Turkana through the Lens of Complexity

Final report for Oxfam GB Kenya

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1. Summary

This report results from research undertaken in April - June 2012. The work had a dual purpose:

- **Feedback on work in Turkana:** First, to view Turkana, in North Kenya and the development work that happens there, through a complexity lens to see what insights or critiques or suggestions come to light through that framework.

- **Feedback on the usefulness of complexity thinking:** Second, to explore in what ways complexity thinking is relevant and practical, and provides a helpful perspective for International Development (ID) through using Turkana as an exemplar. And to see how complexity thinking can be deepened and extended for ID.

1.1 What is complexity theory?

Complexity theory is a mind-set, a particular worldview (rather than a set of methods or a toolkit). It is based on the science of open organic systems[2]. It emphasises:

- **Holism:** Paying attention to interconnections and interdependencies and synergies.
- **Path dependence:** Recognising that the present is built on the past: on the interplay of intervention and response and on the particular events that occur and features that are present.
- **Context:** The particular factors present in particular contexts affect how change happens. 'One-size-fits-all' approaches can miss the vital factors which, working together, either facilitate or frustrate intentions. Working with the *particularities* of the context, engaging participatively and being open to learning and adapting to what emerges are key determinants.
- **Tipping:** Potential for shifting irreversibly, non-linearly, into new eras with new features is a common feature of our world. The present does not smoothly lead into the future. Looking for (in the wider environment as well as more locally), anticipating and paying attention to potential, sometimes major, tipping points is a critical practice.

Complexity science thus stands in contrast to the more traditional view of what is scientific. The mechanical science of closed systems is what underpins most traditional professional practice. In such a mechanical view, the world is treated as predictable, measurable, and reducible to distinct and separable causal links. The future, in this mechanical view, is seen as smoothly building on

[2] See www.embracingcomplexity.com for further information and references

the past. There is an emphasis on standardisation, and on adopting methods of 'best practice' which pay less attention to local features and to the ways the past has shaped the context.

Complexity science, it is argued, with its emphasis on context, interconnection and history, is more relevant than mechanical science to the social and natural world.

1.2 Turkana through a complexity lens

If Turkana is viewed in relation to the four complexity factors listed above – holism, path dependency, context and potential for tipping - what insights can be drawn? In this section the key findings of the report are summarised.

Good examples of holistic thinking

Turkana is one of the poorest and harshest environments in the world and poses many complex challenges. In relation to the complexity perspective, the response of Oxfam and of many other agencies gives very good examples, in very many cases, of developing and adopting approaches through learning over time, which respond to the *particularity* of the context. There are many examples of holistic thinking – for example, seeking to strengthen supply chains at the same time as empowering local people and dealing with the immediate humanitarian crisis at the same time as taking a long-term perspective.

Scope for more emphasis on continuity and understanding the historical context and learning from the past

With respect to the theme of path dependency (to taking note of the past), there is scope for more emphasis in the work. The research highlighted the particular challenges in coordinating work between agencies to ensure continuity and sustainability of approach. It showed that there can also be a de-emphasis on taking the time to understand the past, the way the past sets the context for the future, the way learning and experience from the past in the particular context has something to offer current thinking. This is not helped by the fact that international development staff tend to move every few years between regions and local development staff move regularly between agencies.

More emphasis on looking for upcoming 'tipping points'

In Turkana, there are opportunities, tipping points, in the foreground – the Ethiopian dam (which could severely compromise Lake Turkana with huge impacts on fishing and the environment and security), the finding of oil in the region, the upcoming elections in line with the new constitution. These events, if seized, may set the ground on which all other initiatives build; and if not seized, may render all other interventions limited and impoverished. Is the focus raised sufficiently beyond immediate programmes and strategies to consider these wider, more over-arching issues?

The issue of mindset: tensions between complexity and mechanical worldviews

There is a clear tension between, on the one hand, developing a sophisticated and nuanced understanding of Turkana together with the complexities of development and humanitarian interventions; and on the other hand, responding the pressures of demonstrating value for money, attribution of outcomes, setting and meeting universal standards, seeking to scale up and working within global strategies. The exigencies of working in a world where to be professional emphasises structure, measurement, attribution and predictability can make it hard to join things up, and to be flexible, to adapt to local characteristics and also undertake work which is perhaps less easy to evidence, such as civic empowerment and capacity building.

This dichotomy – between adaptability and structure, between a complexity view and a mechanical view – seems to play itself out in the tensions between management and development at every level - from the field through to management, donors and the public. It is also evidenced in the approach of the Kenyan government in some instances when, as in the case of health and public health, they reach, laudably, for a uniform solution across Kenya but struggle to implement this in such a harsh environment as Turkana. This is contentious, because leaders in most instances have no desire to limit agility and adaptability, but this tension nevertheless is apparent and felt by many to be increasing.

Education as the bedrock of sustainable change

There would seem to be a pressing need to support people in understanding their civic rights including monitoring of public spend. And in knowing how to elect new leaders and hold them to account, and in knowing how to lobby regarding land use, changes in water usage, oil exploration and so on. Such investment in governance and civic capacity-building would seem to be of vital importance in engendering and sustaining an emerging empowerment which can most effectively lead to long-term sustainable solutions. And this would seem coupled to the vital importance of education in a population where nearly 90% are illiterate and where education can be seen as the foundation of every other change – in attitudes to and knowledge of public health, health and civic rights. It can also feed the knowledge and imagination required to seek out and experiment with other livelihoods.

Summary – Turkana through a complexity lens

This research work gives credence to adopting the complexity paradigm (with its emphasis on interdependency, the importance of context, together with the non-linearity of change, the potential for tipping and for the emergence of new features). It validates the integrative approaches to development and humanitarian aid being taken in Turkana. It points to the value of greater focus on continuity (of method and of relationships) and learning from the past, and on paying attention to potential future wide-reaching tipping points. And it points up the need for further work on systemic ways of undertaking impact assessment which would allow evidence of

impact to be obtained without overly constraining approaches to intervention to fit a more linear, mechanical paradigm.

Complexity-informed guidelines can be summarised as follows:

- Inculcate a complexity mindset – holistic, contextual, shaped by the past, subject to potential sharp shifts
- Plan systemically, holistically, taking a wide view
- Build in contingency; expect things not to go to plan; review regularly and participatively involving multiple stakeholders and respond to what emerges
- Establish processes to 'foresight', gather information about the wider environment and seek to spot potential future 'tipping points'
- Build adaptive capacity in communities through education and 'learning to learn'
- Take the time to understand the history, context and the outcomes of previous interventions; value the past
- Design programmes to harmonise with local context; one size does not fit all
- Further develop methods of impact assessment that do not constrain working in systemic emergent and shifting contexts and allow for multiple and synergistic 'causes' and time delays in outcomes.

2. Introduction[3]

The impetus for this work emerged from a Regional Leadership meeting for the HECA region in October 2011, where complexity thinking was on the agenda. One motivation to commission this piece of work, by Oxfam GB Kenya, was, in part, to explore the relevance of complexity theory for international development (ID). Does looking at ID through a complexity lens provide a recognisable explanation for what happens and, importantly does it offer any frameworks or provide insights as to how to work effectively in complex contexts?

The approach taken was to concentrate on one region and understand the context and history and perspectives on the future together with current and past interventions, seen from many perspectives. The region chosen was Turkana in Northern Kenya[4].

The second motivation for commissioning this work was to explore what insights could be gained that may be of help to those responsible for programmes in Turkana. Could a review through a complexity lens throw up some suggestions for practice and for strategic focus?

This report follows two visits to Kenya and Turkana, one in April 2012 and one in June 2012. During the course of just over two weeks in Kenya, together with several days work in the UK, approximately sixty interviews were undertaken. These were with Oxfam GB Kenya staff, staff in Oxford, previous staff who had worked in Turkana, staff of other INGOs, local NGOs and community organisations, some private sector organisations, consultants who have worked in Turkana, the Lodwar Mission, government officials, and donors. In addition meetings were held in the field with traders and other beneficiaries of Oxfam's work and with a small number of local people who were not explicitly recipients of any Oxfam programme. A full list of those interviewed is given in Appendix 1.

The work also builds on many documents, written over the last ten years, which describe the region, assess interventions, and lay out strategies and proposals. The documents in question are listed in Appendix 2.

The focus was primarily external, focusing on what is happening in the region, and how Oxfam and other agencies respond. No in-depth analysis of internal processes and ways of working within Oxfam has been undertaken.

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[3] The information about Turkana was either given in interviews or came from reports listed in Appendix 2

[4] Chosen because it is affected by many issues, has many strands of work being undertaken, has a long history of aid intervention – and it is safe to visit (apart from the amoeba)!

This report begins with outlining the issues for Turkana, then outlining the tenets of complexity theory. It then reviews, through the lens of complexity, the ways of working in Turkana and ends with some suggestions for the future.

This work does not purport to be an evaluation nor an organisational review; it is not comprehensive, does not cover all issues relevant to the region. The quotes included (in italics with blue background) are indicative of general themes that emerged; these are not attributed, as some are quite hard-hitting. Quotes (in italics with green background) from identified documents are also included.

The suggestions made and the conclusions drawn are the author's own. The author is grateful for the support given by Oxfam Kenya and in particular from fieldworker Franciscar Ekal, who acted as guide, organiser and interpreter and whose intelligence and perceptiveness added a great deal to the work and to unravelling what was said and what was seen. The author also gratefully acknowledges the support of Dr Susan Johnson, of the Department of Social and Policy Sciences at Bath University and Becky Carter of Mokoro who both contributed critique, challenge and insight to this research.

The author is grateful to Oxfam Kenya for the opportunity to undertake this work.

3. Background – overview of Turkana

Turkana covers a vast terrain (77,000 sq km) of arid and semi-arid land and is home to nearly one million people. Sixty per cent of these are pastoralists[5], twenty per cent agro-pastoralists, twelve per cent fishermen and the remaining eight per cent are either employed[6] – by government and NGOs and private sector – or are people who have dropped out of societal structures. Literacy rates are about seventeen per cent[7]; the proportion of children who attend school, at least primary school, is thirty four per cent[8]. Polygamy is common and women's empowerment is an important issue. Despite low life expectancies, large family sizes mean that the population is increasing – from 143,000 in 1979 to 447,000 in 1999, 855,000 in 2009 and is

[5] Keeping sheep, goats, some cattle and growing numbers of camels and donkeys. In the two-day field trip to Lokitaung, goats were in the majority with some camels, donkeys, sheep and only one sighting of cattle
[6] Figures quoted in interview with District Agricultural Officer for Turkana
[7] Although this figure was disputed and deemed closer to 10% by some officials
[8] Quoted in 'Where does the Money go' (see Appendix 2)

now nearing one million[9]. Poverty levels are amongst the highest in the world, with 94% below the poverty line.

Some schools have 200 pupils per teacher and no desks.

34% of children attend school, less than half of these go on to secondary school. Girls in particular drop out as they are expected to work at home, have early marriages, get pregnant.

The Turkana as an ethnic group span the Ugandan border and interviewees reported that Turkana feels apart from the rest of Kenya, both in the eyes of the Turkana (who talk about Kenya as a separate place) and in the eyes of Southern Kenyans who make up most of the National Government.

There is one hospital and one court for the whole region and just five doctors. There are no rail links and the few roads, built by the Norwegian government in the 1980s, have received little attention since and are in very poor condition, with parts impassable and the rest full of potholes and disintegrating. Most are just dirt roads, or follow dry river beds, meaning that a 200 km journey to Lokitaung takes six hours in a good four-wheel drive.

[9] No one I interviewed amongst traders and beneficiaries, told me they had less than 8 children (living)

There is hardly any private sector here. There is some construction and we get asked for loans for that, but the infrastructure is so bad. The roads, such as they are, are not maintained. There is no rail link, network coverage really only exists in the few towns. The area is neglected by the government; they see no point in investing here.

In addition, due to climate change[10], the region is subject to increasingly frequent drought, when livestock and people die. Livestock are the wealth of the people and people often hang onto them too long, in the hope that the rains will come, before selling them when they are almost worthless. Increases in food and fuel prices further exacerbate the situation.

As if this were not enough, the area borders Uganda, South Sudan and Ethiopia and is subject to unrest, insecurity, livestock raids and attacks on communities. Some areas become no-go areas and this reduces the available pasture land, frustrates the traditional nomadic roaming across-borders and thus puts more strain on pastureland already depleted by drought. Raids and unrest also occur, it is said, between Turkana and West Pokot.

I went to distribute food near the Turkana/Pokot border. I witnessed children and old people with their brains blown out. I took pictures. It changed me, I have never forgotten it and I tell everyone. I believe the government are giving weapons to the Pokots, they are supporting the Pokot region against Turkana, helping them to move into Turkana territory.

[10] Although this is apparently contentious. Some evidence suggests more frequent droughts over the last ten years, other evidence shows rainfall has not decreased but patterns of rainfall have changed.

The region, so many people say, has been largely neglected by government and this, coupled with reports of institutionalised corruption at all levels, means that government funds often do not seem to reach the communities.

Turkana Central had a constituency development fund of 106m shillings. Where has it gone?

At baseline survey in 2009, levels of community involvement in the devolved funds were dismally low with only 6% involved in the identification of projects, 4% in project implementation and only 3% in decision-making.

(Turkana community engagement in good governance)

Kenya has a reputation for bad governance, and one that pervades all aspects of political, social and economic life. This has been a major cause of economic stagnation, persistent poverty and social inequality, with the most obvious manifestations seen in the northern pastoral areas.

(Kenya ASAL programme strategy, 2011)

There are other relevant issues. A dam is being built in Ethiopia on the river feeding Lake Turkana. This will supply hydroelectric power. There are also plans in place to take the water below the dam to irrigate sugar. This is likely severely to affect the lake[11], which provides livelihoods for 12% of the population and food for even more. The Kenyan government are not opposing this dam and are indeed intending to buy electricity from the Ethiopian government. The World Bank and the African National Bank have pulled out of funding the dam, due to its inevitable impact on Turkana, but the Chinese Government has now stepped in. Interestingly the fishermen and traders whom we interviewed in Natchukui were well aware of the issue. They reported a sudden drop in the level of the lake, reducing the shore line by 50m, in February last year, during phase one of the dam project. They said the increased salinity in the lake has already affected fish breeding and that already there are fewer fish. They were resigned to their livelihood gradually disappearing.

Then there is oil, which has just been discovered[12] in Turkana. On the field trip we saw three different camps of oil exploration, including one equipped with boats in Kalokol intending to explore the lake. If this oil is of the appropriate quality and quantity, which is what is being said, it is likely substantially to impact the region, leading to improved roads, a pipeline and railway. This offers opportunities but also threatens the region. Only 5% of profit[13] is due to be received

[11] See http://www.treehugger.com/corporate-responsibility/turkana-woman-fights-ethiopia-kenya-dam-project-already-arid-conflict-prone-region.html

[12] In March 2012. See http://www.economist.com/node/21552265?fsrc=nlw%7Chig%7C4-5-2012%7C1303226%7C37548374%7CNA

[13] According to staff of the Diocese of Lodwar

by the region, there is the potential for land grabs, the potential for a significant impact on nomadic life. Local people seem to be having little say in what is happening.

These features – poor infrastructure, harsh environment, drought, insecurity, neglect, corruption, poverty, illiteracy – seem to create a downward spiral, a seemingly locked-in, self-reinforcing set of conditions which is hard to break.

> The culture of corruption, coupled with poor policy implementation, unaccountable governance institutions, limited social safety nets, poor resilience to disasters including effects of climate variability, use of political violence and limited action to stop clan based conflicts all work collectively to keep poverty at unacceptable levels.
>
> Oxfam in Kenya country analysis

Two-day field trip to Lokitaung in June 2012

I am including this section on the field trip within this more general review of Turkana to show explicitly what was gleaned from visiting 'the field'.

The field trip – to Lokitaung in North Turkana from Lodwar through the mountains and then back along the shore of Lake Turkana to Kalokol – presented a mixed picture. We saw, on the one hand many herds of well-fed livestock, and on the other, in the settlements we visited, there was an air of resignation and passivity, little sense or evidence of enterprise even amongst the younger people.

Settlements, people informed us, had been there for at least twenty years and in some cases since the 1960s when aid first started. There was a goodly number of small herds scattered along the hills through which we travelled – herds of 50-100 goats, 6-12 donkeys or camels, some sheep and we passed one herd of cattle. All looked in good condition and there were many young animals. These were tended by older men and/or boys and apparently all returned to their settlements or villages at night. There would seem to be potential for greater support to livestock rearing, livestock trade, and development of associated 'products' from skins, milk and so on.

There was very little other evidence of enterprise – some bags of charcoal for sale, but no evidence of crop-growing[14], vegetables, weaving, or anything else, apart from the few shops in

[14] In one place we saw bunds being built, and in another sorghum being grown. These looked like sponsored pilot projects.

each village. Water seemed available fairly readily in this inner region, with many boreholes[15] in evidence and whilst water has to be paid for in various ways, we were told in Lokitaung that it is not metered, so would be available for irrigating vegetables or crops, albeit on a small scale.

Apparently none of the government officials responsible for North Turkana lives there; they live in Lodwar and travel the six-hour journey for meetings.

This inland area stood in contrast to the villages by the lake, where we saw more evidence of enterprise - people making nets and boats, evidence of fishing, woven mats for sale and, seemingly, a more positive and engaged attitude, although with concerns about the Ethiopian dam and oil exploration. But fresh water was more scarce by the lake – boreholes hit salty water – and people still gather water from dry river beds, building wells of say 2.5 metres in the sand and which children went down with plastic mugs to gather water.

Amongst the educated Turkana working in Lodwar, there is an expressed sense of optimism about the region and a view that local people are changing even if conditions remain tough. These workers reported increased determination in families to send at least some of their children to school, increased take-up of immunisation and growing appreciation of issues of hygiene and health. Women in particular, they said, are starting small enterprises and joining savings groups. And there is a real recognition amongst this group of educated Turkana that the decentralisation implicit in the constitution and the upcoming elections provides some real opportunities for local empowerment and change.

[15] Although these were not evenly spread through the region. Sometimes there would be three at one kilometre apart, in other places none in evidence for several kilometres.

This sense of optimism was less evident in discussions with people during the field trip and it was hard to find very much evidence of enterprise other than in the fishing communities; people reported that at least some of their children went to school (and no one told us they had less than eight children). People told us they used any cash for aid to buy food and clothes and pay school fees, and 'start small businesses' (when pushed on this point as to what these businesses were, people said they did some buying and selling of small amounts of food). They said everything stopped when the money stopped. There was also a sense that they had been asked such questions before and had a notion of what answers were expected.

The traders we interviewed stood in contrast to this, seemed more enterprising and savvy. All of the four traders we spoke to said all or most of their children were at school and some had children at college and university. They had started their businesses in the past through reselling food from aid, or in one case through brewing illegal alcohol. And one trader told us he had returned (at the age of about 30) to finish his own schooling. And he was trading the dried stomachs of Nile Perch with a Japanese trader for use as biodegradable thread for surgical purposes, which apparently was quite profitable. So the traders were examples of what people can achieve with a little initiative and determination.

We also visited a camp for internally displaced persons in Lowarengak. One government official in Lodwar had told us that people here (300 families) had escaped unrest from raids on the Ethiopian border and did not want to return to their home despite the Japanese supplying irrigation infrastructure in that area. He felt that Oxfam was making people too comfortable in this camp. Indeed people did tell us in the camp did not want to return due to the insecurity on the border but it would be hard to see their conditions as particularly comfortable. They had traditional huts, a run of 28 latrines, water but no regular food aid. It was also notable that not everyone used the latrines and there were piles of faeces in the area behind the latrines. The complexities of development and aid and the differing perspectives and politics of humanitarian work really came to the fore in trying to make sense of this situation and consider the different perspectives.

One big question remained hard to explore in the field. It was hard to get corroborative evidence as to how many of the Turkana are still nomadic[16]. During the trip it was hard to imagine that the area we covered contained more than say 20,000 people whereas, given the population of Turkana, you would have expected perhaps five times as many (these are guesses) if they were all there. So this was evidence for a nomadic population who were elsewhere. Some people said they had relatives who were nomadic, but their reports were vague and it was hard to get a sense of how the nomads lived, to where they travel. And to what extent they were connected to those

[16] In other research and in conversations with government officials it is reported that 80% are nomadic or semi-nomadic

in settlements. This felt a missing part of the puzzle for which few concrete conclusions could be made in this small piece of research. One of the Oxfam staff told me her brother was nomadic, had herds near the Ugandan border. She said he was proud of the fact that he did not receive aid but she said that they as a family had to help him out. There was a sense that things were changing but the extent of the shift from a nomadic life remained unclear through this research. One comment stayed in my mind, from a primary school teacher, who said that when he was at school he did not see his parents for five years and when he graduated he had no idea where they were. 'But that was a long time ago', he said, 'things have changed.'

This assessment of how many are still nomadic is a very important issue. One school of thought says that people no longer want to be nomadic, are looking for exit strategies and this is where focus should be made. Another school of thought is that there is very little else for people to do in this drought-ridden and remote area other than keep livestock and that what is needed is help with more effective methods of keeping and selling livestock and developing products based on livestock such as cheese, hides and wool. Other than leave Turkana, it was hard to see what other options there were for livelihoods on a broad scale and this latter view – that livestock production was the way forwards but the focus should be on how this is done – was the view reached by the author. People suggested that this has been more effectively achieved in similar arid regions in Ethiopia and Somalia. This is not to say that exit strategies and support in finding new livelihoods should not be given but the potential for supporting livelihoods from livestock would still seem to be of key strategic importance.

4. Objectives and methodology

As already discussed, the core approach for this project – 'to review Turkana through a complexity lens'– was conducted through numerous interviews, with Oxfam staff, government officials in Turkana, representatives of INGOs and local NGOs, members of the Diocese of Lodwar and some financial institutions, consultants, donors, traders and other beneficiaries. A list of those interviewed, sixty excluding four groups of beneficiaries, is provided in Appendix 1. The research, as discussed in the previous section, was supported by a two-day field trip to North Turkana to see conditions at first hand and form impressions through talking with traders involved in various projects, and with local people and beneficiaries. This was small-scale qualitative research, not undertaken rigorously through structured interviews with large numbers of people.

In addition, an understanding of the issues and the views of others and a perspective on what interventions have taken place and are currently underway was obtained through reading a number of documents from various sources and these are listed in Appendix 2[17].

The aims of this research were:

a) to understand the nature of the region, its history and context,
b) to understand what interventions have been and are being made,
c) to reflect on all this through the lens of complexity theory with a view to assessing how useful is this perspective – both in understanding the situation and in pointing to the future.
d) To provide some suggestions and critique from the viewpoint of complexity theory.

In undertaking the interviews there was an opportunity to triangulate views, establish whether differing stakeholder groups saw things in similar fashion, check out tentative analyses and shape emerging suggestions and hypotheses. And the field trip to visit and talk to people in living in the region provided another perspective from which to review the comments of others external to the region.

It was also important that the work was designed to have two visits a few weeks apart as it allowed the checking out of themes or hypotheses developed during the first visit, and the revisiting of issues with certain interviewees during a further conversation.

5. Looking at interventions in the Turkana Region through a complexity lens

[17] Some of these were in draft form, many are internal documents, not all included authors or dates

As already discussed, the objectives of this work were to test (a) whether a complexity perspective seems to fit and (b) adds value to frame thinking in this way.

In this section, the core aspects of complexity thinking are taken as a framework from which to reflect on the work taking place in Turkana. Does the work in Turkana reflect the tenets of complexity? What suggestions for future practice can be gleaned?

The starting point is to define the tenets of complexity theory. In summary, the science of open systems, the science of complexity paints a picture of a world as:

- **Holistic/systemic:** Interconnected in synergistic fashion. We can't understand the picture by dividing it into separate parts or themes. Differing parts or themes affect each other, interact and hence lead to features which could not be understood just through analysing the separate aspects, lead to a whole which is greater than the sum of the parts.

- **Path dependent:** Intrinsically affected by history and the specificities of events and features particular to the situation. The future builds on the past, is influenced by the *details* and sequence of what happens and on the particular features of the local situation. There is a co-evolution between intervention and context, and between context and the attitudes and culture of those trying to effect or facilitate change. There is potential for fads and fashions and for particular interpretations and 'cultural norms' to gain traction and influence what is done and how.

- **Contexted:** the future is sensitive to the *particularities* of the context, the details of the situation. Non-adaptive, standardised interventions may often not achieve what they intended. Participation is more likely to allow response to local issues and perspectives.

- **Liable to 'tipping':** where change, when it happens, can be non-linear, irreversible, and lead to the emergence of new eras with new characteristics. Such 'tipping points' can be in the wider environment, outside the focus of a given programme or theme of interest.

These core concepts can be investigated by framing investigations around the following questions:

1. Do interventions take into account the systemic, interconnected complexities of the context?
2. Do interventions pay attention to **path-dependency**, the way the present builds on past history, on the particularities of events and past interventions? Do they build on and/or take note of what has already taken place?
3. Are interventions sensitive to the specificities of c**ontext**? Do they allow for customisation, experimentation and learning?

4. Do programmes and processes build in ways to look for and respond to '**tipping points**' in the wider environment? Do they spot and seize opportunities and anticipate and mitigate risks?

These four questions will be explored in relation to Turkana in the following sections.

For a more detailed discussion of complexity theory and its relation to a traditional scientific worldview, please see Appendix 3 or follow up resources listed in Appendix 4 or visit www.embracingcomplexity.com.

5.1 Are interventions sensitive to the systemic complexities of the context?

There are some excellent examples of holistic thinking adopted by Oxfam and its partners in Turkana. The work on hunger safety nets (HSNP) [18] is a key example.

The HSNP work in Turkana combines both development and humanitarian objectives. It is aimed at providing the wherewithal to purchase food in the face of drought. Supplying food per se can be problematic for many reasons. It has to be shipped to the area and then distributed. This can be expensive to undertake where there is poor infrastructure. Money goes on transport; and also food can 'disappear' and never reach its destination. Furthermore, such provision of food can breed dependency and undermine longer-term development approaches. So the intervention turned to provision of small amounts of cash. Provision of cash gives choices to the beneficiaries: they can buy food but they can also choose to spend it on school fees or on medicines or use it to stimulate small business enterprises. So it can not only answer a humanitarian need but also can stimulate the economy through the purchase of food and through the seeding of small enterprise.

Furthermore, new technology facilitated the distribution of cash. Equity Bank, a partner in the project, provided smart cards which could be accessed via a thumbprint, thus circumventing the limitations caused by illiteracy. Local traders were set up as agents and beneficiaries went to these traders (who were provided with an ATM point to the bank, powered by solar) to get their money and use their smart cards. It was decided that the primary signatures for any household would be the women, so the money transfer was safe in the sense that it reached the family and safe in that the women were the most likely to ensure it was put to good use.

[18] Funded by and sponsored by DfID and initially piloted in partnership with Oxfam in 2007 (see 2007 briefing document listed in Appendix 3)

> *In three years we have 23,000 customers. We use small retail traders as agents. They have an atm card with which they can save or take out loans. There is no monthly fee. The agents help them to apply and then we vet them here. We also give loans to community-based groups which co-guarantee the loans. In that way each member can borrow 10,000-50,000 shillings.*

This system of course also helps the trader, as he is reimbursed for the provision of the service, for being an agent, but also because the beneficiaries are, at least in principle, likely to buy provisions in his shop.

This initiative has been driven and funded by DfID, although I was informed that previous Oxfam staff who worked in or were focused on Turkana feel they had a goodly input into initial thinking. And there have been subsequent opportunities to customise the approach and connect it to other initiatives in systemic fashion. For example, Oxfam and its partners and donors realised that there was an opportunity to ensure that the money was spent on locally-sourced food so they supported the traders, in the 'cash transfer and fish distribution project' to buy stocks of dried fish, fish produced from Lake Turkana which local people could buy with vouchers. And some training to fishermen and traders was provided in how to dry fish to keep its nutrients, how to store it hygienically and so on.

So the underlying philosophy is moving from handing out food[19] sourced oftentimes from abroad, delivered, expensively, by lorries with a tendency for their loads to 'disappear' – to empowering households, retailers, traders and fishermen, strengthening the supply chain, enhancing the economy, integrating humanitarian and development goals, and mitigating against corruption. This apparently has also led to the establishment of more micro-trade, where people can buy a sack of maize or sugar and redistribute in tiny amounts to others. Other small enterprises have mushroomed too,[20] at least in some areas, according to many reports. The hunger safety net project seems an effective juxtaposition of new technology (smart cards) in harmony with the dynamics of local cultures – whilst also building economies, resisting exploitation and esponding to the immediate crisis of drought. This is an approach that, whilst based on internationally-recognised thinking on safety nets and social protection, has been customised through experience to the particular characteristics of Turkana, and gives an excellent example of development thinking as systemic, contextual, adaptive, and handling multiple objectives that cross the development/humanitarian divide.

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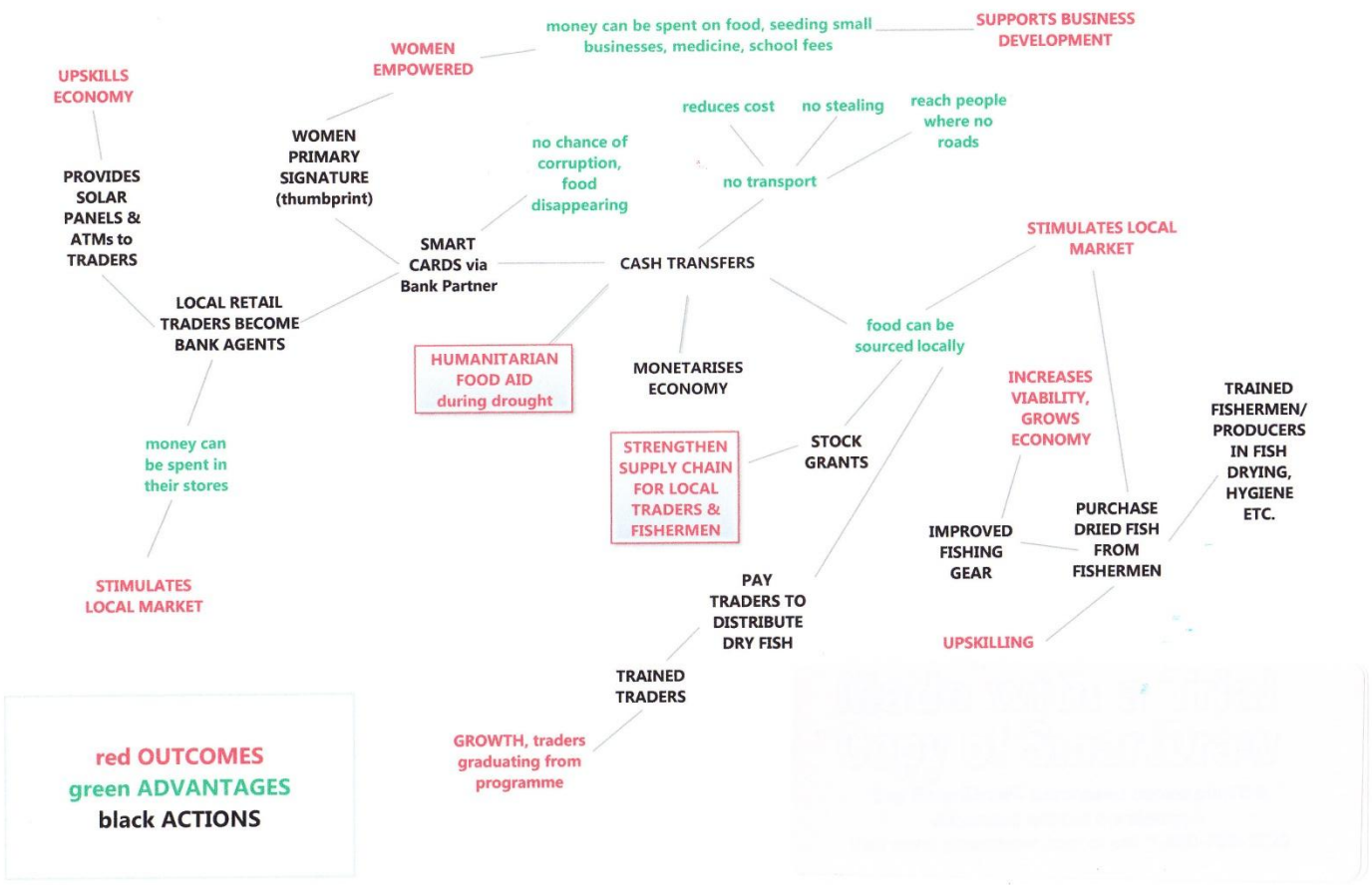
[19] And the WFP informed me that they too are moving in this direction

[20] For example, brick-making, selling charcoal, making school uniforms, making fishing nets, keeping 'kitchen gardens' in containers

HUNGER SAFETY NET PROJECT, TURKANA, N. KENYA



The figure above illustrates the inter-dependencies between factors in the hunger safety net programme and how particular outcomes (in red) have been achieved through interdependent actions (in black) which confer particular advantages (in green) when taken together. The diagram shows how outcomes, or impacts, are achieved through multiple actions that are designed to be synergistic, to support each other in tackling particular difficulties such as corruption and achieving particular outcomes like the empowerment of women or the sustainable development of the economy at the same time as achieving humanitarian aims. So actions taken together achieve more than one outcome in an integrative fashion. The quality and sophistication of the thinking – developed no doubt over time, through trial and error – is a first class example of working (albeit not consciously) with a complexity perspective.

This story of the hunger safety net programme is to be contrasted with the story of **prosopis**. This shrub (which looks like an acid green triffid as it waves its menacing branches where it overhangs the road) was introduced in the 1970s as a measure against desertification. Unfortunately it is detrimental to livestock, both in terms of injuries and when eaten, causes constipation and dental problems[21]. It also sucks out the water from the surrounding area, killing off the acacia and grass and anything else. It spreads like wildfire and is rendering an already fragile pastureland unusable in some places and is still spreading. This is an example of only thinking of one element of the problem – desertification – without exploring the wider implications. Fortunately there are some solutions. It apparently makes good charcoal and can be used for poles and ropes and firewood. So there is an incentive for people to grub it up and make some money from it. And some cash-for-work programmes encourage people to do just this.

[21] http://cmsdata.iucn.org/downloads/invasive_plants_and_food_security___final.pdf

Another less than cheerful example of synergy at work is the issue of **guns**. The monetarisation of a society (in contrast to a history of bartering) coupled with the availability of guns due to the internal conflicts in Sudan and Ethiopia means that there is an increasing preponderance of small fire arms in the region. Apparently, pastoralists increasingly travel in caravans of one hundred or so families and carry guns to cope with the increasing insecurity. But of course an increase in guns catalyses insecurity as much as it protects, or is felt to protect, these nomadic groups. One development worker spoke in horror of visiting villages near West Pokot and seeing children with their brains blown out.

> *One of the down sides of more education and the monetarising of society is that people see the value of money. This, coupled with the availability of weapons to buy from Sudan and Ethiopia, means that crime is increasing where there was not crime before. Vehicles are shot at and raided.*

So, what are the implications of this holistic, interconnected complexity thinking? The hunger safety net programme shows what can be achieved when actors reflect and experiment and learn from experience, when the broad picture is taken into account, where problems are dealt with and unintended consequences faced. Complexity thinking in this case does indeed seem to be happening naturally when people are engaged over time with particular situations and are able to see the impact of interventions, really get to grips with the issues and perspectives.

The facing of the interconnectivity of issues coupled with accepting the inevitability of unintended consequences shapes the constituents of a systemic approach. That is to say: take note of interconnections and use them to advantage (as shown in the systems map of the HSNP, above); support this systemic thinking with experimentation, learning and consequent review and refinement.

Taking a systemic approach calls into question the 'professionalism' of working within the linear machine paradigm[22], epitomised by focusing on single issues, making detailed and fixed long-term plans and 'rolling them out', implementing universally, trusting in economies of scale and 'one size fits all'.

There are still tensions, though. Something like the HSNP, whilst evolved and through learning, can later become set in stone where the emphasis then turns to efficient implementation. This could limit the possibility of further refinement and adaptation and learning. With this point in mind, it was interesting to note the differing tones of different donors in the interviews. Some

[22] See Appendix 3 for a discussion of this point

want INGOs to act as implementers to programmes defined and designed by donors. Other donors want to work in partnership, want INGOs to be close to the action, to advise donors on priorities and on how best to approach the work. Discussions with donors[23] indicated a very wide range of approaches and expectations from their perspectives. There were also differences as to the extent donors worked closely with government or preferred to keep them at bay.[24]

5.2 Are interventions sensitive to path-dependency?

Consistency

One of the issues raised several times in the research interviews was the need for consistency and sustainability of approach in trying to make change. Many actors told of the frustrations of situations when they had worked very hard, and with some success, to empower people, to make changes – but then another agency with another approach came in and unwittingly destroyed the glimmers of behaviour change that were emerging. For example, one story was about a programme of 'asset-based community development' taking place in 2008. Apparently people had responded very well to this approach, were starting to gain confidence and take the initiative. Then the funding stopped – a bit too soon for the response to be sustainable. Finally, another agency came in with an approach of unconditional cash and the motivation towards empowerment and self-improvement apparently withered.

> *People get used to one system, say cash for work, then someone else comes in and offers free cash. It needs everyone, all agencies, to sign up to doing schemes in similar ways or it just undermines the progress made.*

It is as if the newly-germinated seeds of motivation, the emerging small shoots of change were trampled on. The situation does not just go back to square one, it goes back further, as confidence in the new approach is lost; this is because the approach did not continue for long enough, and was replaced by something based on differing assumptions and intentions.

> *[Particular INGO] helped us capacity build, provided transport and offices, worked in partnership with us. Now we are sustainable, we know what we are doing. Some INGOs partner with local organisations but leave too early, before learning is embedded.*

[23] Not a wide survey, I only spoke to four donor organisations and in addition was not able to explore differences between different parts of organisations such as DfID or WFP

[24] It was also said that donors in general kept closer relationships with donors than with INGOs

These path-dependent issues – realising that an initiative needs to build on what went before, the need for synchronous working, collaboration between agencies and between agencies and government, the need for planned and phased withdrawal – are well recognised by actors in the field.

With respect to coordination, having lead agencies, calling meetings between agencies to find pragmatic solutions, happens and helps. For example the government in Turkana has established a District Steering Group[25] to provide such a forum for coordination of effort.

'Complex' outcomes - time-lags and outcomes with multiple and synergistic causes

It can be difficult, so people reported, to deal with the motivations and expectations of some donors who, it is said, want bigger programmes, want measurable and tangible and timely outcomes unambiguously related to particular interventions. And in a world of increasing competition for resources between agencies, agencies can get trapped between behaviours which lead to funding and behaviours which they know lead to successful, sustainable outcomes on the ground. This is a contentious issue, worthy of further investigation. However, these sentiments were expressed many times by many agencies and agents.

Outcomes, as people reported, can take time, need preparation of the ground, working systemically, influencing wider actors. Sometimes there is little tangible to show for some time, just burgeoning shoots of changed attitudes, glimmers of increasing confidence, confidence which can easily be lost. Change, complexity thinking underlines, is not linear and incremental; change does not follow from a single input, but grows cumulatively through building on past initiatives, through responding to blockages, facing unintended consequences, seizing opportunities, spotting issues from left field.

There is clearly a tension here though. How to differentiate between situations where indeed interventions are not effective and situations where evidence is taking time to build? This issue points to the need for further work on impact assessment in complex contexts, the use of qualitative markers and a search for indicative evidence of emerging change as it emerges.

The past shapes the present

In a mechanical worldview, there can be a tendency to feel that the past is the past with little to offer by way of insight. It is felt that one 'cog in the machine' can be replaced by another, newer one, that one approach to intervention can be substituted by a newer approach. There is a tendency to act as if the starting point for an intervention is neutral, a 'green field', rather than

[25] We tried twice to meet the Drought Management Officer to explore how this steering group works but were unsuccessful on both visits

the reality of the way that the present is shaped by the past, where past interventions and events are still playing out. This attitude tends to downplay learning from or even understanding of the past.

> *The drought early warning system to which we gave a good deal of input to its design is really sophisticated and works really well. The trouble is if you are new to the region you are less likely to trust it, more likely to await further evidence. The system **did** indicate a developing drought in late 2010 but for various reasons, including lack of contingency funds, people did not respond fast enough.*

For example, in this research it took a good deal of determination to track down people who had worked in Turkana in the past. These 'people from the past' often gave very interesting and reflective insights and raised very interesting questions that led on in the research to further questions and explorations. They were able to share very useful reports that were written say five or more years ago which were not now readily available within Oxfam. Indeed people reported that they felt that seeking to engage with those previously in post was not encouraged, if not actually discouraged. This attitude to learning from the past is in no sense characteristic of Oxfam in particular, but does seem an opportunity lost, exacerbated by the speed with which people move posts, where promotion, so people reported, comes in general from moving country or, for local people, moving agency.

> *When there was a drought in 2008, many of us had been there during the drought of 2006 and we learned from our mistakes. When the drought came in 2010-11 most of us had moved on, the organisational memory and experience was not there and mistakes were made. If relationships are established – between agencies, with donors, with the government – people are more likely to trust the judgment of people they know. When relationships are new, people are more cautious, wait for more concrete evidence, by which time it can be too late.*

There are no easy answers to this dilemma. It is perhaps, as with complexity thinking in general, in many respects an issue of attitude. If there is respect for the past, and a recognition that the past has set the current conditions, then it becomes obvious, more natural to talk to those who have prior knowledge, who might have an interesting perspective or have learned lessons worthy of consideration or just know the context well.

We seem much happier to transfer learning from region to region rather than to grapple with the specificities of the particular issues and relationships and factors in a particular region, through taking note of the past.

Turkana has always been noted for being innovative, piloting approaches. I put it down to the close working relationships between Nairobi, funders, staff in Turkana.

It is striking, for example, to consider the following excerpt from a review document written in 2004. The conclusions are very much in tune with the themes developed through this research.

> Effective policy influencing is a long term process; poverty reduction interventions should be in terms of decades and not years for them to be sustainable; forming alliances with like minded NGOs is an effective way of working and has several advantages; community participation in the entire project cycle is crucial for ownership and it also enhances impact; collaboration with government structures is important as it has structures that are permanent on the ground.
>
> Review of Kenya Country Programme Partnership Agreement with DfID Kenya, 2001-3 (Feb 2004)

The institutional perspective

Another aspect of path dependency is called the institutional perspective[26]. This brings attention to how attitudes or fashions or social norms become institutionalised. It can mean that objective challenges to current norms in development practice, or open-minded analyses of situations are hard to make. It can be hard to swim against the current of accepted wisdom, or say the un-sayable. Such institutionalisation can also be sensed, sometimes, in the responses of beneficiaries to questions. People in the field told me how reliant they are on cash, but as they saw me as a representative of Oxfam, one of the agencies who provide cash, this is hardly surprising. I also felt that people had a sense they were *supposed* to report that they used cash for 'setting up small businesses', that there was a sense they felt this answer was expected of them.

[26] See Giddens, A (1991) The Consequences of Modernity: Stanford University Press

How to get beyond and underneath institutionalised responses, and institutionalised interpretations of those responses, is not straightforward. Perhaps, again, being sensitive to the issue of institutionalism, being aware of the potential for approaches and interpretations to become 'locked-in', creates greater recognition of this dilemma and could lead to seeking more triangulation of perspectives, to showing more tentativeness in shaping conclusions. This is not to say that institutionalised cultural responses are either helpful or unhelpful. Some inculcated ways of behaving – for example, caring about inequality – are unarguably beneficial. The more general point is that we may not give much attention to the way our attitudes, for good or ill, are instituted in our society, time and organisation and this may distort to what we give attention and how we interpret what we see.

One aspect of institutionalisation is the way power plays out, the difference between formal and informal processes and the difference between what is espoused and acknowledged and what is hidden and sometimes unconscious. These issues of power influence what happens and are part of the complexity of the situation and cannot be ignored. Power and politics influences what people say during research, and to whom it is possible to speak and they influence what is deemed important and how research is focused and reported. Seeing these issues as part of the complexity of the system and endeavouring at least to be conscious of this process, is important. In part, raising issues of complexity – with their focus on uncertainty and limits to knowledge and control can be seen in itself as a political issue.

5.3 Are interventions sensitive to context? Do they allow for customisation, experimentation and learning?

Complexity thinking emphasises that, whilst we can learn from other situations in other places, what works best is likely to be specific to the particular characteristics of the context. What makes Turkana different from, say Wajir or the Sahel? The personality and history and culture of the Turkana (including the fact that the British did not 'colonise' the area with all that that meant for good and ill), the longevity of aid, the relationship of Turkana with the rest of Kenya, the position close to so many borders, the climate, the terrain and the role of particular individuals (for example the Minister of State for Development of Northern Kenya and Other Arid Lands, Mohammed Elmi, who previously worked with Oxfam and is regarded as a 'force for good'), to mention a few. How do these systemic factors mean that one approach that works elsewhere may not work here and vice versa? How can interventions be customised, respond to such path-dependent and systemic factors, seize opportunities particular to the context and avoid particular obstacles?

Again, this is well understood by many agencies in the region, who work hard to capacity build, to find ways of the local community owning change, making enlightened decisions, taking responsibility.

The Italian government built a cannery and refrigeration unit. It led to over-fishing of the lake. It has all gone to rack and ruin now. The Japanese government in contrast are there now, helping to set up cooperatives, using small boats. Fish is actually being exported now and the lake is not being over fished. We've learned small scale is the way to go.

One such approach is community-led total sanitation. Instead of focusing on the building of latrines which may not get used or maintained if the community do not feel ownership for them, the idea is to maintain the goal – open-defecation free – but be much more flexible in how this is achieved. So can processes be found which use local materials, which suit a nomadic lifestyle, which make sense to local communities? The thinking is that if people 'own' something and it is relevant to them, then they maintain it.

Building latrines does not work. People do not maintain them or clean them; there is no ownership. A better measure is community-led total sanitation – how many villages are open-defecation free – by whatever means. Groups can build according to their ability, then move up the ladder. It creates dignity. Development is changing, going more towards the community.

A similar approach is being taken in the provision of wells and pumps. Can a local group take responsibility for maintenance and then charge a little for the water, where this revenue can be used to pay for maintenance? Whether an experiment or new approach is successful depends on whether it reflects and harmonises with local conditions. Its success is both local and systemic. It is only if it succeeds that it can spread, will be adopted more widely and becomes more universal. The success of initiatives such as M-Pesa also exemplifies this thinking.[27]

There are field schools which teach animal husbandry, breeding, making hay, how to keep bees. It fits with the nomadic lifestyle. There are also some mobile primary schools too.

[27] M-Pesa allows cash transfers via mobile phones between individuals, facilitating transfers between family members and through social networks in the context of increased mobility (Johnson, 2011)

This contextual thinking brings into question the thinking underpinning the government initiative to provide uniform health care across Kenya. One part of the plan is to provide two community health workers for every 5000 people, together with a dispensary. The health workers will be trained for 45 days in all aspects of public health. This is a laudable goal and has been achieved in some parts of Kenya but will it work in Turkana? Would local people travel somewhere to be trained for 45 days? Would non-local people cope with living in such a harsh and isolated environment? The implementation has stalled in Turkana in part as the cost is so high. Is fresh, more pragmatic thinking needed? Whilst goals and principles and intentions can be global, the implementation needs to reflect the local issues, build on what is already in place, use the available resources, be realistic. Implementing the 'gold standard' in a very few places whilst putting the rest on hold, which is what seems to be being suggested, does not sound likely to lead to a sustainable process of change.

> *The government insist on having a set number of nurses per head of population. In some parts of Kenya there are so many nurses that some are just doing admin jobs, just writing people's names down. In areas like Turkana where people are so scattered it is nowhere near enough.*

This issue of the tension between, on the one hand, accountability, scale, evidence and, on the other hand, the subtlety of learning, responding to the context, enabling, adapting, flexibility was reported in a number of the reviews and reports listed in Appendix 2, as illustrated by the quotes below.

> Kenya staff felt that Oxford were obsessed with numbers and scale, and that the Country's voice was not heard regarding context, both in relation to the impact of the long term programme, and what was required for the scale up.
>
> (Real-time evaluation of drought response)

> There also has to be a fundamental shift to integrated, long-term, flexible programming that aims to reduce the risks faced by peoplewhose livelihoods are extremely vulnerable.
>
> (A Dangerous Delay: The cost of late response to early warnings in the 2011 drought in the Horn of Africa)

Decision makers are often not comfortable with uncertainty and forecasts, requiring hard data before initiating a response. So, while many people 'on the ground' in the region – representatives of many agencies and institutions, and communities themselves – were aware of the impending crisis and trying to set alarm bells ringing in January and February 2011, they were not always able to get traction 'further up the chain' from those who needed to act to avert another crisis.

A Dangerous Delay: The Cost of late response to early warnings in the 2011 drought in the Horn of Africa

Communities must be at the heart of decision making. To achieve sustainable and resilient livelihoods it is essential to facilitate effective participation, especially from women, so that people living in the drylands are enabled to make better-informed choices, at both individual and communal levels.

International agencies should work with governments and communities to support these measures.

A Dangerous Delay: The Cost of late response to early warnings in the 2011 drought in the Horn of Africa

Relationships and trust

Another issue related to context-specificity is the importance of relationships. People who worked in Turkana or worked on ASAL programmes in the past attributed in many cases to the strength of relationships the successes they had, the ability to innovate. Trust in relationships – between staff in Turkana and staff in Nairobi, between agencies and with government officials developed over time and enabled people to trust opinions, take risks to innovate, push for new approaches. When there is high staff turnover, this lack of relationships can undermine trust, place more attention on process and cause people to engage less participatively and reach conclusions more independently.

The idea that change must be in tune with local and systemic factors and needs flexibility and agility, is well-documented in the complexity literature and indeed in the Development literature. And, as evidenced by the quotes above, is well understood by those in Development. This context-specific approach needs to be coupled with experimentation to find out what works, adaptation over time to unintended consequences, building on unexpected successes as well as learning from failure. This is not straightforward in practice however. As discussed previously, there can be time lags between interventions or events and outcomes and sometimes, when attitudes are changing and people are trying out new approaches, things can get worse before they get better. How long do you wait before you conclude a change of direction is required? Such decisions will require judgement and the involvement of multiple stakeholders with views from different perspectives.

The issue of the non-linearity of the environment

One of the issues to face in getting to grips with the context is to work to understand and judge how stable is that context.

Instituted attitudes, as discussed in 5.2, is one example of 'lock-in', a situation or mindset where there is 'strong mutually-supporting inflexibility'.[28] As discussed in Appendix 3.3 complexity

[28] http://www.oxfamblogs.org/fp2p/?p=11684

theory shows that there is potential for differing phases of interconnectivity: **lock-in** where situations have become rigid and inflexible and hard to change; **self-regulating resilience**, where the pathways are stable yet flexible, where there is diversity and the potential for adaptability; and **chaos,** where there is little structure, no established patterns or pathways. Holling's work on forest brings these differences to light in an engaging way.[29] In general, as Holling shows, situations tend to drift into lock-in due to positive reinforcements leading to the successful becoming more successful, the powerful becoming more powerful and self-reinforcing relationships and processes are hard to break. How to intervene is very dependent on which of these regimes are in play. Often in situations of lock-in, the need is to find ways to break existing relationships and synergies, fracture alliances, work against rather than with the status quo. In situations where pathways and processes exist but are not overly constrained, the approach is one of adapting, nudging, learning. In chaotic situations the task is to help to build processes, reinforce any emerging structures and relationships.

Which of these is relevant to Turkana? Certainly many of the relevant factors – drought, instability, marginalisation by government, corruption, poverty, poor infrastructure are self-reinforcing and representative of 'lock-in'. For example poor roads coupled with marginalisation by government mean that implementing improved public health initiatives is hard and this is exacerbated by poor educational levels which means public health workers may need to come from outside but those coming from outside do not find Turkana an easy place to live – due to climate, poor infrastructure and instability. Getting out of this lock-in may need big thinking, large interventions, high-level influence and tackling under-pinning determinants of empowerment such as education. Locked-in situations are hard to shift but also less resilience, prone to collapse.

The work centred on HSNP, discussed in section 5.1, shows the power for change if several issues are tackled together, adaptively and synergies found and exploited then change can happen. And sometimes the requirement is to find the key, the pivotal issue around which change can coalesce, as exemplified in the next section by the upcoming elections.

Judging the context in this way and deciding how to intervene is not straightforward. Nevertheless considerations of this nature are important in that they shape the nature of interventions and help to make sense of outcomes and inform next steps.

[29] See http://www.worldwatch.org/node/6008

5.4 Tipping points; anticipating and seizing opportunities

Complexity theory emphasises the idea that existing patterns of relationships, comprising the existing status quo, can be changed irreversibly and exponentially by 'events'. Such 'events' can be small scale – the actions of catalysts and change agents or indeed, more negatively, of corrupt officials or biased decisions. Or they can be large-scale, such as (positively) the arrival of new leadership dedicated to the welfare of local communities or (negatively) the building of a dam which has the potential to cause Lake Turkana to reduce in volume and compromise fishing.

Thinking in this way – of looking for critical moment, potential levers and catalysts – of looking for 'tipping points' – creates sensitivity to key events, to seizing opportunities, to recognising that, as one interviewee put it, 'now is the time'. This goes against a planning culture which implicitly assumes that the status quo will prevail or will change incrementally; that initiatives can be rolled out or scaled up in uniform fashion. It also goes against an approach where people tend to focus on their particular project or programme and where attitudes and processes are not in place to review the wider field, to foresight potential futures, to look at factors widely and systemically.

One interesting question is to ask whether 'tipping points' in the past were recognised and responded to. This is a difficult question to answer retrospectively as there is a tendency to tidy up and simplify retrospective narratives[30] and report them as if the causes and effects were more clear and attributable than was perhaps the case. And the views as to what was perceived and whether or not it was acted on are many and varied. A case in point is the drought of 2011. Did the early warning system suggest a drought was imminent? Did staff and officials in Turkana and elsewhere recognise the signs? Why was action not taken earlier? These questions were asked of many people during the interviews and there were differing perspectives. These ranged from 'we knew there was a drought coming but the money to fund such emergencies had run out', 'we knew there was a drought coming but no one would listen', 'we knew there was a drought coming but because there were new people in post they did not trust us and wanted harder evidence, by which time it was too late', through to 'we are so used to drought it did not register that this was more serious'. Finding a multiplicity of perspectives is illustrative of the fact that whether or not something is at a 'tipping point' is not always clear and unassailable. But, as the quote below from 'A Dangerous Delay' commissioned by Oxfam and Save the Children to review the drought response makes clear, by the time tipping points are unequivocal, it can be too late.

[30] A recognised phenomena named retrospective coherence (Snowden 2007)

> *It was only when the crisis reached a tipping point – when the March–May rains had definitely failed and the only possible trajectory was towards increased hunger – that the humanitarian system began to respond at scale.*
>
> A Dangerous Delay 2012

With all this in mind, it is striking, however, that there seem to be several potential major 'tipping points' arising in Turkana over the next year.

The first is the elections. Coupled with the new constitution which devolves more power (and power over resources) to the county level, the need to elect 'good', community-focused, open, honest, forward-thinking leaders has never been more important. Here is an opportunity to break with the past, get people gaining confidence in a new era. Here is an opportunity to set the future. Done well, it will ensure good committed leadership, strategic and non-corrupt use of development funds, the start of a new era. Done badly and it will be an irreversibly-lost opportunity, a sense that nothing can change.

> *There is a real opportunity coming for change with the new constitution. The county approach will change things. There will be real decentralisation. But it depends on the election of the right leaders. People desperately need capacity-building in how to select leaders. This needs to happen* ***now****; it is a unique opportunity that, if seized, could really set the conditions for the future. This is the time. This civic education is something where INGOs could really have an impact.*

How can this be achieved? As interviewees explained, there is a critical need for governance initiatives, for capacity building around civic issues. What to look for in selecting leaders, how to understand the processes?

A systemic, emergent view emphasises the importance of seizing such moments of history and enabling local people to seize these opportunities. The impact of tackling such 'big' political sensitive factors may be problematic for a number of reasons, but losing the potential to seize such key moments may render other, more traditional, development initiatives insignificant and compromised.

In fact, as already discussed, the election is only one of the macroscopic, global issues facing this community. There is also the finding of oil. And there is the dam in Ethiopia. This latter in

particular seems a crucial issue. If Lake Turkana significantly reduces in volume and increases in salinity and the fish cannot reproduce, a vital source of livelihood and food disappears. Could this sound the death knell for the region? An ability to cross the lake would also increase border conflict. And it would have unimaginable environmental consequences.

The lake offers opportunity to local people, paradoxically because it is not easily commercially viable for big enterprise. The Japanese government has been supporting local fishing practices, providing small boats and this has been profitable and has resulted in export of fish.

This process of an upstream country hijacking a river is not a new story. It is happening now in Mali[31]. And a classic case study of development gone wrong featured a dam which changed the flooding of the river, affected livestock and seasonal farming in Senegal in the 1990s[32]. Is this issue of the Ethiopian dam claiming enough attention?

6. Implications

6.1 Is complexity a useful way of looking at things?

One of the motivations of this work was to ask whether complexity thinking is indeed useful. Does it reflect or encourage good practice? Is it congruent with the views and experiences of those who learn through experience, of those on the ground? Does it provide a framework from which to think forwards?

The general conclusion of this research is that complexity thinking is indeed congruent with and does give support to many of the methods of development encountered. The consistently-expressed views of agencies working close to the ground, of seasoned Development workers who came to know Turkana, and of reflective evaluators - as to what works and what does not, what gets in the way, what facilitates change - fit with the complexity paradigm. As discussed, there are many examples where people work and design holistically, look for continuity and sustained approaches, customise and contextualise, engage widely with stakeholders, synchronise, coordinate, think integratively and longer-term, plan withdrawals and transfers of expertise.

There is recognition, as discussed, that change takes time, needs a combination of experimenting, seizing opportunities, responding to local contexts together with continuity and consistency.

[31] New Scientist March 24 2012

[32] Water and Poverty Linkages in Africa; Senegal Case Study, Stockholm Environment Institute

There are gaps, however. Is enough attention given to the way the future builds on past events, history, interventions? Is the impact of issues in the wider environment, the ways interconnections go wide and across scale given enough value or is the focus more limited? In what ways can complexity thinking highlight such gaps and help to change mindsets as to what is deemed 'professional' and best practice?

A coherent framework

First, the complexity paradigm offers a coherent framework in which to express these views of experienced practitioners *together*, systemically, rather than as separate and distinct pieces of advice and learning. It provides a self-consistent dialogue which links these issues into a whole and shows how the themes – working systemically, contextually, participatively and adaptively – are mutually congruent. In other words you can't have resilience without diversity and multiple pathways; you can't have learning without adapting to local situations and so on.

A 'new' scientific legitimation

Second, complexity thinking, derived from the science of open systems, provides a 'new' 'scientific' legitimation of such systemic, contextual approaches and stands in contrast to the still-dominant idea that science legitimates prediction, linear causality and control. So it gives power to the counter-argument that to be professional is to be agile, responsive, holistic, contextual. It emphasises that we have been beguiled by the wrong science, by the science of closed systems, by notions of linear interactions, of stability and an implicit assumption that the current conditions are here to stay. When this reality of complexity, interconnection, diversity and dynamic change is taken into account, then better choices can be made.

This legitimation of work that sits within the complexity paradigm is also useful in challenging the desire for specificity and linear accountability that underpins common approaches to programme design and monitoring and helps to change mindset as to how such methods are best applied as well as helping to shape new approaches.[33]

Shifting mindsets

The central issue is one of shifting mindsets. If people really *believe* that things are interconnected, uncertain, shaped by the past, subject to sudden shifts, then they approach everything differently. Shifting mindsets is, one can argue, of more importance than developing new methodologies. Methods follow mindsets not the other way round. Complexity science provides a way to illustrate why assumptions of linearity, prediction, clear cause-and-effect, best practice are misleading and ineffective in most social and ecological systems.

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[33] There is a growing interest in impact assessment and programme design for a complex world, e.g. Patton (2010), Bevan (2010), Boulton (2012)

6.2 Issues highlighted through this study

In this section is summarised the issues of general applicability for Turkana drawn through 'looking through a complexity lens'.

Development professionals 'discover' complexity principles through working over time in a given context

Those people I spoke to who have worked over a period of years in Turkana developed, through experience, methods and approaches that ally with complexity thinking. There are innumerable examples of good practice in Turkana as seen through a complexity lens (HSNP, community-led sanitation, work with supply chains, drought early warning systems). In exploring with those who had been part of the development (or local customisation) of these ideas why this was so, they placed a great deal of emphasis on learning over time, on learning from the past, on really getting to grips with the context and on building relationships and trust. This stands in contrast to a view, held by some, that experienced professionals know what works, can take their learning to a new context without necessarily having to immerse themselves in the particularities of a new situation and its history.

The seeming tension between evidence and efficacy

One of the issues highlighted through this study is the seeming tension between the requirements for accountability and the requirements of working effectively with beneficiaries. Many people reported that some donors are increasingly looking for measurable, short-term, big scale initiatives which deliver tangible benefits clearly resulting from tangible inputs and that this trend is reflected in internal approaches and management processes. Increasingly, so people reported, such donors require detailed plans, detailed monitoring, certainty, and attributable and concrete outcomes over relatively short timescales and that this attitude is being mirrored with Oxfam.

Donors like wells and latrines and schools. They can be counted, they can be photographed. They are less keen to fund capacity building or governance.

An awful lot of money has been spent in the past on capacity building with little to show for it. We do need ways of showing impact of softer interventions. We can't just do it and not be able to demonstrate some evidence of impact

If this is the case, then this mechanical worldview of (at least some or some parts of) donor organisations and their constituencies is standing in opposition to the adapting systemic responsive practices which lead to sustainable and effective outcomes. As already argued,

sustainable change is systemic, cumulative, context-specific and sometimes takes time to show results. There are times when things can seem to tip on the head of a pin; there are times when there is nothing, seemingly, to show for the work that has taken place. If there is a 'tipping point', this can lead to credit for the change being attributed to the last agency to intervene rather than understanding that this tip has resulted from a slowly-emerging process where for a time there is nothing to show and then suddenly everything has changed. This is the nature of social change.

Many interviewees seem to experience a mismatch between the methods adopted to commission and monitor work – following a machine view – and the needs of working effectively with beneficiaries – requiring a complexity view – as being probably the most problematic aspect of their work.

The issue of donor and management attitudes is contentious and requires further exploration beyond the scope of this study. Those interviewed are perhaps primarily experiencing the processes of commissioning and evaluation[34]. This may stand in contrast to the way programmes are designed and conceived[35] and indeed in contrast to the intentions of those in leadership positions who want to engender an approach which encourages learning and customisation but whose views are not necessarily translated into the implemented processes and consequent culture.

It is important to emphasise that this is not a plea for *no* measurement of impact, *no* evidence of money well spent, *no* processes and procedures. There is work going on to develop more subtle and systemic approaches to measurement of impact that take account of the complexities of systemic change, and there is more work to be done. And the issue of culture – how to engender professionalism and clarity in reporting and decision-making whilst not becoming overly bureaucratic – needs further consideration outwith the scope of this research.

> *The daft thing is that although we spend our lives filling in forms and reporting and following the process, it does not really matter what you put in the forms half the time, just enough that you followed process. So in practice there is quite a lot of chaos and things go on under the radar. Getting things done is about working out who has power and influence, which itself can be very exhausting. Success has nothing to do with forms – unless you ignore the system.*

[34] One donor, for example said to me 'I just want INGOs to deliver effectively to the agreed plan. I'd be just as happy to commission the work with private agencies who would just deliver the contract. I just see it as a project management issue.'

[35] For example the HSNP, a shining example of complexity thinking, was initiated by DfID

Potential major tipping points in the region

The work highlighted the potential for responding to upcoming potential tipping points, as already discussed in 5.4 (elections, the dam, oil). One other area that was mentioned as an issue growing in importance is the need to work with **youth**, as exemplified by the quote below.

> *People do not want to give up on pastoralism, they just have no choice in some cases. We have lost badly on our culture – street children, people flocking into towns, urban poor loiter and are answerable to no one.*

Seeking consistency and synchronising approaches

The importance of working towards consistency and coherence of approach between actors in the field has been discussed in section 5.2.

Valuing the past

The way the past shapes the future and the potential for learning from the past and from those who worked in the area in the past seemed an important issue which could give tangible benefits, as discussed in 5.2. This is an interesting issue in that, when this was raised with more senior management, there was some incredulity at the suggestion that contacting people from the past was almost discouraged and also the question was raised as to how to establish this as a process.

This topic is a good example of the effects of cultural norms and accepted practice. There is unlikely to be any intention to discourage looking backwards but 'bothering' people who had held posts in the past could be seen as lacking confidence or being a nuisance. And learning from other parts of the world, seeking best practice can be seen as more future-oriented and confident and 'modern'. In general the mechanical worldview tends to see the past as the past, with every new situation as a fresh start, a 'green field site'.

In this research, the experience was that 'people from the past' were delighted to be asked, really enjoyed the conversation which gave them a chance to reflect on their own highs and lows and learnings. The shift required is one of mindset rather than one of process.

The importance of civic empowerment and education

The vital role of education in general and civic empowerment in particular, in helping people to understand their rights, how to influence policy decisions, monitor spend, hold government accountable and become adept at selection of leaders has been emphasised and discussed in 5.3.

Evidence of change

The educated Turkana with whom I spoke were generally positive about the changes occurring. They felt, for example, that pastoralists, whilst committed to their way of life, were making changes, could see the positive impact of education on their neighbours and wanted the same for their own families, were encouraging others to take up opportunities to be immunised. There were increasing examples of small enterprises being established – to make school uniforms or maintain pumps or make charcoal. The examples given of change all focused on the effects of increasing empowerment, of capacity building. And the role of microfinance supported by smart cards and ATMs was well-recognised too. Clearly the statistics still point to a region with very severe problems of every conceivable form, but this optimism was striking.

> Pastoralists are increasingly seeing the importance of education and want at least some of their children to go to school. It means lifestyles are changing; the men move with the livestock but the women and children are more likely to stay in one place.

The field trip in North Turkana did however raise notes of caution regarding this optimism. It was evident how some communities seem to have few livelihood options and seem constrained in what they feel they can do. The fishing communities seemed the most positive and vibrant. And the evidence of impending change through oil exploration and changes to Lake Turkana also seemed very imminent. But the existence of many healthy herds gave cause for optimism. The need to focus on attitudes and availability of education and ways to make more out of herds (when and where to sell, other 'products' such as cheese or skins) would seem to be fruitful avenues.

6.3 Conclusion specific to Turkana

Conclusions – regarding the use of the complexity framework to view development and humanitarian work in Turkana – can be summarised as follows:

- There are many examples of development work in Turkana which are holistic, build on learning and experience, connect multiple issues, involve many stakeholders, and are sensitive to context. These examples are congruent with a complexity mindset.

- There are also examples, some driven by the government, where a standardised approach fails to reflect the particularities of the harsh context with its unique history.

- More attention could usefully be placed on reflecting and learning from the past as part of an analysis of relevant factors.

- The issue of coordination and continuity of approach (and staff) across agencies continues to be problematic. The importance of maintaining relationships between people rather than connecting organisations primarily through processes is also worthy of consideration.

- More focus could be given to engaging with the major potential tipping points facing the area – the Ethiopian dam, oil exploration and the upcoming elections. Not engaging with these key factors could significantly limit the impact of more ongoing interventions. Sensitivity to potential future tipping points requires changes in process (to 'foresight' future possibilities in a wider context) and changes in attitude.

- Education – tackling the reasons why take-up of education is so low – together with civic empowerment and civic capacity building seem key determinants to enable the Turkana to seize their own destiny, have a voice in the major issues facing the region.

- The key livelihood of livestock rearing would seem to have potential for more investment and development.

- Recognising the tensions between working in complex contexts and satisfying the commissioning and monitoring processes that sometimes assume greater simplicity of cause and effect, of intervention and outcome, is an important mindset change.

- The need for impact assessment that reflects complex contexts and provides evidence of impact but does not constrain methodologies is of major importance.

7. SO WHAT: practice informed by complexity thinking

In this concluding section, we engage with the question: if the world is complex – interconnected, path dependent, affected by the particularities of context, subject to the possibilities of tipping – then what does that mean for practice? Can the insights from researching Turkana be applied more widely?

This section needs a caveat. The focus of the research described in this report was primarily external – focused on understanding the particularities of Turkana and the way agencies of various kinds had worked there. As already explained in section 2, this research has not included an in-depth focus on the internal - the culture and processes of Oxfam itself. This work has sought to answer the question as to what might need to change in terms of mindset and approach (take more note of the past, set up processes to scan the wider environment to identify potential future tipping points) but it has not sought to answer how Oxfam could seek to implement such changes (structures, communication processes, selection criteria, staff mobility, relationships with stakeholders etc).

As emphasised by complexity, ways to change an organisation need to build on the past, take into account current culture and mindset and be contextually sensitive. So consideration of how specifically to develop an organisation to reflect complexity principles would need greater engagement with that in mind.

1. Expect the world to be complex; engender a complexity mindset

An underpinning theme in this report is the need to see the world – and certainly many of the situations encountered in ID as complex (with all that that means) rather than simple. The ‘so what’ argument is that if we really do accept uncertainty, connectivity, the potential for tipping points, the impact of the past and the importance of context – then we approach everything in a different way. It is not merely, or mainly, a question of developing new methods. It is a question of using existing methods with a different approach, asking different questions, reviewing more often, looking for interdependencies, including contingency, accepting learning, failure and indeed successes in unexpected ways.

How to do this? In part it is helpful to understand the science of complexity, understand from where it came, to what it applied and discuss the limits of mechanical science as applied to social systems. This theoretical underpinning helps to justify why adopting complexity principles is more that just a heuristic, an option but is based more solidly on a scientific understanding of the behaviour of the natural and social world.

In addition to this science view it is helpful to explore the psychology of a search for certainty. There are models of psychological predispositions[36] which show that handling uncertainty and ambiguity and paradox and taking a wider view comes with maturity and experience and over time. This impacts recruitment profiles, places a focus on developing people to explore the complex world, adopt reflective practices, explore more widely - and also suggests that it is not necessary nor feasible nor desirable to ask everyone to 'embrace complexity'. There are wide-reaching issues of culture and process, of what is valued and rewarded, what is accepted practice, what is the prevailing worldview.

Thirdly, it is helpful to engage people in discussions and examples of their experience. Does their life or project or strategy go to plan? What shapes the way things happen? Do they have examples of outcomes caused by many factors, or new things emerging that they had not expected? A comparison of 'real-life' and 'real-world' examples with the ideas of complexity science can help to validate those ideas.

2. Envision the future and watch out for future 'tipping points'

Complexity theory tells us that the future is not in general an extension of the present. There is the potential for 'tipping points', when completely new factors can emerge and radically change the way things are. The difficulty with consideration of potential future tipping points is that we cannot be certain that they will happen but, if we do not act until we are certain, it is likely to be too late. This of course underpins the dilemma in responding to droughts.

More generally though, if we are to spot the likelihood of future tipping points, we have, as a starting point, to have a mindset that the future may be different, radically different from the present. We are then more likely to be motivated to look more widely for information in the wider arena (in the social, economic, environmental, political and technological domains), look for signs of impending change, and look for potentially critical tipping points at both macro and micro level.

It was interesting to find that many people I interviewed do this quite naturally. For example the Turkana fishermen were very willing to discuss the potential impact of the Ethiopian dam and were well-informed and very aware of the issues. And many staff in the Lodwar office seem well-connected to local political and other systems, more than willing and able to discuss, for example, the future of nomadism or the importance of the elections. The issue perhaps is more an institutional one – are there processes in place to *ask* people what they are sensing about the wider environment, about the future? Or do most management processes concentrate on managing and reporting on existing programmes? Is time built in for discussion about the wider environment and do such discussions involve a very wide range of stakeholders?

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[36] For example models developed by Stamp and Torbert explore differing aptitudes to embrace complexity. See http://www.embracingcomplexity.com/claremont/scripts/page/claremont_coaching.php?gi_sn=503774064bc99

There are some techniques to help with such processes – so-called foresighting[37], for example, and scenario planning[38] techniques which can help to brainstorm possible future and identify issues which, although not certain to happen, will make a radical difference, for good or ill and should not be ignored.

And the willingness for organisations to act on what might be rather than what is certain is of course problematic – requires trust in people's judgement, a willing to act in situations of some uncertainty, a willingness to have 'no regrets' if such judgments do not pay off.

> No-regrets actions are actions taken by households, communities, and local/national/international institutions that can be justified from economic, and social, and environmental perspectives whether natural hazard events or climate change (or other hazards) take place or not. "No-regrets" actions increase resilience, which is the ability of a "system" to deal with different types of hazards in a timely, efficient, and equitable manner. Increasing resilience is the basis for sustainable growth in a world of multiple hazards (see Heltberg, Siegel, Jorgensen, 2009; UNDP, 2010).

In programming and commissioning work, working with the idea that the future is not entirely knowable, that plans may not work as intended, suggests that it is helpful to have contingency, to review progress regularly and be able to modify approaches or shift direction if new factors have emerged. There need to be processes for learning, for agreeing adaptations for sharing learning and experience more widely.

It is also important to have a positive attitude to learning from failure, not expecting everything to go to plan; to encourage discussions about the unexpectedly good as well as the unexpectedly poor. It is easy to feel that failure must be hidden and equally easy to miss real successes because they were not identified in the initial objectives.

3. Work holistically and contextually

In order to work holistically, we need the mindset that the world is interconnected; specifically, that many aspects of ID, many aspects of poverty and disadvantage are inter-dependent, affect each other synergistically or antagonistically. The HSNP and associated projects discussed in 5.1 are great examples of working in a way which responds to this intrinsic inter-connectedness.

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[37] See Clayton, A., W. Wehrmeyer, et al. (2003). *Foresighting for Development*, London: Earthscan Publications

[38] See Schwartz, P. (1996). *The Art of the Long View*,USA :Doubleday UK: Currency.

Sometimes such synergies become more obvious over time, emerge out of the context and out of experience. But we can also catalyse this thinking in the way interventions are conceived and designed. We can explicitly, at the outset, look for inter-dependencies, brainstorm the likelihood of unwanted consequences, discuss where there are potential synergies or where there is the likelihood of factors working against each other.

It is very helpful in initiating and designing programme to engage with as wide a range of stakeholders as possible[39] so that the thinking about interconnections and synergies and likely affects of certain approaches is as rich as possible.

This can be supported through training people in systems mapping and mind mapping techniques to help identify interdependencies and potential wider advantages and disadvantages of planned actions. The figure describing the HSNP programme in section 5.1 is developed using such techniques.

Of course the systemic and interconnected nature of the world out there is related to but distinct from the way in which we intervene in that world. It is possible that there are situations in which we decide to focus on one issue, on one aspect of the system. However, even in that case, it is important to consider the wider impacts of that incisive intervention – does it have wider consequences on other factors and could this have a detrimental affect. Systemic thinking does not necessarily mean all interventions become multi-factored and web-like. Systemic thinking means that the understanding of the context looks for inter-dependencies and the likely outcome of any intervention is considered against this systems perspective.

> A markets-based programme is one that takes a 'whole system' view of poverty within a market context. This means looking at 'producers' as market actors who interact with markets to build their livelihoods, and as buyers of products and services. A holistic analysis of markets reveals not only the linkages from producer to consumer, but the operating environment, and the services that make the market work. Critically, these approaches analyse the linkages and power relationships between actors across the value chain and how these affect people living in poverty. Oxfam is developing a Value Chain Methodology for analysing and intervening in Market Systems.
>
> HECA ASALs: Markets Based Programming Recommendations

[39] Including some 'from the past' as discussed in the next section

Working in this way does mean that programming is contextual rather than standardised. That is not to say that approaches developed elsewhere cannot be transferred or that desired outcomes and standards cannot apply. But complexity thinking emphasises the value and importance of customisation and reflecting the situation on the ground.

4. Value the past; explore the history of the region and the initiatives that have taken place

One constant theme in this research has been the importance of path-dependency – to understand that the present is shaped by past interventions as well as by the history and culture of the region and the impact of specific events and decisions in the past.

The inference, then, for practice, is to spend time finding out what happened in the past, what was learned, what changed and what did not. Seek out those who have lived or worked there in the past or know the history and context. Seek to understand the history and culture of the region as well as the history of interventions and how the region changed over time in response. Regard this as important a part of analysis as understanding the present or comparing with other regions[40]. Resist the temptation to think that if it worked over there it will work here.

Valuing the past requires a particular mindset. We do live in a world where 'new is better' and 'the past is another country'. How to do this? There are various possibilities – making archived files easy to access, elevating understanding the context and history as part of the induction process, developing reflective 'leaving' processes before people move on, establishing exit agreements, using blogs, setting up mini virtual conferences where 'people from the past' are invited. What would work best for Oxfam would require further exploration. But the mindset change that delving into the past is worth the effort is probably the most critical issue.

Understanding the past makes it easier to judge when to continue with approaches and themes and create consistency and when a new approach is appropriate.

5. Tackle the issue of impact assessment and accountability in complex contexts

Impact assessment is motivated by the desire to gain evidence that money has been well spent, that methods are effective, that work is well-executed. These aims are clearly important and legitimate but the methods of evaluation and impact assessment are usually framed within a mechanical mindset – the notion that cause and effect are linearly related. Complexity thinking suggests that impact has multiple causes, that inputs can contribute to multiple outcomes; that

[40] This is probably best done informally through contacts rather than through systems and archives. To value past learning is as much an issue of mindset and convention than anything else.

impact can be delayed in time, is not linear and incremental. Indeed it can be the case that things get worse before they get better[41].

It is also important to consider contributions to impact bring together factors over different scales – how does the macro affect the meso and micro and vice versa?

In addition, major shifts – tipping points- in the institutional landscape may happen during a programme and may affect outcomes.

As well as quantitative methods, qualitative methods have a place, in particular in identifying new features that have emerged. So it is helpful to keep informal journals of events, outcomes, stories and to use qualitative participative methods to surface unexpected impacts, identify emerging patterns of change.[42] Such qualitative techniques can then highlight where to collect quantitative data to gain more concrete evidence. It can be important not just to agree what should be measured at the outset but in addition allow for the fact that unexpected impacts that emerge during the work can be measured later or retrospectively.

6. Develop the organisation to be in harmony with working in a complex world.

Established culture and processes within an organisation, contribute at every level as to how things work, what is valued, what takes precedence. This tension between desire for precision and measurement on the one hand and desire for agility and responsiveness and sustainable development is a real tension for many organisations. In addition the processes by which work is commissioned, managed and evaluated shape the ease with which it seems possible to adapt and contextualise approaches, to evaluate systemically, to respond to the unexpected.

Recent research suggests that where methods and processes do not reflect the ways in which people have to work to be effective 'on the ground' that they are prone to hide what they do, to go through the motions of adhering to designed processes and paperwork. In that way learning is not shared, processes do not evolve and much important work is hidden from view.[43]

How to undertake organisation development to facilitate working with the realities of a complex world, to ensure processes enable rather than disable is a topic worthy of further consideration.

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[41] See Woolcock, Michael(2009) 'Toward a plurality of methods in project evaluation: a contextualised approach to understanding impact trajectories and efficacy', Journal of Development Effectiveness, 1: 1, 1 — 14

[42] There is an increasing amount of new work on how to evidence impact in complex contexts – eg using thematic analysis of 'narrative fragments'. See Boulton (2012a) for a more detailed discussion

[43] Daniels, H., 2012. Institutional culture, social interaction and learning. *Learning, Culture and Social Interaction*, 1 (1), pp. 2-11.

And developing or transforming an organisation with complexity in mind is itself a political issue. It may suggest changes to structure and process with the consequential shifting of power structures. Furthermore, the complexity thinking itself, with its focus on the limits of knowing, of prediction and of control, are not welcome messages for all and will engender resistance and marginalisation of the idea of the world as complex.

Appendix 1 Interviewees

1. Joost van de Lest	ASAL Coordinator	Oxfam
2. Franciscar Ekal	Community Mobiliser	Oxfam
3. Niva Lopetet	Project Officer, Hunger Safety Net Programme	Oxfam
4. Benson Longor	Project Officer, Drought Emergency Response	Oxfam
5. Chris Ekuwom	Project Officer, Livestock	Oxfam
6. Haret Hambe	Assistant Project Manager	VSF-Belgium
7. Johnstone Ekamais	Project worker	TUPADO
8. Daniel Nanok	Manager	TUPADO
9. Onesmus Makhana	District Agricultural Officer, Turkana	
10. Christopher Ajele	District Livestock Production Officer, Turkana Central	
11. Tim Flynn	Diocese of Lodwar	
12. Brother Louis	Diocese of Lodwar	
13. Job Nyorsole	Branch Manager, Lodwar	Equity Bank
14. Sifuna Haron	District Public Health Nurse, Turkana	
15. Sifuna Innocent	District Public Health Officer, Turkana	
16. Abedi Malusha	Team Leader, Food Assistance	World Vision
17. Gabriel Ekuwam	Deputy Programme Coordinator, Turkana	Oxfam
18. Laurence Hamai	WASH Coordinator, Turkana and Wajir	Oxfam
19. John Lokarach	Trader, Kalokol	
20. Simon Chamale	Unit Manager, Turkana Office	KWFT
21. Alfred Silale	Programme Officer, Governance	TWADO
22. Eric Oyo	Programme Coordinator, Turkana	Merlin
23. Alemnee		Merlin
24. John Erupe	Hygiene Promoter	Oxfam
25. Jerusha Ouma	Governance Officer	Oxfam
26. Elizabeth Mueni	Policy and Advocacy Adviser	Oxfam
27. Koutama Abdirizak	Acting Programme Coordinator, Turkana	Oxfam
28. Izzy Birch	Advisor, Ministry of Development of Northern Kenya	
29. P Crosland-Taylor	Deputy Regional Director, HECA	Oxfam
30. Nigel Tricks	Country Director, Kenya	Oxfam
31. Helen Bushell	MEAL Team Leader	Oxfam
32. Nicholas Pialek	Partnership Development Manager	Oxfam
33. Jo Zaremba	Regional Livelihoods Change Manager	Oxfam
34. Josie Buxton	ASAL Coordinator, Kenya 2004-2010	Oxfam

35. Penny Lawrence	International Programmes Director	Oxfam
36. Jeanine Cooper		UN OCHA
37. Ian MacAuslan	Consultant	OPM
38. Chris Price	Livelihoods Advisor	DfID
39. George Ombis	Regional Programme Specialist	US OFDA
40. John Ndiku	Humanitarian Affairs Officer	UN OCHA
41. James Kamunge	Programme Officer, resilience and recovery	WFP
42. Samuel Ndeti	Programme Officer, contract management	WFP
43. Koryun Alaverdyan	Programme Coordinator	WFP
44. Eris Lothike	Ex-Programme Coordinator, Turkana, Oxfam	
45. Victor Lekaram	District Development Officer, Turkana North	
46. Philip Aemun	Resident Prog Officer (ex PC, Turkana, Oxfam)	Unicef
47. John Ewesit Ebenyo	Governance and Partnership Officer, Turkana	Oxfam
48. Susan Nsangi	Team Leader, WASH, Turkana	Oxfam
49. Simon Levine	Consultant (worked in Turkana 2006)	ODI
50. Nayelel Ewoi	Trader, Kaeris	
51. Beneficiaries	Kaeris	
52. Alice Atabo	Trader, Milimatatu	
53. Beneficiaries	Milimatatu	
54. Herders and villagers along the way to Lokitaung		
55. Anna Aremon	Trader, Lockitaung	
56. Beneficiaries	Lochitaung	
57. Cosmos Taele	Primary school teacher, Riokomor	
58. McDonald E I Edung	Chairperson, Lokitaung Water Service Provider	
59. Beneficiaries	Todonyang camp for Internally Displaced Persons, Lowarengak	
60. Mariko Samal	Fisherman, Nachukui	
61. Peter Etupat Ekaal	Trader, Nachukui	

Appendix 2 Documents consulted

1. **Real Time Evaluation of the Kenya Drought Response** September 2011, Oxford International
2. **Cash and Fish Distribution in Turkana,** Feb 2012 OI Appeal Fund Project Proposal
3. **A Dangerous Delay: The Cost of late response to early warnings of the 2011 drought in the Horn of Africa** Joint Agency Briefing Paper 18 January 2012 Save the Children, Oxfam
4. **Turkana Community Engagement in Good Governance:** Interim narrative report, 2011
5. **African Energy: Eastern El Dorado** April 4 2012 The Economist
6. **Drought Emergency Response in Arid Areas in Kenya 2012** Proposal to European Commission
7. **Sessional Paper on National Food and Nutrition Security Policy 2011** Republic of Kenya (Draft)
8. **Food Security and Nutrition Strategy 2008** Republic of Kenya
9. **Where does the money go? Citizen Participation in Turkana County**, Kenya programme Insights. Draft Feb 2012
10. **Household Economy Assessment of North East Turkana** Simon Levine and Alexandra Crosskey, May 2006, for Oxfam GB Kenya Programme
11. **Arid and Semi Arid Lands , National Vision and Strategy 2005-2015** Republic of **Kenya**
12. **Agricultural Sector Development Strategy 2009-2020** Republic of Kenya
13. **Oxfam in Kenya** Country Analysis 2012-2016
14. **Kenya ASAL Programme Strategy 2011**
15. **Market Functioning in Turkana District**, Kenya Alessandro De Matteis May 2006
16. **Turkana Integrated Programme, An Overview of Programme Work**, Feb 2012
17. **Integrating Public Health and Emergency Food Security &Livelihoods Issues: Assessing Drought and Food Needs in Turkana** Oxfam GB August-September 2011
18. **An assessment of the Maize Market's Capacity to respond to cash programming** Turkana, Kenya Market Analysis: August – September 2011 Oxfam Research Report:
19. **A Study of Small Businesses and Markets to inform Oxfam's Strategy in Turkana District, Kenya** Nov 2009 Mike Brewin
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21. **HECA ASALs: Markets Based Programming Recommendations** Accenture April 2011
22. **Can pastoralism be brought back to life? Towards a safety net and a way forward for North East Turkana.** For Oxfam GB. Simon Levine and Alex Crosskey May 2006

23. **Emergency food distribution in Turkana. A Developmental Approach**. Isobel Birch, Focus on Gender 2 (1) Feb 1994
24. **Review of Kenya Country Programme Partnership Agreement with DfID 2001-2003** (Feb 2004)
25. **Kenya Hunger Safety Net Project –** Oxfam Brief for Pilot, 2007
26. **Making the case:** A National Drought contingency fund for Kenya, Oxfam Briefing Paper, May 2006
27. **WASH KAP Studay and Baseline Survey in Turkana County, Kenya, March 2012**
28. **National Resource Management Programme 2010-2014 Compact 2. Medium-term ASAL Programme, Kenya Danish Ministry of Foreign Affairs**
29. **Role of Early Warning Systems in Decision-making processes,** Margaret Buchanan-Smith ODI, 2000
30. **Pastoralism, Drought, Early Warning and Response,** Fiona Sommer, 1998
31. **Oxfam Disaster Risk Reduction and Climate Change Adaptation: Case Study Kenya: Reducing Disaster Risk in Turkana.** Claudie Meyers, Josie Buxton and Christopher Ekuwon, 2010

Appendix 3: Background to complexity thinking

This research is framed by complexity theory and it is useful to provide a synopsis of that theory. For more information on complexity theory, there is a list of sources in Appendix 4 or visit www.embracingcomplexity.com.

A3.1 The mechanical paradigm

It is useful to start with what the complexity paradigm stands in contrast to – a mechanical way of thinking.

There has been a tendency since The Enlightenment for science to be applied into areas for which it was not designed. Scientific theories – primarily the view of the world behaving like a machine (that derives from Newton's work on planetary motion) but also the idea that the economy tends towards equilibrium (which derives from descriptions of the behaviour of gases and liquids) – seem to form the dominant discourse as to what is deemed a professional way of working in social systems. This somewhat blind adoption of theories that go beyond their reach is constantly questioned but prevails because it offers an illusion of certainty and control to decision-makers and managers – and also simplifies any mathematics.

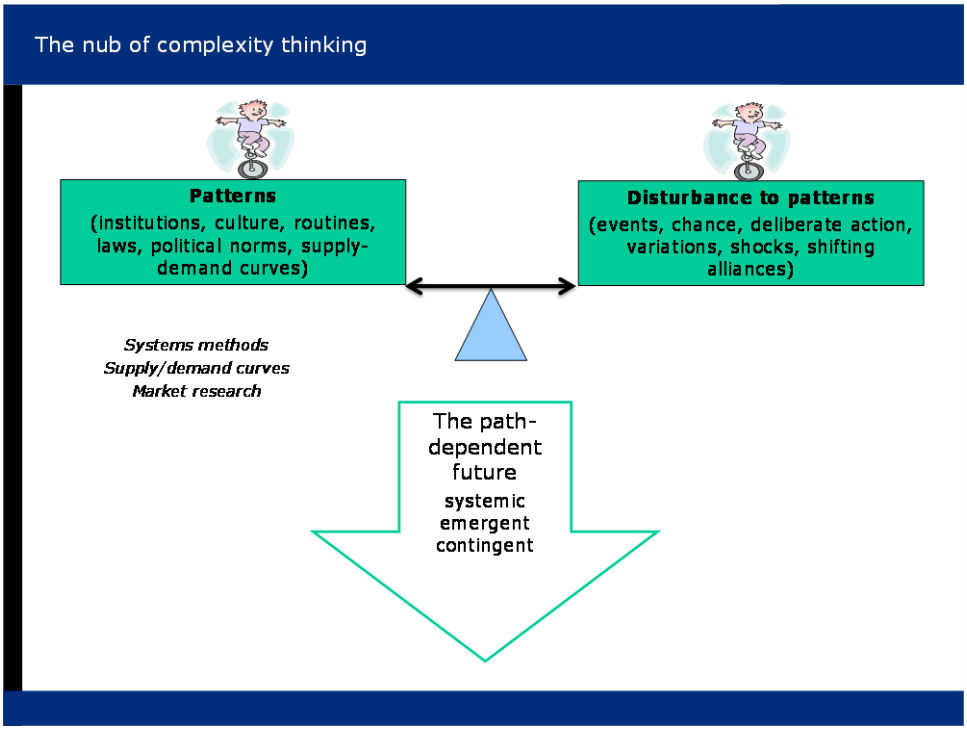
The dominant scientific paradigm applied to management tends to treat every system and situation as if it behaved like a machine – predictable, objective, measurable, with clear and unambiguous causal links between single inputs and their related single outputs. Most traditional management practices and methods of planning and monitoring derive from these assumptions. And indeed the advent of IT has allowed even more detail to be requested and analysed.

But is this a realistic picture? Does the world and do change processes within it really function like predictable and smoothly-running machines unaffected by their environment? Have we based our ideas of what is effective and professional on the wrong science?

A3.2 The complexity paradigm

The science of so-called complexity theory was borne out of the work of Ilya Prigogine (Boulton 2010) and sought to explore the characteristics of **open systems**. In other words this complexity paradigm explicitly includes the interaction and exchange with the wider world and allows for dynamic change.

This work shows (a) that patterns of relationships emerge, (b) those patterns are cohered together through the reflexive interactions of many agents whose very diversity and variation gives resilience to these patterns and (c) those patterns can be destabilised by events – by chance shifts from the norm, by the actions of individuals or by changes to the broader context due to shocks, economic or political or social or environmental shifts. This is summarised by the diagram below.

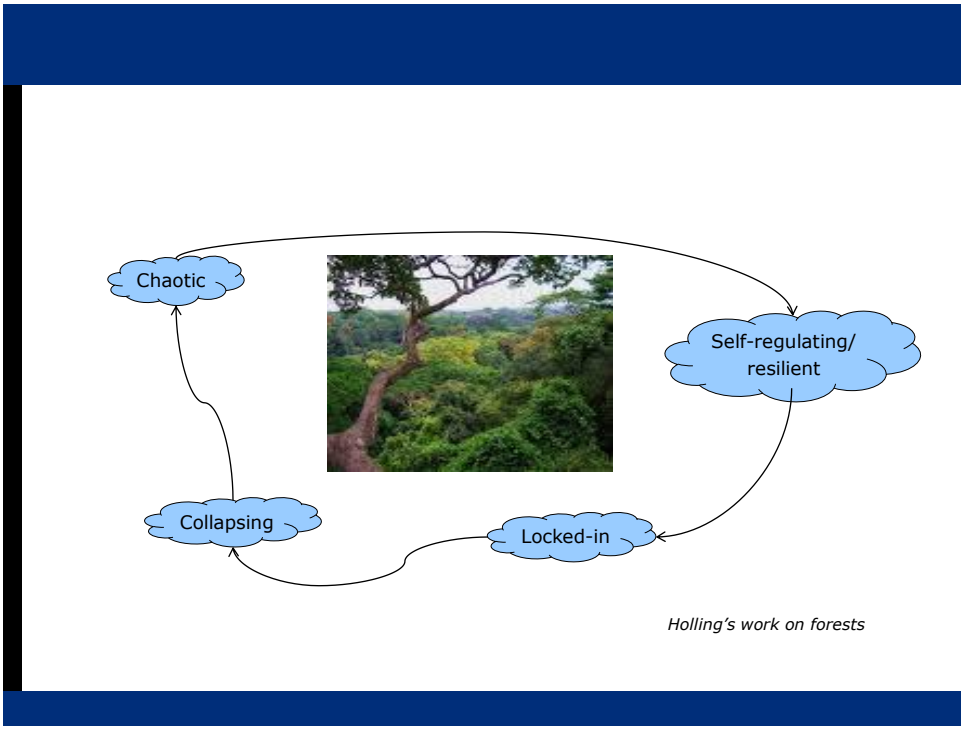


Many forms of analysis seek to understand **patterns** – the patterns of social or economic relationships – the patterns between dominant social groups, patterns of economic pathways – patterns in categories of who buys what from whom? Complexity thinking reminds us that such patterns of behaviour are not fixed or even necessarily stable. Complexity provides a **dynamic** view of the world, bringing together the interplay between current structures and patterns and the way these are affected and potentially disrupted by events and variation.

A3.3 The context can be in different phases with different characteristics

In addition, the picture from complexity is not one of smooth, incremental change, but of the existence of differing phases or regimes with differing characteristics. There is:

- **lock-in**, where patterns are set firm, pathways are inflexible and things are hard to shift in a positive manner; because the situation is brittle and rigid it has little resilience to shocks and is at risk of collapsing into chaos;
- phases of **resilience**, where the pathways are stable yet flexible, where there is diversity and the potential for adaptability;
- **chaos,** where few patterns exist and little can be understood in general terms or easily shaped through coherent interventions.



This notion of the spasmodic nature of contexts, as illustrated in the diagram above, helps to inform judgements as to how to intervene in different circumstances:

- When situations are locked-in to unhelpful and rigid patterns, the task is to find ways to break and invade these patterns.
- If the situation is largely resilient and settled, with multiple pathways and the propensity to adapt, the task is to harmonise with what is there, nudge, adapt, stretch, inspire.
- If the situation has sunk into chaos then the task is to enable, to build pathways and structures, create supply chains and infrastructure (as well as deal with immediate humanitarian concerns).
- And if things may be at risk of tipping into chaos, then the focus is on building safety nets whilst preserving that which is working.

So this judgment of the context is an important starting point.

A3.4 General features of complex contexts

So, in general, the science of open systems, the science of so-called complexity, paints a picture of a world which is:

- **Holistic/systemic:** Interconnected in synergistic fashion. We can't understand the picture by dividing it into separate parts or themes. Differing parts or themes affect each other, interact and hence lead to features which could not be understand just through analysing the separate aspects, lead to a whole which is greater than the sum of the parts.
- **Path dependent:** Intrinsically affected by history and context, where the future builds on the past, is influenced by the details of what happens and on the particular features of the local situation. Where there is a co-evolution between intervention and context, between context and the culture of those trying to effect or facilitate change. Where fads and fashions and particular explanations can gain traction and influence what is done and how.
- **Contextual :** the future is sensitive to the particularities of the context, the details of the situation, Non-adaptive, standardised interventions may often not achieve what they intended.
- **Liable to 'tipping':** where change, when it happens, can be non-linear, irreversible, and lead to the emergence of new eras with new characteristics.

A3.5 Comparison with other frameworks

It is important to comment that the advent of complexity thinking does not represent the first time that social scientists and development experts and indeed ordinary people have come to the conclusion that the world is interdependent, affected by local conditions and subject to sudden change. Such ideas come from experience, from heuristics, and sometimes underpin the ethics of empowerment and participation. Complexity theory is derived from the hard sciences, is a 'new' scientific worldview. It provides an overarching coherence as to *why* and *how* these features of a complex world work together and also provides some more insight into the processes of change.

Appendix 4: Resource material re complexity theory

Bevan, P., C. Dom, et al. (2011). Long-term Perspectives on Development Impacts in Rural Ethiopia.

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