Journal of Systems Thinking

Systemic Thinking for Re-Generative Development

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Introduction

As Amin indicates, the 1955 Bandung conference (Asian-African conference held in Bandung), was the "first international meeting of non-European (so-called coloured) nations whose rights had been denied by the historical colonialism/imperialism of Europe, the United States and Japan" ([1], p. iv). The aim was to envisage a kind of development in which they could "shape the world system on equal footing with the states of the historic imperialist centres" ([1], p. iv). The intent as Amin outlines it was not only to create more equitable relations between the African and Asian nations and "imperialist powers", but also *within* countries to create more social justice, as in the plea to benefit "all laboring classes" and not just the economic elites [2].

What we take from this is that paths to development according to the delegates were not to be set merely through indicators of "growth", but through (more qualitative) indicators of social justice, in terms of Indigenous understandings of community wellbeing. In the African context, this idea is expressed in the African concept of Ubuntu, which is sometimes translated as "I am because we are" – indicating the need to recognise (and nurture) the fundamental connectivity between humans, such that people consider their responsibilities in terms of contributing to "the total growth and development of the community" ([3], p. 62). Chilisa ([4], p. 815) adds to this notion of Ubuntu when she suggests that the community includes "all that exists" and not merely human life. As she summarises: "human relationships in Southern Africa are captured in the concept of botho or Ubuntu (humanness). Ubuntu requires respect and the recognition of all things living and nonliving. Reality is all our connections" ([4],, p. 820). That is, in her understanding, people have a responsibility to care for one another and for "nature" as part of the community of which we all are part. While some African writers emphasise that social and ecological justice agendas cannot be separated [4–8], there is still contention about this, as others stress the more social component of Ubuntu as an ethic [9–12]. The way in which cultural traditions/symbols (as interpreted) unfold depends of course on different people's engagement with them and the values in them which they feel need to be taken forward in "development" processes [13,14].

In this chapter we provide our understanding – via examples set in, respectively, South Africa and Indonesia – of what it might mean to commit to a non-anthropocentric ethic [15–17]. We propose that if we (those concerned) wish to create an inclusive wellbeing to include those currently marginalised in and between countries in development processes, and to include a respect for the wellbeing of nature, radical revisions of dominant notions of development need to be taken seriously. (See also [18]) This means also

some revision of the formulation of the 2015 United Nations Sustainable Development Goals (SDGs), which phrase the issue of sustainability in terms of the problem that we are currently overconsuming the planet's resources. The chapter extends this by considering possibilities for nurturing people's *sense of connectivity to others*, and at the same time *nurturing compassion across all forms of life*.

Our two examples make our case for conceiving systemic thinking as ideally linked to a systemic ethics in which thinkers and actors strive to re-generate life chances of people and the living systems on which they depend. The one example refers primarily to a village called Manyeledi in the North-West Province of South Africa. Our involvement in this is tied to Norma being a staff member of the Department of Adult Basic Education (ABE) at the University of South Africa (Unisa). Our department runs – under the leadership of Prof. Akwasi Arko-Achemfuor – a community-engagement project with this community. In community meetings – some of which Janet has been involved – we have shared our estimations of the potential for (re)vitalisation of natural and social assets.

The other example that we use to illustrate our argument is set in a village in West Java, Indonesia. Our considerations here are tied to Janet's participation in facilitating with stakeholders "authentic" development ([1], p. iv) that does not amount to a mimicking of Western-styled approaches to development. Sethlodi, commenting on resonances that she detects between the African concept of Ubuntu and elements of Indonesian culture, argues that in Indonesia, the sister practice of letsema is "gotong royong", which comes from Java, with "gotong" meaning "foster", and "royong" meaning "together". It has two meanings, namely: as activities which are a selfless volunteering attitude for mutual aid; and as a spirit which is an attitude of mutual cooperation [12].

In this context too – as in the South African one – we tried to strengthen the Indigenous cultural propensity for generating cooperative relations in the community (also through collaborating with local researchers) while drawing more attention than might otherwise have been the case to options for eco-systemic living. The example is based largely on research in which one of the Indonesian graduates of Janet (who did her PhD at Flinders – Ida Widianingsih) has taken the lead, inspired partly by the critical systemic literature and examples supplied by Janet during her PhD study. She works at Universitas Padjadjaran (UnPad), and Janet and her (among others) continue to collaborate in action research projects.

The Social-Ecological Context (as we Envisage it) of our Discussion

While many critics of current patterns of globalisation have focused their concerns on the rising social inequalities in and across countries, more recently concerns have been raised that the *ecological costs* of Western-powered growth have been *largely borne by the those who have had the least ecological footprint* in damaging the environment [13,19,20]. Bond argues that excessive or what he calls "addictive" production and consumption patterns which lead to depletion of non-renewable resources and to green-house gas emission represent a "draw-down from the global commons" in terms of social justice concerns. He tries to systemically "connect the dots" (while also urging other activists to do so) in

recognition of "exploitation by the North [or West] on the ecological front" ([19], p. 161).[1] Bond does not try to tackle the question of the confluence of factors making up this ecologically exploitative approach. In this regard, Edington makes the observation that

> Western attitudes to the natural world … have been in general strongly influenced by the Judaic–Christian position. This argues that mankind has dominion over the natural world and can deal with it in any way judged convenient. This is essentially an *anthropocentric* and *utilitarian* stance, … [which] contrasts markedly with the *intrinsic* value notion of many traditional societies. ([21], p. 204)

Edington argues that "some attempt to harmonise these contrasting positions seems long overdue". But meanwhile, he makes the point in regard to agriculture and food distribution that "Western farmers are lavish consumers of … fossil fuels". He states that "not only are these used to manufacture and run machinery, they are employed to produce agro-chemicals such as fertilisers, pesticides and herbicides" ([21], p. 204). He suggests that this can be contrasted with "traditional farm operations" (p. 204). He does not resist the idea of farmers legitimately being encouraged to acquire extra technology to "lighten their workloads", but argues that the way in which their "Western counterparts" are proceeding on the grounds that their production methods are more profitable, is ill-conceived. He states that in the long run they may indeed not be more profitable because input costs to farmers become lower when they are less dependent on machinery, fertilisers and pesticides – but in any case on a value level he pleads that the long term health interests of consumers, and also the "intrinsic value" of nature which we need to respect in a stewardship capacity, should be part of our (systemic) thinking ([19], pp. 204-205). He also notes that "modern food-distribution systems are extravagant consumers of fossil energy ([21], p. 205).

In the light of these arguments, we offer two examples from "the South" of encouraging small scale farming and village enterprises. We see our discussion as resonating with the concerns expressed in the UN declaration on the rights of peasants and other people working in rural areas, approved in November 2018. In the declaration it is stated that "the peasant model of production is the basis of quality food, creates the majority of rural employment and manages natural resources in a sustainable way, addressing climate change issues". The declaration expresses concern that small-scale farmers are "rapidly disappearing with the expansion of huge agricultural complexes" and it calls for the rights of peasants to "feed their families, their communities and the world". It also indicates that the rights enshrined in the declaration "are fundamental for protection of a sustainable food production model that contributes to a healthy environment". In the declaration we can glimpse a non-anthropocentric ethic of care for the wellbeing of the environment, with an implication that it needs to be cherished in its own right.

We recognise that the statements we have made above about the damaging effects of climate change caused by Western-inspired lavish production and consumption patterns can be queried (e.g. as in Donald Trump's position). In this regard we suggest that the gamble of *not* regarding as credible the International Panel on Climate Change's (IPCC) recommendations is too risky, and also that the costs of this if the IPCC calculations *are* to be believed, will be borne largely by those most vulnerable across the globe.

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[1] Bond avers that South Africa's "fossil-fuel addiction" – which he classifies as "South African sub-imperialism" ([19], p. 160) – is no less a culprit in the global system of ecological exploitation.

In our discussion we draw on Churchman's research approach [22] in his "Design of Inquiring Systems", which is based on questioning ways of knowing and living where the (likely) consequences for those concerned and affected have not been adequately thought through. With this in mind – and heart – Churchman advocates for epistemic collaboration across a range of perspectives. He sums up his position by saying there is no such thing as a total system, and that the systems approach begins when first we try to see the world through the eyes of another and that systems thinking is a good idea as long as we do not assume that we have all the answers. He stresses that our values filter the way we see the world and that we are part of the system we are studying. Put differently, our thinking shapes the material world of which we are part: ways of interpreting "systems" constitute an intervention in the flow of existence, which is shaped by the way we interact with "it" ([23], p. 42). In short, our thinking *matters*. This means that we have to take co-responsibility with others for the understandings and values that affect the ongoing development of social and ecological life [17].

Reynolds' [24] view of systems thinking from a critical systems perspective elegantly outlines the three elements hereof: A. Framework for understanding complex interrelationships; B. Framework for practice when engaging with different perspectives; C. Framework for responsibility taking into account A and B. We extend his view of responsibility by drawing out more clearly that we are responsible for our ways of seeing because these already carry intervention effects. Those of us who call ourselves "critical systemic thinkers" are not seeking a total, unified vision. We realise this would be hubris and quite problematic as a starting point for engaging in a responsible development that seeks to work with diverse stakeholders on complex, wicked problems (see also [25]).

Churchman underscores the need to "think about our thinking" and to engage with others through our design of inquiry. This is a good start, as is his emphasis on striving for ideals (shaped by norms), but also being open to testing out ideas by considering the lived experiences of others. He could also have explicitly talked about gendered knowing, species knowing and also about the way in which the ecology of mind is extended by thinking about the consequences of decisions for this generation of living systems and the next, as we have proceeded to attempt in this chapter.

The two examples that we provide below enable the phases of appreciating diversity of views through:

- listening to people's stories;
- engaging with stakeholders through respectful dialogue, questioning; and
- justifying the drawing of boundaries [26] in terms of ethical decisions that take into account the social, economic and environmental context.

Case 1: Networks to Support Sustainable Ways of Living in Manyeledi (South Africa)

We begin our discussion of this case by pointing to what we consider to be the pivotal role played by the Tigerkloof Educational Institution, which runs a public school on private land (in Vryburg), and is part of the International Round Square network. The pillars/ideals of the round square schools are:

International understanding and involvement
- Democracy and democratic practice
- Environmental awareness, appreciation, activities and action
- Adventure
- Leadership (servant leadership)
- Service (To each other and the community)

Maxwell Masasi, the community farming facilitator at Tigerkloof, has provided training for adults in various villages – including for a group of disabled farmers in Tlakgameng, who now have developed (as a co-operative) a successful permaculture plot that feeds their families and also creates a surplus that is sold in the community. In addition, Maxwell has also been running a Junior Land Care programme supported by the Department of Agriculture for schools in surrounding villages. He is guided by his philosophy of working with and respecting people, the earth, plants and living creatures – from earthworms that help to make the compost – to birds that help remove insects. His respect for animals extends from a close relationship with his family dog to patient deterrence of invasive monkeys and rodents that eat his crops. He develops natural insecticides and pesticides that minimise the harm to the environment, and he deters insects by using ash, for example (interview with Maxwell, July 2018).

Maxwell teaches the principle of permaculture and explains to us – as he does to his classes– how to make fertiliser from cow dung (or goat dung) and water. He believes that this manure constitutes good fertiliser and that herbivores help to fertilise the soil and reduce desertification if they graze on the land, rather than being restricted to feedlots. He promotes this (natural) way of feeding for its being conducive to the wellbeing of the animals too. We are aware that there is much contention around the question of animals' destructive contribution to the rise of methane levels [27] and that the Indigenous wildlife could perhaps be better sources of fertiliser for the land. We also believe that alternative forms of protein in vegan or at least vegetarian diets will become increasingly important as a means to reduce emissions [28]. As it happens, at Tigerkloof, Maxwell's cattle farming has now been reduced, and much of the land has been rented to a company called Kabi solar, which is setting up a solar plant to feed into the general electricity grid, and at the same time, as part of its social responsibility, is setting up a learning centre at Tigerkloof for learning about climate change (interview with the director of Tigerkloof institution, October 2018).

As an alumnus of Tigerkloof school, Lesego Serolong, who now sits on the board at Tigerkloof, decided to set up an organisation called Bokamoso Impact Investments (BII) to help support small-scale farmers in various communities. One of the communities in which she has invested is Manyeledi. She indicates

(on her website) that her aim is to “provide the small-scale farmers with sustainable income, and empower them to become and remain self-reliant.”[2]

Space does not provide anything but a brief account of our involvements in this project. Akwasi Arko-Achemfuor (nicknamed Arko) from Unisa’s ABE department was approached about four years ago by Lesego, as she knew him from his formerly being deputy principle at the school. He was asked to organise adult education classes for potential farmers whom Lesego had chosen to be trained in (co-operative) small-scale farming – but who were not functionally literate in reading and writing and needed this in order to participate in the envisaged training. In a meeting (July 2018) with farmers who had been trained through BII, including others in the community – such as the chief and various counsellors to the chief (male and female), a group of us from ABE asked about their involvement in the farming enterprise. Again, we can offer only a brief account, but in short, many of the farmers stated that while in the first year they felt that they benefited a lot from the project, the following year they faced difficulties in obtaining sufficient water and also it became extremely hot, such that some of the crops did not survive. Also, getting the produce to be marketed timeously turned out to be problematic (as the car broke down).[3] After hearing some of these stories (translated for us by a colleague from Unisa who used the local language to communicate with the participants, with a kind of simultaneous translation for us) Janet made some suggestions. Her suggestions included considering hardier types of plants and also finding ways to bottle and preserve the produce (as a storage option) and considering goat cheese production. This was because on route to Manyeledi (July 2018) we had noticed many goats roaming around and feeding off the local trees that survive the harsh climate. (We heard from a local community development worker that the goats remain healthy because one of the Indigenous trees produces very nutritious seeds that the goats can eat, including during winter.)

In a later meeting (also in July, held in Pretoria) with Lesego and her team we mooted these ideas and Lesego indicated that she herself had been thinking along these lines and had begun to research the goat cheese option. At another meeting (back in Manyeledi) later in the year (October), Norma and Arko determined that the goats that we had seen on our visit in July were not deemed by the residents as suitable for milk production (or cheese production) and that a different breed would need to be brought in (from another village). Norma relayed this later to Lesego, who iterated that she would look into the matter of the breed.

All in all, we can say that as a whole we were hearing stories/views from members of the community, gathering information about natural assets (from observation combined with more listening), revising our understandings as we explored further, and relaying our understandings for further sharing with Lesego and her team (who have actioning power to proceed, e.g., by activating options for goat cheese preparation and marketing). Lesego also indicated to Arko and Norma (October 2018) that in terms of the

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[2] When Lesego was envisaging creating a co-operative enterprise in Manyeledi, various meetings were set up with the chief, counsellors and the community, and in these meetings it was agreed that tracts of communal land would be designated for this purpose. (See Arko-Achemfuor (2018) for further discussion.)

[3] In a meeting with Arko, Norma, and various people from the community (October 2018), including the farmers who had been trained by BII, we were told that although some of them had withdrawn from the co-operative for the time being (until water and other problems were resolved), they now had started their own garden plots, mainly for household consumption. Arko indicated to them that they could continue to make use of the farming manager of the co-operative, who could function as a kind of “extension officer” for them.

marketing problems that the community had expressed, she and her team were busy negotiating with the government to buy the local produce from the farmers for the school feeding schemes in the local schools. (Many schools in South Africa provide a meal to children during school to alleviate short-term hunger: [29].)

Case 2: Engaging with Stakeholders in Alam Endah Village in Indonesia

This example is set in Indonesia. Our involvement was triggered through Janet's continued connection with Flinders University alumni, and in particular in this case with Ida Widianingsih, who is based at UnPad in Bandung in West Java, located two hours' drive away from the Alam Endah village. Janet and Ida have been researching (and at the same time fostering) how social networks in Alam Endah – rooted in Islamic faith – can help to develop a village co-operative. As indicated earlier, Setlhodi [12] sees Indonesia's cultural symbols as containing repertoires for co-operative working and living (and as indeed resonating with Ubuntu social principles). The entire village of Alam Endah acts as a co-operative. This is in response to president Jakowi's decree that each village in Indonesia should identify a source of business. It is in line with the "one village one enterprise philosophy". In West Java, the "one village, one product (OVOP)" movement was initiated by Morihiko Hiramatsu – Governor of Oita prefecture from 1979-2003. This was applied by President Jakowi in 2008-2009.

Practices associated with this have been successfully established at Alam Endah where a learning organisation, learning community approach has been developed as a step towards empowering women and preventing their vulnerability to trafficking, but the process needs to be extended to give more agency to women in the decision making [30]. Dr Ida, a long standing member of this region and Head of a Development Studies Institute at Unpad, is respected in the community through her own engagement and the engagement of her grandfather in helping people within the region. She has contributed to establishing a learning community, and has been able to put on the agenda the UN SDG number 5, which is aimed at achieving gender equality and empowering women and children as part of the process of (inclusive) development.

The co-operative was fostered as a result of striving to achieve shared goals in a shared local economy. The village has succeeded in producing a range of products that are produced and marketed with the support of the women and young people. A downside of the co-operative arrangement is that in this traditional (patriarchal) set up so far only one woman is represented on the committee. Nevertheless, the women play a vital role in all aspects of production and they have a deep knowledge of the community dynamics. This accords them some stature in the community. In view hereof, they intend to ask more women to stand for election.

One of the success stories is that they run a women's group linked with the local clinic. This group supports the local environment and the health of women and their children. They have devised a program that links access to the clinic with recycling. To access services, women are required to recycle rubbish to prevent pollution of the river and groundwater. Each woman is rewarded for the amount of recycled material delivered to the clinic. Tokens are provided to women to reinforce the importance of recycling. They can use the tokens to obtain further services from the clinic. This notion of using behavioural feedback to reinforce norms that protect people and the environment is important for more resilient communities ([31], p. 302). In this case, we would suggest that through motivating a change of behavior

by providing access to clinic services, the value of caring for the environment also arguably became strengthened for those involved. We are not trying to adjudicate on whether behavior or value change does or should come first. Boulding [32] makes a plea for changing values, but in some contexts it is helpful to bring about behavior change first. Value change often can follow. The women's committee made the choice to use tokens as a motivation for transforming behavior to support resilient living.

Furthermore, the local built environment is supported by using sustainable building materials such as bamboo. Bamboo is important for preventing erosion and land falls, it is also used for small biodigestores (using bamboo and organic waste) that supports domestic cooking [30].

Conclusion

A non-anthropocentric approach to re-generative development requires an appreciation of the importance of seeking balance across all life forms which can be experienced as a continuum of consciousness from inorganic to organic ways of knowing. Greenfield [33] stresses that consciousness is a continuum and that human beings share 98% of their genome with laboratory rats. The implications for social justice to our extended family of primates and other animals, and indeed to all that exists [4] has become more pressing as we can no longer plead ignorance.

In this chapter we discussed briefly two examples of our involvement with participants and stakeholders in what can be called systemic intervention [23]. Not one of the cases covers all the aspects of an ideal systemic intervention, but by considering two examples some possibilities for systemic intervention are explored. We have admittedly focused on cases of rural living – but this does not of course exclude (on the contrary it invites) further concerns around the greening of cities.

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