowledge and society continue to shape each other.

To develop or not to develop is our choice

Despite the abundance of natural resources in Africa, poverty has come to characterise or typify rural livelihoods; so much that we are increasingly insensitive to its presence. Most, if not all of us, grew up in villages that were and still are experiencing more than one of the situations I have just described. Paradoxically, lifting ourselves out of poverty could be quite easy; if we care to give it a thought!

Let us start by focusing on the individual. If you are endowed with normal physical and biological constitution and a working brain, then you need only three more things – some **natural capital, access to knowledge** and **the will to work**. You can build your dwelling, produce your food and clean your environment. The only assumptions are that you have **full access to the natural capital** (land, water, wood etc.) and **enabling policies**. Tanzania is endowed with all these. The key elements that would measure individual or family development are good health (food and nutritional security), education and good shelter.

Let us next focus on the community. Call it a family, clan, village, division, district or any societal organizational form. Here we need things that are larger than for the individual. Our first investment is in a cohesive society that has a common vision. Our key assets are **social capital, natural capital** and once again, the **brains and hands** of our people. But one more thing is crucial – **leadership**. Someone must organise us so we can use the "capitals" for our development. The leader must have knowledge to marshal the "brains and hands" of the community to achieve the desired goals. The key elements that would measure development here would be social stability and working infrastructures for the supply of education, health and essential services (water, energy, communication etc.).

I could go on to higher levels of organization, but I am afraid there will be no new ideas. The bottom-line is that we need to engage our brains and hands more effectively and efficiently to change our livelihoods. By "effectively" I mean that we have to do the right thing in the right place and way, and at the right time. By "efficiently" I mean we must not put in more than we can get out of it. Time is an extremely important resource – if we squander it, we become inefficient, and poverty will thrive. **In short, unless every individual has the desire to develop and does something about it; then families, communities and indeed the whole nation will not develop.**

The sine qua non is that **real development must first arise from within our minds**. This is translated into practice through our hands. Only then will it be sustainable. No amount of adoption or adaptation of science and technology will transform our condition until we desire that it happens. Neither would volumes of development aid translate into real development until we hold the reins and drive development ourselves. But if each one of us desires and acts to change his or her personal condition for the better, using the principles I have just expounded,

the nation will surge forward. And that is development. Our university is best placed to provide development leadership, primarily because it generates and shares knowledge in the disciplines that are linked directly to food and nutrition security, shelter, energy, water and environment. And these are the areas that are key to the introductory stories that I gave at the beginning of this lecture. I want us therefore to embrace simple principles that can unhook from poverty the people in the introductory stories and the country as a whole.

In 1984, Mwalimu Julius Nyerere rejected our proposal to call this university, "Sokoine University of Agricultural Sciences". Said he, "I know you academic people; you will concentrate on the word "science" and forget the rest of your mission". So we became Sokoine University of Agriculture, to emphasize the intended impact on agriculture and development. At some stage, Mwalimu got frustrated and said "We could close down this university, and other than the students, their parents and their professors, the people Tanzania may not feel the change"[1] If that is less true today, we are on the right path. If not, then we must re-examine our conscience.

Agricultural education at the epicentre of development

Agriculture in its broadest sense is about **People, Land** and **Prosperity** (call it PLP). People and land have been there for millennia. What is badly needed is prosperity and that can only be achieved if the science and technologies generated or adapted by this university can be applied. If this cannot happen, there is no point in teaching it, and producing graduates would be an exercise in futility. This brings me to a few key messages I would like to share with you today. As a university, our overarching objective is to fulfil **the mission of SUA**, which for simplicity I will paraphrase as: **"To empower the country with agricultural[2] capacity that spurs and sustains development.**"

Empowerment involves a variety of actions that improve policy, science, technology and their application in strategies for development. Again for simplicity I will identify empowerment at four levels which are logically linked and only separated for the purpose of clarity. SUA's mission can be achieved if we will do a good job of empowering institutions, the industry, the professions of agriculture and natural resources, and learning systems. I will briefly elaborate on each of these.

Empowering institutions

Policy and decision making institutions require vision, intelligence on global, regional and national parameters that impact on agriculture, capacity to negotiate agreements and protocols, and strategic links/partnerships. At the local level, institutions such as producer organizations, cooperatives, and private entities all need access to the most relevant information digested to suit their specific conditions. Overall institutional organization and inter-institutional synergy are very crucial elements for success. Is the university actively involved in empowering institutions? If yes, which, where and how?

[1] The quotes in this paper are not verbatim.
[2] Agricultural here includes all renewable natural resources

Agriculture is sung as the mainstay of our economy. For us to achieve the Millennium Development Goals (MDGs) we will therefore require major improvements in our agriculture, livestock husbandry and wise use and management of tree, forest and wildlife resources. Global agricultural markets are sliding away as trade barriers (tariff and non-tariff) are erected to systematically exclude our commodities. Prices for our products are increasingly determined by buyers, while manufactured products from the developed world have fixed price tags. In the local scene, agricultural markets are small, highly disorganized, lack requisite supporting infrastructure and the traded products lack standards. They are largely markets of the poor; and hence prices tend to be depressed. How are we expected to compete globally when in our own local markets we do not have a working system or standards? What roles is the university playing and what strategies are we proposing to our government (at all scales) to turn this situation around? Are we buried in our own specializations and (perhaps) oblivious of these development problems? How many graduate theses and lecturers' research products are focused on solving these problems? How well linked are we to institutions that handle these issues?

Today, rising dependency of tree and forest resources is emerging as a characteristic of our poor rural communities, especially where agriculture is failing to improve incomes. The assault on forest resources for fodder, energy and building materials is fast eroding the natural capital upon which agricultural sustainability depends; and threatens future supplies of environmental products and services such as water and biodiversity. What advice is the university providing to local institutions? Are forestry experts aware of the international forestry related agreements, principles, conventions and protocols; and interpreting them in the context of how they could impact on forestry in this country?

What I am saying is this. In the past, SUA was considered as a national university that would churn out professionals in agriculture- forestry- and livestock- related fields. **These are the sectors that underwrite livelihoods and the economy of this country.** If we make progress in these sectors we achieve prosperity, otherwise we continue to wail in poverty. But the world of today is very much different from that of the late sixties to mid- seventies, where national policies were overriding global policies in our development. Today, developing nations like ours are increasingly being driven by what happens outside their borders. That is, global institutions and trading blocs. These try to enforce what our farmers can grow and sell, the type of seed to use (genetically modified or not), how to raise livestock if we want to export beef, the tree and forest products to sell (certified or not) and above all what **price** they are willing to give us at the market place.

This university has the responsibility to position agriculture, livestock development, and tree and forest resources management in this context, and guide the country appropriately. We have no choice but to think seriously how we can assist our country to resolve these issues. Not doing so would define doom for the university and the country.

Empowering the industry and markets

The industry and markets hold the key to unlock many rural communities from poverty. The industry adds value to what they produce. The markets connect them to monetary systems; for if they do not sell how else could they earn money for their children's education and health care? But poor people selling at small local markets with most of the sellers and buyers being poor only depresses the prices. So they earn little and poverty persists. This is where we need ways of unlocking this vicious cycle. How can our farmers get better prices for their produce? And how can the industry add good value to agricultural production? Sometimes we encourage farmers to increase production without first ensuring that there is a good forward linkage to secondary production or even good storage facilities for them to sell at better prices in off-season periods. A lot of their efforts are laid to waste as crops either get miserable prices at the market place or simply rot.

Another dimension is production for export. International markets are extremely elusive entities if they are not complemented by strong local and regional markets. Mediocre product management results in commodities that cannot compete. Markets begin with the production process through the farm gate to value adding industries and to the higher marketplaces. At many universities we teach marketing as an afterthought. It should be the opening course for anyone studying agriculture and natural resources! Market intelligence, profitability strategies, solving technological (processing) challenges, standards, patents, certification are but few areas that require expertise. In advanced universities, many industrial problems ranging from technological hitches to worker management are solved with strong support from universities. Thesis and staff research are very powerful contributors to technological and management science and practice. How well are we linked and supporting industry? In other words, in an economy led by agriculture, how responsive is the education at SUA to industrial needs?

Empowering farmers

Well adapted knowledge and technologies must reach farmers, whether they are nomadic or sedentary. Farmers must not be seen just as producers – they must understand mechanisms that enable them to earn more and improve their livelihoods. Labour saving technologies, pricing and markets are part and parcel of production. Forming associations and gaining bargaining power are also important. Recapitalizing the natural resources (soils, water, energy sources etc) will ensure sustained productivity. In short, in an increasingly knowledge-driven society, we will need smart farmers. How is SUA working to produce smart farmers? What institutional arrangements are there to ensure that current knowledge products and technological innovations reach the farmers of this country? This university cannot train all farmers in Tanzania; but it has the responsibility to ensure that the required knowledge is generated and jointly managed appropriately with relevant institutions to reach and make our farmers smarter.

Good agriculture comes from good physical environment; an environment that ensures the steady flow of water for man, animals and crops; an environment that sustains the supply of farm inputs

and energy for the farmer's needs and for product management. That environment must be rich in trees and forests. The farmer has to maintain a delicate balance between his crops, animals and the environment; otherwise the natural capital is continuously "mined" with devastating impact on productivity. This is an ever increasing challenge to farmers. We have the responsibility to guide the country on this.

Empowering and re-charging knowledge systems and professions

In order to reach out to all stakeholders, the university must be linked to systems that ensure that the right knowledge is at the right place, and in time. This includes all the range of institutions of learning, communication systems and media. Fortunately, SUA library has the distinction of being recognised as a national depository of agricultural information. There is a clear difference between collecting/archiving/sharing information (whatever its form) and **strategic organization of agricultural intelligence to inform policy makers, industry and farmers**. Given the brain power available at SUA and the personal and institutional library resources, it is clear that there are lots of fruits that could be harvested here. The question is whether or not we in the university are proactive enough and **serve as a centre of agricultural revolution**. We have to lead the strategic generation, sharing and application of agricultural knowledge. The urgency with which we address these challenges will determine our success.

Looking in the mirror

This brings me to the graduates of this university, currently our most visible product, and a key mirror through which we can measure our performance. Our desire is to make the graduates the most sought after experts. Doing all those things I have stated earlier will not only make the university relevant and effective but will also raise the profile of the university in the country and beyond. Our programmes would be attractive to students from beyond our borders. The current slogan that graduates should become job creators and not just job seekers will become reality. So to assess our performance on the development trajectory, we have to look in this mirror; the graduate. How successful are our graduates in improving their lives and farming institutions?

To achieve tangible progress in influencing development, SUA would have to transform its programmes so that the scientific contents of agriculture, forestry, veterinary medicine and all other professional programmes are built on a solid platform of development-oriented principles that give context to why the specific subjects are being learned. Additionally, the teaching, learning and research approaches must emphasize problem solving approaches. This means major changes in the weighting of courses and perhaps **an inversion of the curricula** so that some courses taught in the final years would be taught much earlier. In other words, we begin by building soft skills and finalize with hard science. Such an inversion would ensure that the purpose of agricultural education is laid out as a solid platform upon which specific sciences and technologies can be learned. It may also be necessary to open up more specializations, for the

degree programmes in order to address the emerging areas of need, such as, biotechnology, and climate change. We must not remain piously tethered to old curricular content or course sequencing where academic criteria were applied without taking stock of real development needs.

Conclusion

The ultimate mirror for the university is the condition of farmers, agricultural industry and the landscape. We must address these as a priority, and with vigour. We all know that there are factors outside the university that can impact upon all these. When apartheid was strangling the people of South Africa, we in the universities rose to oppose and fought it – physically, psychologically and economically. But today we watch crop marketing bodies and corporations strangling our farmers, yet we sit as passive observers instead of taking our responsibility. When global institutions decree against farming subsidies we mention the problem, draw a few complicated diagrams to illustrate it and coil back into the classroom to teach the same stuff we planned many years ago! With such mindsets we cannot generate any impact and our work would be understood as just a **chalk and board exercise.**

So, if we want to know how well we are doing, let us look at the farmer. That is our benchmark. If she or he is doing well, we can expect more rewards for our work. But if the answer is to the contrary, we need a place to hide, for we have not done our job. Our measure of success is how many farmers break through and move above the poverty line each year.

My prime concerns are not about the past or the current situation; rather it is about the future. How different do we expect the farmer to be in the years to come? We must not allow the current system of farmers deriving livelihoods from using a hand hoe to scratch a tiny piece of land that is a product of repeated subdivisions across generations. It just won't work, nor is it competitive. Should we have fewer, more effective farmers and use the rest of the rural labour differently? Would forestry be about forests or about trees resources and their contribution to prosperity? Are not farms crucial land uses that impact on forest resources and environmental services? Should wildlife be protected for tourism or for multiple uses? These are the kind of questions the university must debate with planners and decision makers and advise appropriately. This is education in development lexicon.

Universities are centres of change. SUA must guide our nation on how to manage the continuing changes in rural livelihoods and environment. We can do so if we are able to manage the changes in our own university programmes, our attitudes and the working environment. We have the honour of bearing the name of a courageous, creative and committed son of Tanzania, the Late Edward Moringe Sokoine. Let us be as visionary and committed.

Friends, colleagues, ladies and gentlemen, I have deliberately dwelt on what I see as issues that can stimulate debate among us and especially challenge our thinking on agricultural

development. I deliberately steered away from poverty and agricultural development statistics that have come to characterise almost any statement made on Africa. We in Africa must stop feeding others with all the bad news about us or our countries, and instead work hard to change that situation. Fortunately it is not beyond our means.

Before I terminate my lecture let me leave you with just one request. **If we all change our attitudes and pessimistic views about development we will by that alone, have removed the largest barrier to development.** This is true for us as it is to all the great people of this nation. To me, this is the first step we all must take: We must regain our self esteem, then commit ourselves to achieve specific goals at all scales from the individual to the nation, and maintain social harmony as we move forward. Sceptics may ask why all these things have not happened in the past and what would make them happen now. My answer to them is that everything has a beginning, and nothing is more valuable than a good idea. We must stop romanticizing about the past as if orthodoxy in itself were holy. The past is great for historians; the present is exigent because we live it; and the future is still in our minds. So let us make the future materialize.

Mr. Vice Chancellor, invited guests, SUA staff, fellow alumni, ladies and gentlemen; I strongly believe that this university can play a very special role in the prosperity on this nation. We are very well equipped to do so, and all that we need is a fitting vision and determination to achieve that vision. Our nation's leaders should provide the space for us to act, but we must also ask for that space and use it effectively. We have done a good job so far, and we can do better.

On behalf of all alumni, I welcome and congratulate all the 2006 graduands.
I thank you all for availing me the opportunity to share these ideas with you.