

Enhancing food security through a multi-stakeholder process: the global agenda for sustainable livestock

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Abstract Feeding the world is not only a complex technical matter, but also a demanding governance issue. As food security has all the characteristics of a wicked problem (variety of problem definitions, conflicting interests, interconnectedness across scales, inherent uncertainties), conventional governance arrangements do not seem to work. New ways of concerted actions are introduced to better link global challenges with local practices. One example of this is the Global Agenda for Sustainable Livestock: a partnership of public, private, social, and civil society actors, committed to the sustainable development of the livestock sector. It aims to enhance shared understanding of sustainability and its underlying development issues and to build consensus on the path towards sustainable food security through dialogue, consultation, and joint analyses. This article analyses the Agenda as a new type of governance arrangement to enhance food security. It relies on a theoretical framework that consists of five governance capabilities, which are considered crucial for coping with wicked problems: reflexivity, resilience, responsiveness, revitalisation, and rescaling. The aim of this paper is threefold: 1) to assess the Agenda and learn from that; 2) to evaluate the capabilities framework as a tool to assess governance arrangements; and 3) to reflect on the potentials of new governance arrangements to deal with food security. The article illustrates how the governance capabilities framework can be used as a

tool to analyse the multi-stakeholder platform for enhancing food security. It concludes that the Agenda successfully encompasses many elements of these capabilities although improvements are possible.

Keywords Food security · Sustainable livestock · Wicked problem · Multi-stakeholder dialogue · Governance

Introduction

In 2050, the world population will reach 9.6 billion. This seriously challenges agricultural systems to increase production, access and affordability of food, so as to provide for all. Projected increases in demand for animal protein, particularly in emerging economies, are likely to maintain livestock's position as one of the fastest growing agricultural sectors (Thornton 2010). These developments will, in turn, exert further pressure on social structures, biodiversity, scarce resources, and environmental quality (Khan and Hanjra 2009). Therefore, the ultimate goal for the coming decades is to develop livestock systems that address the global food security challenge in a sustainable way. The vast diversity in livestock systems and the different demands and expectations placed on the sector have contributed to the difficulties in public policy and investment. It has also led to a poor understanding of how the sector, in the context of an increasing world population, growing scarcity of natural resources, and accelerating climate change, can best contribute to sustainable food and agriculture. Continuous improvement towards sustainability is thus not only a complex technical matter but above all, a demanding matter of governance (Barling et al. 2002). As food security is often conceived of as a wicked problem, traditional policies do not suffice (Candel et al. 2014). Policy makers, business actors, and NGOs across the world are experimenting

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with various new governance arrangements, such as the Multi-stakeholder Platform of the Committee on World Food Security, the Global Roundtable for Sustainable Beef or the Southern Africa Food Lab, to mention a few (Duncan and Barling 2012; GRSB 2014; SAFL 2014). This paper analyses the Global Agenda for Sustainable Livestock - an initiative of the FAO - as a new type of governance arrangement to address the question of how the livestock sector can contribute to food security in a sustainable way.

Food security exhibits all five characteristics of so-called wicked problems (Rittel and Webber 1973; Conklin 2006). First, in contrast to ‘tame’ policy problems, food security is ill-defined, which means that there is no definitive formulation of the problem. Different problem frames are being used, such as, for example, an agricultural production problem, an environmental problem, a development issue, a trading problem, a regional issue, a food sovereignty issue or as a nutrition problem (Candel et al. 2014). Second, these problems are interconnected, which results in uncertainties and unpredictable outcomes once food security policies are implemented. Often today’s solutions are tomorrow’s problems (Rittel and Webber 1973; Head 2008). Intensification of dairy farming in Africa, for instance, may further marginalise nomadic groups and create manure management problems (McDermott et al. 2010). Third, an evolving set of stakeholders is involved, which results in a potentially unlimited number of issues that may be put on the agenda. Responding to such changing and conflicting demands puts a seriously difficult moral and democratic obligation on policy makers. For instance, water pollution resulting from surpluses of manure from livestock causes cross boundary conflicts (Norman and Melious 2008). Fourth, food security cuts across different technical and policy domains including agriculture, environment, health, energy, aid, water management, social justice, and trade. Fifth and finally, these categories of problems have no single and final solution (stopping rules) as they are not right or wrong, but simply “better” or “worse,” and “good enough” or “not good enough”. This implies that policy development may sometimes result in frustrations, stalemates and unproductive interaction patterns.

Many scholars have already shown that wicked problems cannot be solved in a straightforward way with actions taken by a hierarchic or mono-centric form of governance (Duit and Galaz 2008; Head 2008; Koppenjan and Klijn 2004; Roberts 2000; Ostrom 1999; Bitzer 2012). Rather, when dealing with wicked problems, new forms of innovative polycentric governance arrangements are proposed, such as round tables (Schouten and Glasbergen 2011), leadership networks (Nooteboom and Termeer 2013), multilevel forums (Bates et al. 2013), public-private partnerships (Diamond and Liddle 2005), communities of practice (Wenger 1998), and multi-stakeholder dialogues (Warner 2006; Dentoni et al. 2012). Private companies and NGOs have started engaging

in multi-stakeholder approaches, although the all-encompassing nature of these attempts is often rather small—that is, only the usual stakeholders known to the initiators are involved in the multi-stakeholder events (Dentoni and Peterson 2011; Dentoni et al. 2012). Bitzer (2012) shows the necessity of a broader multi-stakeholder approach that especially includes government actors.

The Global Agenda for Sustainable Livestock is an example of such a new broad arrangement (FAO 2014) (hereafter: the Agenda). Initiated by the FAO in 2010, it is a partnership that brings together a variety of actors committed to sustainable development of the livestock sector, including business actors, NGOs, community-based organizations, social movement groups, governments, research organisations, inter-governmental agencies, and foundations. The Agenda aims to 1) have an on-going process where a shared understanding is created about ideas, solutions, expectations, problem definitions, the actors involved, and the required knowledge and data; 2) create co-ownership and commitments; and 3) energize stakeholders, to take concrete actions, to realize the goals that have been chosen (FAO 2014). Whereas other initiatives focus on specific stakeholders, the Agenda is open to all and whereas others focus on certain facets of sustainability, the Agenda welcomes all (FAO 2013). The Agenda seems to be well suited to deal with the wickedness of food security governance. However, this has not yet been systematically analysed. What are the strengths and weaknesses of the Agenda? Which wicked problem characteristics are already addressed and which need attention?

Against this background, this paper addresses the question as to what extent the Agenda is an appropriate governance arrangement to deal with food security as a wicked problem? In doing so it will make use of the ‘capabilities framework’ (Termeer et al. 2013 and Termeer and Dewulf 2014). The aim of this paper is threefold: 1) to assess the Agenda and learn from it; 2) to evaluate the capabilities framework as a tool to assess governance arrangements; and 3) to reflect on the potentials of new governance arrangements to deal with food security.

Theory and methods

By governing we mean ‘all those interactions and activities of social, political and administrative actors that can be seen as purposeful efforts to guide, steer, control or manage (sectors or facets of) societies’ and governance refers to ‘the patterns that emerge from governing activities’ (Kooiman 1993, p.2). Most literature on the governance of wicked problem focuses on how-to-do strategies; how to cope, control, and manage wicked problems. However, when dealing with wicked problems, appropriate ways of observing are important as well. A characteristic of a wicked problem is that actors define problems

differently and constantly develop new problem definitions along the way, which calls for the need to observe these often emerging problem definitions. Because most governance institutions, such as formal and informal rules, are poorly equipped to support these new forms of observing and acting, other governance institutions are needed to support the observing and acting activities. Hence, a governance capability refers to the ability of actors to observe wickedness, to take action, and the ability of governance institutions to enable such observing and acting.

Termeer et al. (2013) and Termeer and Dewulf (2014) synthesized the existing literature on the governance of wicked problems into a framework that consists of five governance capabilities, each addressing a specific wicked problem characteristic: (1) reflexivity deals with the variety of problem frames; (2) resilience deals with inherent uncertainties; (3) responsiveness deals with endless sets of demands and expectations (4); revitalization deals with the lack of stopping rules and (5) rescaling deals with the interconnectedness across scales. Table 1 gives an overview of the capability framework, including assessment criteria.

Most governance arrangements are constructed around one or two of these five capabilities. We propose, however, that coping with wicked problems encompasses a balancing act across all of these capabilities. The general proposition we want to elaborate on in this article is that the more a governance arrangement is able to activate the different capabilities, the better it will be able to cope with the wickedness of the problem at hand. Therefore, we will analyse per capability how the Agenda provides conditions for observing, acting and enabling and if not, whether it is able to potentially develop these activities. The assessment criteria are used as a checklist to assess the Agenda.

The analysis of the Agenda as an innovative governance arrangement requires knowledge of the formal and informal elements of the Agenda. Therefore, the research team consisted of three people with varied involvement in the research process: a policymaker who has been involved in the Agenda, a researcher involved as a participative observer in various meetings of the Agenda, and a researcher specialised in the capabilities framework. Dialogue activities were analysed during a 2-year period. The team analysed different multi-stakeholder meetings and background documents. All documents that were analysed are published on the Agenda's website (www.livestockdialogue.org). Nearly all meetings (see Annex) were attended by one of the members of the research team and observations were put down in notes and in formal and informal documents and communications. The meetings during the Ottawa conference, such as the guiding group meetings, the plenary meetings, and the break-out sessions were observed in detail using an observation scheme that focused on content, process, and atmosphere. Additionally, the researchers organised a workshop with the

support team to discuss the specific characteristics of the Agenda's multi-stakeholder processes. Observations were coded and analysed using a hermeneutic method (Breeman 2012).

The Global Agenda for Sustainable Livestock: history and organisation

The initial idea of the Agenda emerged from several consecutive reports and meetings of FAO's Committee on Agriculture (COAG). During its 20th session (April 2007) and based on the FAO publication *Livestock's Long Shadow*, FAO's Animal Production and Health Division (AGA) reported on the need for 'managing livestock-environment interactions'. COAG recommended that AGA should build guidelines and policies for sustainable livestock. At COAG's 21st session (June 2009), AGA presented a vision document *Livestock Policy and Institutional Change for Poverty Reduction*, illustrating the many contributions livestock make to the lives of the rural poor, and suggesting targeted sector policies and institutional changes for poverty reduction. COAG highlighted the importance and necessity for the FAO to engage systematically in partnerships to enhance relevance and impact (FAO 2010). And thus, the idea of setting up a partnership was born.

At COAG's 22nd session (June 2010), AGA presented *Guidance of the Livestock Sector—Issues and Options*. A major conclusion was targeted at institutional voids and the need for better governance at all levels. COAG agreed that FAO would engage in 'consultations to establish a global dialogue' with a wide range of stakeholders, to 'sharpen the definition of the livestock sector's objectives and to identify issues that could require intergovernmental action'. AGA started the consultation and reported the results at the 23rd session of COAG (May 2012). In its document *Options for Stakeholder Dialogue in Support of Sustainable Livestock Development*, AGA suggested a voluntary agenda, open to all stakeholders, targeting the 'improvement of resource use efficiency in the livestock sector to support livelihoods, long term food security and economic growth, whilst safeguarding other environmental and public health outcomes'. COAG recognized the importance of multi-stakeholder action and agreed to the (initial) thematic priorities (efficiency, grasslands, waste). It also called for a 'novel and functional governance system'.

From the outset, the FAO did not intend to lead the Agenda dialogue, but to act as facilitator. It was a number of countries and international organizations, called the Dialogue Group, that took the lead. They also provided the budget and decided that, 'the Agenda should be built on broad based and voluntary stakeholder commitment, and act towards improved sector performance by targeting natural resource protection,

Table 1 Governance capabilities framework

Governance capability	Observing:	Acting	Enabling:
Reflexivity:			
The capability to continuously reconsider problem frames and redefine problem perspectives	<ul style="list-style-type: none"> • One's own and other people's frames • Processes of framing and its effects 	<ul style="list-style-type: none"> • Inducing people into frames • Connecting frames • Negotiating despite frame differences 	<ul style="list-style-type: none"> • Tolerance of ambiguity • Embedding reflexive activities • Process skills
Resilience:			
The capability to flexibly adapt one's course of action in response to frequent changes without losing identity	<ul style="list-style-type: none"> • Weak signals • Varied observations • Threshold and cascading effects 	<ul style="list-style-type: none"> • Learning by doing • Simulating and experimenting • Taking robust or flexible measures 	<ul style="list-style-type: none"> • Tolerance of uncertainties • Bridging arrangements • Flexible institutions • Redundancy • Improvisation skills
Responsiveness			
The capability to respond legitimately to unlimited demands and concerns	<ul style="list-style-type: none"> • Media attention • Different venues • Focusing events • Stories behind dramas and hypes • Windows of opportunity 	<ul style="list-style-type: none"> • Deciding when to ignore attention and when to react to it • Communicating sensitively 	<ul style="list-style-type: none"> • Tolerance of information overload • Be present where the attention is • Parallel structures • Political sensitivity skills
Revitalizing			
The capability to unblock stagnations and reanimate policy processes	<ul style="list-style-type: none"> • Symptoms • Interlocking interaction patterns • System archetypes 	<ul style="list-style-type: none"> • Animating people • Interventions to unblock stagnation • Addressing dysfunctional interactions • Counterintuitive intervention 	<ul style="list-style-type: none"> • Tolerance of disappointments • Readiness to introduce third actors and new content • Postponement of judgments • Intervention skills
Rescaling:			
The capability to observe and to address cross-scale and cross-level issues	<ul style="list-style-type: none"> • Cross-level problems • Interdependencies between governance scales • Fit or mismatches between governance and problem scales 	<ul style="list-style-type: none"> • Decouple levels on the problem scale • Strategies to remodel the governance scale • Strategies to match existing cross-level interactions in both the problem and the governance scale 	<ul style="list-style-type: none"> • Tolerance for redundancy and blurred responsibilities • Openness for multiple scale logics/ leaving behind scale as a dogmatic concept • Flexible institutions to create and recreate fit

Sources: Termeer et al. (2013) and Termeer and Dewulf (2014)

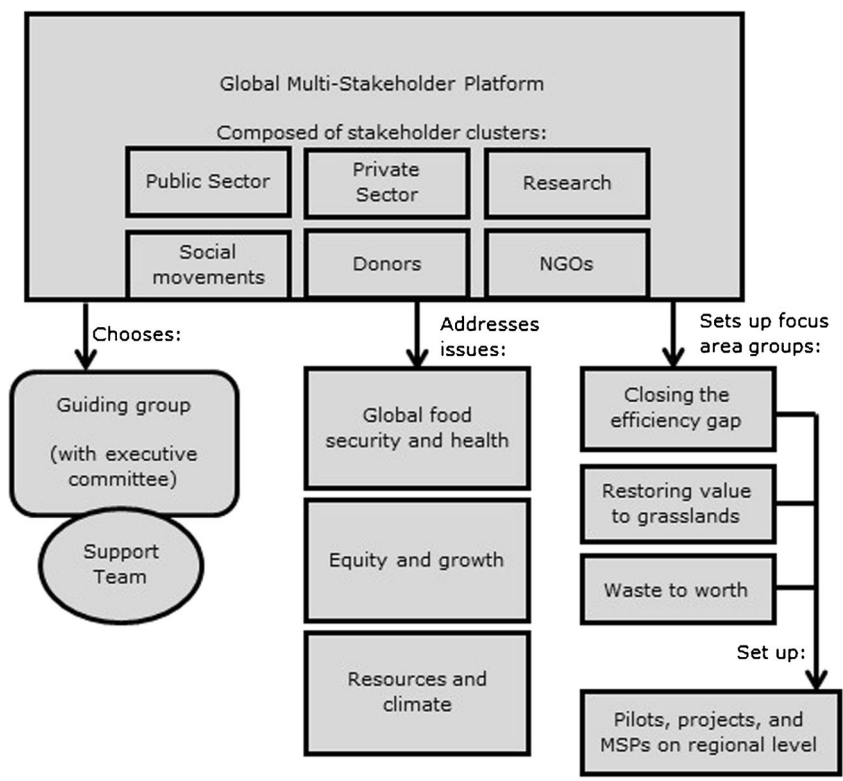
while including poverty reduction and public health protection.' (FAO 2014). The general ambition of the Agenda is to offer a platform where ideas could be exchanged and where stakeholders could reach out to other stakeholder platforms and organisations to distribute ideas about sustainable livestock. To this end, Agenda partners (i) facilitate multi-stakeholder dialogue at international and local level; (ii) implement and support joint analyses and assessments, including the development of harmonized metrics and methodologies (e.g., Livestock Environment Assessment Performance, LEAP); (iii) identify and provide tools and guidance; and (iv) promote and support innovation and local practice change (e.g., through the Climate and Clean Air Coalition-Agriculture Initiative (CCAC)).

The basis of the Agenda is the open Multi-Stakeholder Platform (MSP), which meets once or twice a year. The guiding group and the support group of the Agenda make efforts to invite as many and as different stakeholders as possible. Since 2010, four MSP meetings have been held. They attracted

between 100 and 130 attendees from across the globe. The MSP consists of six different stakeholder clusters (see Fig. 1). The first meeting focused on networking and getting organized. During the second meeting in December 2011, stakeholders agreed on three focus areas: (1) Closing the efficiency gap; (2) Restoring value to grasslands; and (3) Waste to worth. Different groups were then formed around these three focus areas. To take part in the focus area groups, stakeholders were asked to sign a consensus document to show commitment to the aims and intentions of the Agenda. During the third meeting (January 2013), stakeholders further refined the programme for each of the three Focus Areas. Since then, the Focus Area groups have been meeting regularly to develop new ideas, pilots and projects on specific goals of the agenda in different regions, encompassing regional and national MSPs.

At the fourth multi-stakeholder meeting (October 2013), participants agreed that the Agenda needed a more comprehensive perspective, concurrently addressing Global food

Fig. 1 Organisational structure of the global agenda for sustainable livestock



security and health, Equity and growth, and Resources and climate. During this meeting the attendees also decided on the organisation structure (FAO 2013). The guiding group is constituted and elected by the MSP. It is composed of representatives of the different stakeholder clusters (see Annex). The support team consists of three FAO staff members and acts as process manager and conducts administrative tasks.

Results

In the following sections, we analyse to what extent the Agenda encompasses the characteristics of the capabilities framework. We evaluate per capability how the Agenda (1) observes (2) acts and (3) enables institutions.

Reflexivity

Food security, understood as a wicked problem, is ill-defined. The many and changing facets of the problem also means that participants to the MSPs change, bringing in new problem frames. At every MSP meeting approximately 30 to 40 % of the participants are new. This forces the Agenda to continuously observe, mould, and connect the different problem frames. The Agenda aims to facilitate this reflexivity by an active brokering of an open dialogue among stakeholders and setting up arrangements which facilitate exchange. The variety results in surprising interactions. For instance,

representatives of pastoralists engage in debates with multinational meat processing organisations. And whilst such diverse stakeholders express their frames very differently (e.g., improved production and marketability of products; stable incomes; reduce disease burden; reduce impact of livestock production on the environment etc.), the MSP setting encourages them to explore where such different frames overlap, align, or can be linked.

During the MSP, the exchange of frames is organised through a wide variety of break-out sessions, e.g., between stakeholder clusters, between focus area groups or sessions that address one of the cross-cutting themes of the Agenda. To increase the participation of different stakeholders, the MSP meetings are held in different regions of the world and the Agenda also uses part of its funding to ensure geographical and stakeholder group representation. The Agenda, in collaboration with the International Committee of Food Sovereignty, also finances the implementation of a special mechanism to ensure the effective inclusion and participation of pastoralists (nomadic and sedentary); agricultural workers; smallholder farmers and indigenous people.

Attendees of the meetings see added value in the exchange of policy frames, but also face difficulties in translating this variety into relevant outcomes for their own work. For example, during the break-out sessions in the Ottawa meeting (2013), policy makers indicated that they would prefer to see more “policy making language”, in order to make sense of the Agenda in terms of policy making. Equally, farmers’

organisations pleaded for translating technical language into more practical hands-on syntax. In general, however, the level of reflexivity is high. Some stakeholders stated that ‘they engage in new dialogues—talking to people they would never have talked to before’. In this way, new networks are created continuously. The enthusiasm of the chairs of the focus area groups helps to make these dialogues successful.

Ideally, this course of activities fosters respect among stakeholders and creates a tolerance to ambiguity, whilst enabling the identification of common ground and alignment of objectives. However, this does not come easily and there is a risk of lack of progress, inactivity or stalemates. The diversity of frames and problems at hand is so large that the dialogue, although helpful in expressing the differences, may result in inconclusive goals to further shared understanding. On the other hand, pushing too hard to “put all noses in the same direction”, may damage the reflexive capability. Thus far, however, most stakeholders have remained on-board and explicitly supported the high level of inclusiveness. Nevertheless, improvements in participation are constantly pursued particularly in respect of multi-lateral donors and regional economic groupings. Furthermore, the ability of the Agenda to reflect effectively on the different problem frames, when engaging in concrete local and regional pilots and projects, has thus far been shown in a few cases only.

Resilience

The second characteristic of a wicked problem is interconnectedness, since ‘each problem can be considered to be a symptom of another problem’ (Rittel and Webber 1973, p. 165). Interconnectedness creates many uncertainties. This implies that the Agenda should be alert to signals of potential change, must be able to adapt to unpredictable circumstances, encourage learning and tolerate certain levels of uncertainty.

The Agenda is constantly moulding its internal structure to adapt to new circumstances. Initially, the Agenda was composed of one platform only. However, along the way, the Agenda established a variety of arrangements: six different stakeholder clusters, which helped to identify the changing needs and circumstances of the stakeholder groups; three focus areas which contributed to a more diverse overview of the issues related to sustainable livestock (closing the efficiency gap, restoring value to grasslands, and waste to worth); and three issue domains to enable interconnectedness of the different problems (food security and health, equity and growth, and resources and climate).

These different arrangements has led to redundancy in contacts, meetings and issues. Stakeholders have been meeting each other at different venues and talk about constantly changing topics. This has strengthened the capacity of the Agenda to pick up as many different signals about livestock and related problems as possible. An essential feature is the combination

of a very open MSP and a set of more restricted focus area meetings. If a stakeholder would like to contribute to a focus area, it needs to sign a document stating its commitment to the values of the Agenda. This arrangement implies that changes in the livestock sector debate are easily noticed in the open dialogue but that continuity is secured through the focus area groups. Along the way, the Agenda has established a new network through which unexpected relations and linkages are created, resulting in surprising collaborative efforts.

Furthermore, the Agenda encourages learning through exchange of experiences and concrete projects and pilots. Especially during the focus area meetings stakeholders share their experiences. Through so-called twinning or mentoring mechanisms countries are learning from each other. Learning is further facilitated by asking other parties to provide feedback, and setting up study portals.

In general the Agenda has been coping with the interconnectedness of problems by changing the topics that are being discussed and moulding the structure of the MSP organisation. These adaptations, however, do not proceed rapidly, as they are the results of consensus making processes. The valuable networks that are being built through the different meetings do not come quickly. Hence, patience and tolerance of uncertainties whether results will be achieved or not is key. Although recognized by the Agenda, not all opportunities to bridge between the different parts of the MSP are used, such as the exchange between the different focus area groups and pilots.

Responsiveness

A varied and constantly changing set of stakeholders is involved in wicked problems, which means that there is a constant flow of demands and expectations. In food security, diverse demands and expectations come from global and local levels, claiming different actions from policy makers. To cope with this diversity, the Agenda is challenged to monitor the different demands, to decide when to react and when to ignore, and to make sure it is present at venues where attention for the Agenda is most relevant.

The Agenda is primarily responding to general global concerns, in particularly those related to the Millennium Development Goals and the Sustainable Development Goals (SDGs). Most SDGs are clearly relevant to the livestock sector’s role in sustainable development, but there is an urgent need to address the visibility of livestock in these policy debates. Members of the guiding group and support team disseminate the ideas and values of the dialogue in many different venues (see [Annex](#)).

Next to influencing global agenda setting, the Agenda collaborates with other institutions because it has few resources of its own. For this purpose it facilitates events, for instance the Investing in a Sustainable Livestock roundtable in Switzerland (2014), which brought together the livestock sector thought-

leaders, decision-makers, and investors to discuss the multiple social, environmental, and health aspects of livestock sector development, and to ensure that they are addressed effectively in current and future sector investments. Furthermore, the Agenda tries to be present at events organised by others. It sponsored, for example, a discussion forum on sustainable livestock at the Global Forum for Food and Agriculture held during the International Green Week in Berlin (2014). The agenda is also cooperating with the International Planning Committee on Food Sovereignty, the Global Civil Society Mechanism, the World Alliance of Mobile Indigenous People, the International Indian Treaty Council, the International Union of Food Workers, la Via Campesina and Maela.

The Agenda is well organised in finding ways of gaining exposure at global level. The challenge, still, is to put the sustainable livestock issue on the agenda of policy makers at regional, national and local level. Especially the involvement of governments in local MSP may be challenging. Not all governments are able or want to play a role in these national MSPs. This can be a political element that both constrains and enables multi-stakeholder dialogues and the advancing of sustainable development. Furthermore, drawing attention to sustainable livestock initiatives can also lead to frustration. On the one hand, concrete projects could trigger expectations which cannot always be met. Especially private companies are impatient and want to see quick results. On the other hand, over-responsiveness, that is, taking on-board every new issue or problem related to a project, might lead to stalemates.

Revitalization

Coping with the messiness, uncertainties and the interconnectivities of wicked problems can sometimes be overwhelming (Weber and Khademanian 2008) and ‘frustrating as hell’ for policy makers (Roberts 2000, p.2), especially because wicked problems have no single and final solution (stopping rules) (Rittel and Webber 1973.). A governance arrangement should be able to unblock unproductive patterns, to intervene and to use sometimes external agents to unblock stagnations.

Involving many stakeholders and encouraging the exchange of many different frames and experiences is a strong element of the Agenda. The Agenda managed to settle a culture of open exchange of arguments and to intervene when unproductive interaction patterns arise. For example, when during a meeting a donor country was taking a rather formal, legal role concerning the goals of the Agenda, the guiding team intervened and made clear that the multi-stakeholder meeting was not meant for that.

The multi-stakeholder dialogue meetings appeal to many, and the turnover of attendees is large, albeit with a strong, permanent core group of participating organizations and individuals. This has enabled a balance between new inputs and continuity. Discussions may be stimulated by new attendees,

whereas stability and continuity of a core group enact leadership and ensure follow through. However, the input of new stakeholders is sometimes frustrating as well because they may change the course of action again.

Until now, the Agenda has managed to show patience, to encourage continuous reflexivity, and to recognise incremental progress. The guiding group and support team welcome third party input to reflect on their own processes (Breeman and Termeer 2013). It has continuously re-designed its programmes to avoid building structures that fail to exceed the lowest common denominator of limited value. The impatience of many, however, makes it necessary to demonstrate impact and to show results. The core group of individuals in the Agenda, however, is small and the budgets are limited, which makes the Agenda vulnerable.

Rescaling

Wicked problems have complex and dynamic interdependencies across scales and levels (Termeer and Dewulf 2014). This means that the Agenda should be able to identify cross-scale problems, to connect and decouple scales, and to set up networks or arrangements able to deal with cross-scale problems.

The Agenda is created to enhance the linkages between the global and the local level. Multi-stakeholder meetings refer to the global level and the pilots and projects to the local level. Focus area groups are somewhere in between as they are searching and discussing concrete projects on specific topics and link these projects to the global goals of the Agenda.

An essential mechanism is that the Agenda catalyses the global dialogue into local action and uses local action to inform the global dialogue. It remains, however, a challenge to bridge between the local and global level. The focus seems mainly on the flow from global to local; it contains shared ideas, knowledge, and innovative concepts about how to advance sustainable livestock. However, what goes up-stream and finds its way into the focus area groups at global level remains unclear. These could be observations about local barriers to change, such as technical conditions, infrastructure and governance blockades, but also experiences about building trust for change, e.g., knowledge about the role of local and national governmental organisations.

The Agenda is also supporting the establishment of regional and national livestock sector multi-stakeholder platforms, with Dairy Asia, a multi-stakeholder platform focussing on dairy sector development in South and South-East Asia, and national livestock innovation platforms in Honduras, Panama and the Dominican Republic, to mention a few. Networks around local projects may be more explicit and inclusive, involving end-users, producers, local policy makers, and national governments. The Agenda aims to facilitate the dynamic among these global, regional and local networks. Interactions

among the global dialogue and local actions are, however, sometimes seen as two separate phases of the dialogue, whereas scale sensitivity needs more enduring interactions between different levels.

Discussion

The aim of this article was threefold: 1) assessment of the Agenda; 2) evaluation of the capabilities framework; 3) reflection on the new governance arrangements to deal with food security.

Assessment of the Agenda

In general, the Agenda encompasses many aspects of the capabilities framework. The *reflexive* capacity is enhanced through the very open multi-stakeholder dialogue which welcomes each time a different set of frames and problem definitions. It provides a wide range of opportunities for observing, information gathering and exchange. *Resilience* is enhanced by creating redundancies in information exchange and different forms of collaboration. The Agenda facilitates and engages in many activities stimulating experiments through projects and pilots that cross different stakeholder groups. It is *responsive* to the extent that it shows a high tolerance for information overload and sensitivity for various demands. Stakeholders bring diverse information and expectations to the debates. The agenda has also shown the capacity to *revitalize* debates. A steering committee observes debates and signals discontent, irritations or circular discussions. Finally, the Agenda recognizes cross-level problems and addresses *rescaling* activities. It deliberately aims to connect stakeholders from various levels and regions.

However, challenges remain. To remain *reflexive* an acceptance of ambiguity is needed but intolerance of this may evolve on account of the pressure to make progress. It is tempting to adopt a dominant view, infuse new attendees with the dominant ideas of the Agenda and make sure that “all noses are pointing in one direction”. It is harder to allow new inputs because it triggers new discussions about the goals and principles of the Agenda and slows down progress. The Agenda would benefit from continuous critical feedback from external observers and facilitators who spot frame differences. The challenge to *resilience* is sustained tolerance towards uncertainty. Pressure to ignore the unknown and to start with concrete projects is high. More attention to experiments and pilot projects could help to overcome this impatience. It would increase both redundancy and learning across regions. A challenge to *responsiveness* is the unstructured information that is brought in by stakeholders and generated during discussions. The Agenda would benefit from more structured information through surveys, interviews and media analysis. Additionally,

much information is technical, dealing with factors that affect sustainable livestock production, whereas human interest stories can speak to a broader audience. Detailed political analysis of what is possible in terms of governance at local and national level is lacking as well. A major challenge to *revitalization* is to maintain commitment and postpone judgements of stakeholders who bring in different ideas and projects. Toughness of the process could result in disappointments and people abandoning the entire project. The voluntary character of the Agenda is highly appreciated but it complicates commitment. The letter of intent, which must be signed once stakeholders want to take part in the focus area groups, is meant to establish a certain degree of commitment, binding stakeholders to the Agenda. Interventions to unblock stagnation are made by discussing and debating, but it is also necessary to animate people by having encompassing projects, where a diversity of actors get involved.

An important limitation of this assessment is its focus on the activities of the Agenda at the global level, which means that *rescaling* activities are not entirely assessed. For instance, we are missing information about how the Agenda is organised or could be organised in terms of observing, acting, and enabling at local, national and regional level. Mismatches between governance levels and problem scales are also not yet analysed. However, the Agenda has proven to be a context that creates new informal networks and has resulted in surprising relationship and discussions. The strength of the Agenda lies in these unexpected linkages between people and the Agenda would benefit if this context could be multiplied at the local, national and regional levels through MSP. Thus, when engaging in concrete local activities, new multi-stakeholders dialogues should be developed involving different local and national actors, which in turn should evolve into unexpected new collaborative efforts.

Evaluation of the capabilities framework

The framework was helpful in analysing the various elements of dealing with wicked problems. However, the framework may be improved by increasing attention to: 1) the link between governance and the outcome of concrete projects, 2) leadership, 3) politics and 4) the linkages among capabilities.

First, the capabilities framework is set up as an assessment tool of governance arrangements, rather than to assess the effects of programmes or projects. The connection between the governance arrangement and the outcomes may be spelled out in more detail. In our case, for instance, we cannot assess whether the Agenda, as a multi-stakeholder process, does indeed contribute to the improvement of the sustainability of the livestock sector.

Second, in the capabilities scheme, the role of leadership is not made explicit. In our analysis we noticed that this has been an important element in the acting and enabling features of the

different capabilities. Leadership skills are especially needed to guide the multi-stakeholder dialogues concerning the removal of dysfunctional or circular debates or the revitalization of projects by breaking through formal, administrative, and political barriers (eg. Ferdig 2007).

Third, the framework may be improved by paying attention to politics. National political leaders or general public figures who take up the role as a projects' ambassadors may be able to break through political barriers. Furthermore, the framework could pay more attention to the political context in which the MSP is played out. It is for instance important to know what the ambitions and possibilities of local and national policy makers and politicians are. Regions with a strong civil tradition will have different ambitions and engage more willingly in dialogues than regions with a tradition of strong state orchestration (Dyson 2010; Vink et al. 2014). These state traditions determine to a certain extent the problems and solutions the livestock sector faces, what kind of actions are possible, and how the multi-stakeholder dialogues should and could be organized.

Fourth, the framework could better spell out how the different capabilities are interconnected among each other, when they contradict, and when the different capabilities should be used. In our case, the open participation of the multi-stakeholder platform is essential to be reflexive and responsive. However, once participants find themselves in a deadlock discussion, intervention is necessary to revitalize the discussions. It is unclear, however, when to stop being reflexive and responsive for a while and try to eliminate dysfunctional debates.

Reflection on new governance arrangements to deal with food security

Does the multi-stakeholder approach of The Agenda result in the improvement of food security? As argued in the previous section, based on the findings in this article, we cannot tell. However, in an era where only quick results count, the Agenda as a new governance arrangement to achieve food security has a difficult position. Only a proof of the value-added of joint action, through the catalysis of sustainable practice change in the livestock sector, will prevent the discontinuity of the Agenda. For an international organisation or national government, it is easier to promote mono-centric governance activities, rather than to facilitate multi-stakeholder activities such as the Agenda. Coping with wicked problems in a multi-stakeholder process takes time and patience, especially in a sector and among stakeholders where in the past little or no dialogue existed. We expect that the Agenda will proceed through repeated small wins. The combination of the different capabilities as elaborated in this article can help to achieve these small wins (Termeer et al. 2013). It is important to recognize that they are 'a concrete, completed, implemented outcome of moderate importance' (Weick 1984, p.43).

The Agenda's real strength will probably only be proven implicitly, that is, by its facilitation of new and unexpected relationships and networks. Wicked problems such as food security generate a variety of problem definitions and solutions. In this, we follow Ashby (1957) highlighting that only variety can beat variety. The constant influx of the variety of ideas, problem definitions, and solutions, can only be beaten by a diverse network of actors working together and an Agenda that has a varied repertoire of opportunities to observe, act, and enable. It also requires a change in styles and the sharing of leadership and a change in alliances between local and global level (Peterson 2009; Waddock 2013). Such facilitation and brokering, whilst universally recognized to be essential, remain, however, difficult to get funded.

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Annex: overview of activities

Multi-stakeholder platform meetings

- Cali, 7–10 October 2014
- Ottawa, 15–17 October 2013
- Nairobi, 22–24 January 2013
- Phuket, 1–4 December 2011
- Brasilia, 17–21 May 2011

List of activities period August 2013–September 2014

Theme	Time, place
Investing in Sustainable Livestock	4–5 June 2014 Fribourg, Switzerland
Dairy Asia: Towards Sustainability	21–24 May 2014 Bangkok, Thailand
Restoring value to grassland: lessons for practice change	Workshop hosted by CIRAD 13–15 May 2014 Montpellier, France
Focus Area Group Meeting: Closing the Efficiency Gap	19–20 March 2014, hosted by IMS Paris, France
Integrated Manure Management Component Start-up Meeting	23–24 January 2013 Rome, Italy (FAO)
Global Forum for Food and Agriculture	16–18 January 2014 Berlin, Germany
Global Pastoralist meeting	9–15 December 2013 Kiserian, Kenya
Closing the efficiency Gap Meeting	19–20 September 2013 Rome, Italy
Civil Society Dialogue	27–29 September 2013 Ahmedabad, Gujarat, India
Waste to worth workshop	27 to 29 August 2013 Bangkok, Thailand

Focus area groups / list of projects

Focus area	Examples of Project activities
1. <i>Closing the efficiency gap:</i> Generating large resource use efficiency, economic, and social gains through the use of technology, management practices, and policy and institutional frameworks	<ul style="list-style-type: none"> • Silvo-pastoral systems in Colombia; • Climate benefits from efficiency gains in Kenyan dairy supply chains; • Integration of LEAP partnership activities
2. <i>Restoring value to grassland:</i> Enhancing ecosystem services, productivity and livelihoods through the restoration, optimal management and utilization of grassland(s)	<ul style="list-style-type: none"> • Pampas (Uruguay) improved grazing management & production efficiency; • Access to grassland resources by pastoralist communities in India; • Environmental services from high altitude yak production in Bhutan; • International NAMA Working group
3. <i>Waste to worth:</i> Reducing nutrient overload and greenhouse gas emissions through the recovery and recycling of nutrients and energy contained in manure	<ul style="list-style-type: none"> • CCAC-funded Livestock and Manure Management Component (Global coverage with activities in Africa, Asia and Latin America); Livestock Geo-wiki

Composition of the Guiding Group (set-up was in progress when publishing this article)

Five representatives from each of the following constituency clusters: a) public sector; b) private sector and producers; c) academia/research; d) donors; e) NGOs; and f) social movements and community-based organizations. In addition, Focus Area Group Chairs and Chairs of Agenda-supported regional, national, or local MSPs will have a seat on the Guiding Group. www.livestockdialogue.org

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