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# "LEARNING TO DO, DOING TO LIVE" TRANSFORMATIONAL BEHAVIOUR IN COMMERCIALIZING TRADITIONAL AGRICULTURE.

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**Key words:** Participatory Extension, Grounded Theory, Social Agronomy

***ABSTRACT***

*A fundamental question being addressed by agricultural extension in South Africa is the role of agricultural extension within rural development. Scientists are being challenged to re-consider that their role in technology development is through innovation and a complex process involving a reorganization of social relationships not just technical practice. In this context, technology shifts from something to be applied to something leveraged for networking and organizing. To ensure the future, the idea of sustainability as a dynamic process rather than an endpoint offers a route for understanding and engagement between research, policy and personal spheres. For both research and extension agendas; in considering traditional agriculture in the context of economic development we have to create the capacity to co-operate in a way that opens up the possibility of social change; a way of interacting that preserves and creates new forms of social cohesion. Including the non-material contributions of local wisdom being partnered by science allows for a new phase of leadership in developing rural economies. Agricultural extension supported by participatory research and development, is critically positioned for taking on this leadership role. The reflections in this paper are drawn from the author's PhD research (2006-2010) relying on Grounded Theory as a theoretical tap-root for interpreting decision making processes in the commercialisation of homestead agriculture with farmers from the Ezemvelo Farmers Association, Umbumbulu, KwaZulu-Natal.*

## 1. INTRODUCTION

The reflections in this paper are drawn from the author's PhD research (2006-2010) that relied on constructivist Grounded Theory (Charmaz 2006) as the research design for interpreting decision making processes in the commercialisation of homestead agriculture with farmers from the Ezemvelo Farmers Association, Umbumbulu, KwaZulu-Natal. Complicating the role of commercial agriculture in sustainable rural communities is that when mixing systematic science with complex, diverse and risk prone agriculture we have a situation where the facts are uncertain, values are in dispute, stakes are high and decisions have intricate social, political, economic and environmental layers of priorities. Even more specifically in communally owned spaces, social cohesion is fundamental to farming as a 'way of life'. Commercial agriculture can easily be described in terms of a single, dominant and integrating driver: Money. But we learned that it is also useful to describe 'agri' culture in terms of its 'themes' rather than what 'drives' it (as in commercial agriculture). These themes identify where we can engage with rural agrarian culture through the implicit and explicit factors which tend to control behaviour and to stimulate activity around

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agriculture. As researchers struggled to understand what it meant to be participatory in the transformation of traditional agriculture to commercial small-scale agriculture, we learned that a legitimate agenda was one shaped locally to reflect historical and local meaningfulness.

### 1.1. The role of Extension in Rural Development

A continuing problem in South Africa is the inclusion of small-scale agriculture in the main stream economy. Correspondingly, a fundamental question being addressed by agricultural extension in South Africa is the role of agricultural extension within rural development. The current South African national agenda for rural development intends to rebuild the agriculture sector through the Integrated and Sustainable Rural Development Strategy (ISRDS). The strategy aims to "transform rural South Africa into an economically viable, socially stable and harmonious sector" (National Department of Agriculture (NDA) 2001: viii). The role of agriculture in this vision is for "equitable access and participation in a globally competitive, profitable and sustainable agricultural sector that contributes to a better life for all" (NDA 2001: vii). The main impediment for such transformation, states the NDA (2001: viii) is the vast "untapped potential that lies in its people and material resources, and the low profitability and competitiveness that constrain the participation of a full spectrum of people and economic entities". Despite this strategic awareness of issues, research conducted by the Human Sciences Research Council (HSRC) in Limpopo and KwaZulu-Natal provinces suggested a decline in small-scale and subsistence farmers relying on agricultural activity for their main source of food and or income (Aliber 2006). The HSRC warned that although it is not understood how accurate this perceived reduction in agricultural activity is, it would impact rural economies and complicate the uncertainty of rural economic survival (Aliber 2006).

### 1.2 Shifting philosophy of Rural Engagement

The global development discourse has taken us philosophically, theoretically and even practically through emancipatory engagement with communities over several decades (Kalb, Pansters, Siebers 2004). Emerging from this journey is the growing acceptance of trans-disciplinary[7] science and funding support for multi-disciplinary[8] and participatory[9] research agendas which has encouraged agronomists to embrace developmental concerns and to develop research strategies and perspectives that include the issues of authority, power and difference found in situated contexts. Scientists are being challenged to re-consider that their role in technology development is through innovation and a complex process involving a reorganization of social relationships not just technical practice (Jansen 2004:79; Selener 1997). In this context, technology shifts from something to be applied to something leveraged for networking and organizing. How this is done is a reflection of the way values,

[7]Trans-disciplinary research transgresses disciplinary paradigms, focussing on a heterogeneous domain rather than a discipline and produces three types of knowledge: systems knowledge, target knowledge and transformation knowledge (Hadorn *et al* 2008:19; Gayraud 2005:12).

[8]Multi-disciplinary researchers from different disciplines or backgrounds coming together to collaborate on a common goal (Gayraud 2005:12)

[9]Participatory research is informed by and responds to the people involved, it is concerned with knowledge as power, and learning is a central part of the research process (Sohng 2005).

attitudes and goals are shared by a particular group. Therefore, when we focus or include relationships in the development process, we are now including culture.

Stevens and Treurnicht (2001) propose that 'culture' defined as the sum total of the original solutions that people invent to adapt to change is a crucial and underutilised resource for mobilising knowledge systems in the search for sustainable agriculture development. Stevens & Treurnicht (2001) also suggest that culture is crucial to agricultural development because culture conveys important information and knowledge used by society in adapting to its environment. Traditional farming communities have developed their own technologies and explanations for cause and effect in response to their experiences of production within their specific contexts (Mapadimeng 2005:3-4; Whiteside 1998:39). The knowledge that we need in developing agriculture based communities is not a new theory vying for centre stage such as "organic farming, sustainability, commercialisation", but a way in which to manage the relationship between technical knowledge and the way in which societies arrange their worlds. We (scientists) can reflect and the farmer can reflect on his/her reality as knowledge, but for both of us, we have to find a way to overcome the potential fallibility of that knowledge in a changing world. The knowledge we need then is the blending of science with local decision making processes that facilitate flexibility and options for how farmers manage the relationship between cultural knowledge and technical practice.

In South Africa, the focus on agricultural development is specifically drawn to the complexity of blending Western and African thought. The two extremes of approach to technology in this context are that Western implies science as the rationality of empirically based cause and effect and African implies a rationality of 'agentative causation'[10] resolving practical problems for survival (Mapadimeng 2001:4). Furthermore, the motivation for economic development of the Western concept values individualism and profit, whereas in African culture, prestige is more important as it combats the fear of community rejection and disapproval (Murove 2008:90). Mapadimeng (2001:12-13), drawing on the philosophical explorations of Weiredu, Gyeke and others, re-affirms that technology is a cultural product, whose benefits are enhanced when it arises from "the participation of recipients in the innovative integration of technologies to realise their specific needs". He argues that to unlock the scientific and technological potential of African cultures, there is the need to change the focus of indigenous technology from practical problems of survival to an attitude towards 'knowledge' (p13) 'for its own sake' (p2) within the defining principles of ubuntu/botho (Mapadimeng 2001:2-13). Traditional agriculture in South Africa is a part of a culture that historically shares the African notion of Ubuntu – where one's humanity (or personal development) is fully realized when expressed as socially responsible decisions and actions in submission to the community as the dominant entity of social order (Lassiter 2008:4-5). Within the context of agriculture, Stevens and Treurnicht (2001:111) describe the principles of Ubuntu as images of supportiveness, cooperation and solidarity in the form of communalism versus individualism.

[10] Gyeke, editor of the book Postcolonial African Philosophy-A critical reader, suggests that the African notion of causality focuses on spirits or mystical powers as causal factors (Mapadimeng 2001:2).

### 1.3 Releasing potential for development

A critical question that still remains for agricultural practitioners engaging with agricultural transformation is how to bring together the improvement of technology with processes that release the social and economic potential of rural homesteads that are complex combinations of social, economic and moral religious elements (McAllister 2001). That scientists are still asking 'how' suggests that a contributing factor to failed transfer of technology might be that agricultural scientists and society perceive uncertainty from very different perspectives. The scientist relies on scientific uncertainty as a natural outcome of progressive science. Research begins with a problem demanding an answer (Welman, Kruger, and Mitchell 2001:5-10; Leedy and Ormrod 2001:3-10). Each progressive step in the scientific method resolves one question using a framework that recognizes valid features from the old perspective or theory and incorporates the new evidence. Unaccounted for uncertainties are simply posed as new research questions to investigate. Society on the other hand perceives uncertainty as threatening because it cannot be resolved and may possibly spin out of control (Nowotny, Scott, and Gibbons 2001). The individual has to live with these consequences whereas scientists just absorb them into their research agendas (Nowotny *et al.* 2001).

Until the practitioner makes the philosophical shift towards farmer responses as rational responses to the complexities of homesteading and commercial agriculture from the farmer's own world view, then knowledge continues to be a 'thing' to be 'applied' whereas the development need is for narrowing gaps in knowledge. The gap itself is the cause of the discrepancy between what people envision as their future and how they are able to achieve this (Meadows 1999:4). Research when it is conducted as part of a development or empowerment process has to deal with the production of knowledge which is a product of science engaging with society over uncertainties.

To ensure the future, the idea of sustainability as a dynamic process rather than an endpoint offers a route for understanding and engagement between research, policy and personal spheres (Maxey 2006). For both research and extension agendas; in considering traditional agriculture in the context of economic development we have to create the capacity to co-operate in a way that opens up the possibility of social change; a way of interacting that preserves and creates new forms of social cohesion. Including the non-material contributions of local wisdom being partnered by science allows for a new phase of leadership in developing rural economies. Agricultural extension supported by participatory research and development, is critically positioned for taking on this leadership role.

### 1.4 Purpose of the paper

This paper draws on lessons learned from primary research, and proposes that tapping into the inherent factors for social cohesion and to those that stimulate agricultural activity create systemic integrity for the individual and the group in establishing new norms and agendas for sustaining agriculture in a way that reflects development concerns. To do so, practitioners are challenged to create the capacity to co-operate within the agri-food chain in a way that opens up possibilities for social change, and with a commitment to preserving and creating new forms of social cohesion in the context of sustainable agriculture. Admittedly, this conclusion is drawn from

experiences within a participatory farmer-researcher agenda as opposed to a traditional extension agenda based on transfer of technology. In addition, the research agenda was focussed on solving uncertainties in the pursuit of market oriented agriculture within a specific context. Even so, the author proposes that tapping into the inherent factors for social cohesion and those that stimulate agricultural activity are processes valid for both researchers and agricultural practitioners when engaging with farmers for the construction of norms and agendas for sustainable futures.

## 2. RESEARCH DESIGN

### 2.1 The Development Project

Between 2005 and 2009 a group of student researchers participated in a development project led by Prof. Albert Modi from the University of KwaZulu-Natal and currently the CE of Moses Kotane Institute. The project was funded by the South Africa Netherlands Partnership for Alternative Development (SANPAD) and was used from a research perspective to link student researchers from UKZN to the knowledge priorities of farmers using local knowledge and resources as they moved towards market oriented agriculture. Each student had an individual research project that contributed to the overall farmer's agenda for understanding knowledge gaps in achieving their goal for sustainable market oriented production of organically certified indigenous vegetables. Farmers were represented through a formalised community structure known as the Ezemvelo Farmers Organisation (EFO). The role of looking at the phenomenon of commercialising traditional agriculture from a social perspective, emerged from farmer-researcher dialogue as together they identified a joint research agenda. Discourse as described by Gee (1990) is not merely stretches of language, but as the way in which people are 'together in the world'. This was really about organizing and understanding human life in a way that has meaning. He proposed that since social groups organize their lives around concepts, purposes, values, beliefs, ideals, theories, and notions of reality, the Discourse available to them would be the way in which human life was given meaning. An assumption of this paper is that the crux of sustainability is in fact about 'being together in the world' both now and in the future. What follows here is a summary of what researchers learned about 'being together' with the EFO as farmers and their market moved towards a more sustainable future.

### 2.2 Research methodology

The nature of science in the research reported on in this paper was qualitative and aimed at a systematic investigation of a situated phenomenon relying on grounded theory as the theoretical tap root for both collection and analysis of data. The approach was ethnographic in that it placed an emphasis on the emic issues, and constructivist in that grounded notions were abstracted to represent the concepts and relationships of participants' values and actions. Primary data was selected from field notes of participant observations, individual and group interviews, casual conversations and interactions and survey questionnaires which were used a tools to collect information. It was the systematic unfolding of events which gave the data a dimension in terms of time, also slowing down the research which helped develop theoretical themes or categories from the observed relationships and decision making

patterns. The large volume of field notes was managed using NVIVO[11] to facilitate open coding. Using constant comparison, codes showing potential for theory development were used as building blocks for identifying emergent themes.

## 3. RESEARCH RESULTS

Observation showed that the stakeholders made strategic steps towards market orientated agriculture by overcoming the market's resistance to small scale and complex agricultural systems and through determining new agendas for and norms of relationships and behaviour in the role that traditional agriculture plays in realizing development opportunities. Three key roles in building these strategies were identified: The role of the 'gate keeper' and how this reinforced the function of dialogue in development. The role of 'realistic responses': and how this defined the nature of sustainability in terms of market oriented agriculture as 'a way of life'. And the role of the 'mental shifts' that researchers, farmers and markets needed to make in order to position knowledge in a way that encouraged market orientated activities.

The core variable which emerged was identified as Systemic Integrity characterised by Wisdom, Incremental integration and Learning for sustainability. Conclusions about the "Differences which make a difference" identified the distinctive impacts of the commercialization process. It is these notions, presented as Lessons Learned that form the basis for the position this paper takes on engaging with farmers for sustainable futures.

### 3.1 Lessons Learned: Tapping into the factors which contribute to social cohesion

#### 3.1.1 Acknowledge leadership: The role of a gate keeper/patithlalo

At the very first meeting with external stakeholders, representatives made it very clear that they had elected Prof. Modi as their gate keeper – the one with whom the EFO would interface with external institutions, personalities and processes. This was clearly understood as a leadership decision from within the organisation. It implied that leadership was decisive; that there would be a particular personality influencing decision-making and that the farmers were comfortable with this option. This role also emphasised the importance of dialogue/inclusive discussion, representation of household, of community, of researcher's perspectives, and external interests. On reflection, even the inclusion of student researchers was built on trust and this confidence in Modi.

#### 3.1.2 Negotiating for inclusion

A deliberate attention to local norms and practices in terms of social inclusion of external people interested in the commercialisation process was maintained. Although deliberations had already occurred within the EFO, the first step that formalised the inclusion of external participants with internal stakeholders in the

[11] NVIVO is the brand name for a computer assisted qualitative data analysis and management system produced by QSR International. It is software, designed for handling data in information rich, text based information.

project, was an 'opening of dialogue' arranged by Prof. Modi. At this meeting which included visiting individual homesteads and sharing a meal, a formal process of informing the EFO executive of the project and requesting of permission for researchers to develop a research agenda based on the farmers' knowledge requirements was presented. EFO Farmers already new that UKZN researchers were expected to 'do research' and write papers as part of their academic process. But the process of being negotiated into the farmers' agenda for development helped us (as new comers to the process), realize that legitimising our involvement relied on us following socially responsible decisions and actions that could be acknowledged as personal enhancement subject to the greater purpose of the EFO. Our credibility as partners in the process relied on continued appropriate attitudes and behaviours in our interactions with farmers.

Once dialogue had been 'opened', farmers could include the research team in the challenges of filling knowledge gaps created by the commercialisation of *amadumbe*[12]. Researchers were able to identify and clarify with farmers which aspects of the commercial production of *amadumbe* were in need of knowledge beyond local understanding and resource management practices. This became the 'research' agenda. Farmers donated land, planting material and other locally available resources to experiment with science's experience of 'best practice' in adding to local knowledge. Researchers learned that the participatory nature of the approach here relied on 'ownership' of the agenda rather than the tools or methodology used to achieve co-operation.

### 3.1.3 Envisioning a future

By 2005, the EFO had already established a clearly defined local objective in terms of the pathway for development. The farmers had used social cohesion to formalise a community co-operative structure with a deliberate agri-business vision. The vision articulated the ethics of 'organic agriculture, the process of 'co-operative production and access to markets' and an openness to innovation and technology in the pursuit of agriculture as an 'economically viable strategy that does not compromise cultural integrity' (EFO Constitution Document Umbumbulu, KwaZulu-Natal, 2001).

Perception of land tenure as a 'recyclable' resource for future generations reflects a traditional way of life, fundamentally different from the usual understanding of commercial land use. Land was perceived locally as a resource for the purpose of sustaining communal life as opposed to an individually owned piece of real estate. Because of this history, social and productive obligations continue to impact the allocation and use of land for agriculture.

### 3.1.4 Responding realistically through values based behaviour

The overall pattern for supplying the market reflected an incremental integration of accessible opportunities for increased production. Opportunities for increasing production came from access to a plough as opposed to a hoe (more land can be utilized), perceived demand from the market (more demand, more area planted), and

[12] *Amadumbe* is the isiZulu word for taro root or the rhizome of *Colocasia esculenta* a starchy staple eaten throughout rural KZN.

anticipating good rain fall. Supplying the market's demand through a collective delivery allowed farmers the dynamism of producing according to their opportunities. On individual farms, while still submitting to organic certification as their production and marketing strategy, farmers retained the freedom to choose diverse production patterns in terms of scale and technology. These patterns responded to the availability of resources such as manure and planting materials and were influenced by the effort involved in production, the anticipated market demand, reallocation of existing resources, and avoidance of bank loans. Interpretation of the motivation for commercial farming was interpreted from farmers descriptions of their market oriented activity could be described as: opportunistic (people who sell excess), farmers (dedicated fields for the market), vegetable growers (grow intensively in gardens) and 'business' (tunnels for intensive vegetable production).

### 3.1.5 Adopting the sustainability factors inherent in the existing system

The commitment to organic cultivation was identified as the closest 'commercialised' equivalent of traditional agricultural technology. Using local resources, addressing soil fertility without the use of chemicals, preserving bio-diversity in planting material and relying on working with nature rather than controlling it were all practices that laid the foundation for or 'way of being together' as the expectations of organic certification was interpreted. These built on local capabilities rather than replaced them. In this way traditional agriculture was adapted rather than replaced with something that displaced local ways of planting, harvesting and management of social relationships.

A clear advantage of the incremental integration already mentioned was that farmers were not pressurised into replacing or scaling up their production through the use of bank loans. Production could avoid significant dependency on external resources, except for access to commercial markets, a challenge for all agri-business.

## 3.2 Lessons Learned: Tapping into the factors which stimulate activity for commercial agriculture

The impact of experiential learning in the form of participatory field trials was useful in reshaping the function of traditional agriculture. For farmers the adapting required attending to issues associated with intensifying production, and recognising the factors that shape market acceptability. This was associated with the increasing consciousness of farming, not only as an end in itself for providing food for the homestead, but also its use as a stepping stone to mainstream economic activity.

A major mental shift occurred when discussing a particular misunderstanding with the market. In this discussion, the farmers recognised that they 'owned' the *amadumbe*. This was significant in that farmers realized that not only had the *amadumbe* become a generator of cash rather than a source of food, it was a tool for bargaining with the market. Part of this realization must be attributed to the market also responding with values based behaviour in that they were committed to working through supply and quality issues with farmers in order to eventually achieve a sustainable supply for their demand. Entwined in this process, were the acknowledgement from both sides that, the farmers needed more 'face' in their relationship with the market and the market needed specific quality criteria to be met. This way of 'being together'

through a conscious choice of learning and respecting each others priorities suggests the notion of a 'deliberate interdependence' in the economic exchange. Nurturing the ownership of the development process by negotiating each step along the way and the respectful building of partnerships for producing knowledge and commercial exchange places the ownership of the development in the hands of those who not only have to live with the consequences, but also with those who directly benefit.

## 4. CONCLUSION

This paper began with the assumption that there is potential for small-scale agriculture to contribute to the mainstream economy. This paper proposed that tapping into the factors which stimulate agricultural productivity and social cohesion are critical for unleashing the human and productive potential necessary to achieve the transformation of the rural sector into vibrant, dynamic and economically active communities. In this participatory research project, researchers learned that by tapping into the local knowledge and practice already in use; the improvement of technology could be used as leverage for the networking and organising that brings stake holders together in groups that share values, attitudes and goals around agricultural productivity. We learned that utilising traditional agriculture as a starting point for improved management of locally available productive resources in the commoditisation of *amadumbe*, allowed farmers to focus on the gaps in knowledge needed for dealing with market demands. We also learned that participatory action and learning allowed for stakeholders to legitimise the development agenda, to tailor it to achieve farmers' own knowledge needs and choose interdependence as the nature of the relationship between stakeholders. The participatory nature of a farmer-researcher agenda for supporting knowledge production required to transform traditional agriculture towards market oriented production taught the participants in this research valuable lessons for sustainability and agriculture within the context of development. We propose that lessons highlighted here may be useful in the challenging role that extension plays in facilitating a more sustainable world for future generations

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