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Integrating Sustainable Development: A Foresight Analysis of Interactions Among Competing Development Challenges

Dominic Glover and Kevin Hernandez

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The IDS programme on Strengthening Evidence-based Policy works across seven key themes. Each theme works with partner institutions to co-construct policy-relevant knowledge and engage in policy-influencing processes. This material has been developed under the Policy Anticipation, Response and Evaluation theme.

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INTEGRATING SUSTAINABLE DEVELOPMENT: A FORESIGHT ANALYSIS OF INTERACTIONS AMONG COMPETING DEVELOPMENT CHALLENGES

Dominic Glover and Kevin Hernandez

October 2016

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Executive summary

This report documents an exercise undertaken by development scholars based at the Institute of Development Studies (IDS) and the University of Sussex (both in Brighton, UK) to explore the interactions among three key goals of international development policy and practice, namely *reducing inequalities*, *accelerating sustainability* and *building secure and inclusive societies*. Experts from a selection of relevant fields of study convened in three deliberative foresight workshops to explore these three themes individually and their interactions, using an adapted scenario-building methodology. The report describes the adapted scenario methodology used during the workshops, presents the future scenarios generated during each event, and analyses the insights emerging from the scenarios as well as the workshop discussions leading up to them. The analysis draws attention to potential tensions and conflicts, as well as complementary and mutually reinforcing dynamics, which may be expected to emerge between the three themes in the future.

To carry out this exercise we used the foresight methodology of scenario building, but with two key variations compared to typical scenario exercises. First, we adopted a triangular framework called the 'trilemma', which allowed us to consider the interaction among three axes instead of two, which is more common. Second, in order to encourage workshop participants to engage with the scenario-building exercise even though the defining axes had already been pre-selected – rather than being generated by the participants during the process, as is more common – we used three documents as source material, to prime the deliberations. These documents were summarised as diagrams and presented to the workshop participants for discussion, critique and debate.

During the scenario-building activity, a two-stage process was adopted in order to encourage the workshop participants to consider the potential for negative or 'dystopian' interactions among the three themes, as well as positive and mutually reinforcing interactions. The discussions around the source material as well as the scenario-building activity were documented in order to capture key insights and lessons emerging from the exercise. These included the importance of adopting clear definitions of key terms, aligned with underlying values and intentions, in order to avoid ambiguity and confusion; and to clearly appreciate the potential for tensions among goals that may be individually desirable but mutually antagonistic. The potential meanings of *sustainability*, *inequality*, *security* and *inclusion* are unpacked in this report, and potential interactions between pairs of these themes (e.g. sustainability with equality) are discussed.

The deliberative process documented in this report represents one part of a wider programme of work under way within IDS, linked to colleagues and initiatives at the University of Sussex, to understand more deeply the challenges involved in pursuing multiple development goals simultaneously.

1 Introduction

The challenges of global development are multiple, complex and interconnected. In 2016, the international community adopted 17 Sustainable Development Goals (SDGs), including 169 individual targets, which are intended to focus development policy globally and the actions of public, private and community sectors over the following 15 years. The goals and targets range across diverse fields of public policy and implicate swathes of productive, social and reproductive life, from industry, finance, energy and agriculture to education, health care, sanitation, social protection and environmental stewardship. One might want to read the SDGs as a set of harmonious and mutually reinforcing aims; but what if, in reality, some of them are in mutual conflict or tension with each other? If the SDGs reflect an overarching ambition to create a more equal, sustainable, inclusive and secure world, it is important to consider whether and how a range of individual priorities can be achieved together.

In this document we report the deliberations of a group of scholars who came together to explore the interactions among three important themes of international development policy and practice. We focused on the goals of *reducing inequality*, *accelerating sustainability* and *building secure and inclusive societies*, which were adopted as three thematic priorities by IDS, Brighton in 2015 for the present five-year period (2016–20) (IDS 2015). This study forms part of a current programme of work within IDS to analyse and investigate the interactions among these three development goals in a methodical, systematic way. Our approach was to create a space to think about how the three themes relate to one another and how policymakers, academics and practitioners may approach them coherently and strategically. The deliberations and insights documented in this report are being fed into a subsequent process of conceptual analysis and theory development, building towards a coherent new development research agenda. While this work programme is initially aimed at strategic coordination of research and engagement activities within IDS, the issues we have explored are relevant much more widely as challenges of sustainable and equitable global development. We are confident that our deliberations and conclusions will be interesting and relevant to other development scholars and organisations as they address similar challenges. For example, this work should complement efforts being made by other scholars to understand how the SDGs relate to one another and how they might be pursued collectively rather than piecemeal (e.g. Nilsson, Griggs and Visbeck 2016).

In this small study we used methods and tools of *foresight*, an approach designed to help communities and organisations consider the challenges and opportunities approaching from the future, which is intrinsically uncertain. Development studies and policy are necessarily concerned with anticipating, and especially shaping, the future. Foresight methods have been used to explore emerging challenges and opportunities in several fields of international and sustainable development policy and practice including energy, climate change, non-communicable diseases, 'big data', and the potential of edible insects as food for humans and livestock (Bingley 2014; Harcourt, Heinzen and Muliro 2004; MacGregor *et al.* 2014; Spratt and Baker 2015; Glover and Sexton 2015). In this case, we adapted the foresight method of scenario building as a means of enabling a group of knowledgeable experts to consider the ways in which drivers of equality and inequality, sustainability and unsustainability, security/insecurity and inclusion/exclusion might interact together and shape the future of global sustainable development.

The report is organised as follows. In Section 2 we describe the foresight methodology we used, with an explanation and justification for the adaptations we made to the conventional scenario matrix, which allowed us to grapple with three intersecting themes instead of two.

In Section 3 we present the analytical summaries we produced, in the form of diagrams, based on three source documents, which we used to inform and stimulate the deliberations of participants in three scenario-building workshops. Alongside our original diagrams and their accompanying explanations, we document the key points of comment, discussion, criticism and elaboration that were raised by the participants during the workshops. In Section 4 we give a brief account of the scenario-building process, although the scenarios themselves are presented in Annexes A and B. In Section 5 we identify the key insights that emerged from the workshop discussions and scenario-building processes, focusing particularly on the light they shed on the three individual themes and on their pair-wise interactions. Section 6 is a short post-script discussing the implication of 'Brexit' – the United Kingdom's proposed exit from the European Union – including the challenges and opportunities it presents for international development policy and the achievement of the SDGs.

2 Methodology

For this project we adapted the common foresight method of *scenario building*. Scenarios may be used with groups of experts and stakeholders to explore their hopes, fears and expectations about the future of a given issue or topic of concern (Wright, Cairns and Bradfield 2013). We have described our methodology and its innovative features in detail in a separate, Open Access publication (Glover, Hernandez and Rhydderch 2016). Here we provide a brief summary.

Scenario building is typically done within a two-dimensional matrix in which two axes, *x* and *y*, intersect to create four 'scenario spaces'. These spaces are then populated with four different scenarios, each representing an alternative possible future. The axes are scales consisting of binary or sometimes continuous variables. These variables define key characteristics of each scenario space, so that the four scenarios are forced to display contrasting features with the intention that, as a set, they will draw out a broad range of the issues, processes and dynamics policymakers and stakeholders should consider when they think about the future. Each individual scenario is best appreciated, not as a prediction of an exact future that has about a 25 per cent likelihood of coming to pass, but as the product of a process of deliberation and creativity that has been designed to encourage participants to reflect on current trends and imagine future possibilities. The four scenarios are less useful individually than as a set.

Normally, the two axes are selected through a facilitated, participatory process that begins with a brainstorming exercise and ends by identifying two major trends or 'drivers of change' that the workshop participants consider to be both very important and highly uncertain. These two drivers are converted into the axes that define the matrix of four scenario spaces. This process of brainstorming and reflection engages the participants in a discussion and helps to get the subsequent scenario-building process under way. In this project, however, our axes were predefined, and instead of two axes we had three (equality–inequality, sustainability–unsustainability, and security/inclusion–insecurity/exclusion). This situation presented us with two challenges. First, we needed a way to stimulate our workshop participants to engage in the process and commit their time and attention to it, even though basic premises for the discussion had already been determined and the key drivers/axes of interest had already been selected in advance. Second, we needed a structure that would help the group to explore the interactions among three different themes rather than two.

We convened three scenario workshops, each of which focused on one of the three main themes of the project while also bearing in mind the interaction with the other two themes. We selected participants from IDS and the University of Sussex based on their expertise in relation to the key topic under consideration in each workshop. The three workshops unfolded in three phases, as follows.

2.1 A modified 'drivers of change' exercise

Typically, scenario building begins with a brainstorming exercise that is used to generate a list of trends and drivers of change from which a couple of axes is selected, which will form the scenario matrix and create four scenario spaces. Instead of this, we organised a discussion around the implicit 'programme theories' we found in three source documents. We interpreted the three international development goals under consideration (*accelerating sustainability, reducing inequality, and building secure and inclusive societies*) as 'programmes of action' and selected three IDS documents whose authors had examined these themes, reviewed relevant scholarly literature, theory, concepts and evidence, and

explored the intellectual strands that could be used to inform these action programmes. We interpreted these intellectual strands as if they were a kind of programme theory for each theme. The three documents were as follows:

- Justino, P. and Moore, M. (2015) *Inequality: Trends, Harms and New Agendas*, IDS Evidence Report 144, Brighton: IDS
- Luckham, R. (2015) *Whose Security? Building Inclusive and Secure Societies in an Unequal and Insecure World*, IDS Evidence Report 151, Brighton: IDS
- Schmitz, H. and Scoones, I. (2015) *Accelerating Sustainability: Why Political Economy Matters*, IDS Evidence Report 152, Brighton: IDS

As well as analysing the text of each document, we also interviewed at least one author of each document in order to fully understand their analysis and arguments. It should be noted that the authors of these three documents had not been commissioned to carry out systematic reviews of their respective topics, but to offer informed and thoughtful perspectives on them, which would reflect the values of IDS as a research institution with a mission to work for human development worldwide. The reports' authors are not programme designers or managers, however their evidence- and scholarship-based analyses could be seen to resemble programmes insofar as they include features such as problem diagnosis, analysis of mechanisms and relationships, priority-setting and strategy development. This resemblance allowed us to interpret the documents as exemplifying implicit programme theories, even though they had not been written with that intention.

In addition to a close reading of the three documents, we also undertook a structured analysis of each one using the qualitative analysis software NVivo (v.11, QSR International Pty Ltd., 2015). Having done this preparatory work, we needed a means of presenting the contents of the three documents to the workshop participants, so that everyone involved could engage with the process on a common foundation. Therefore, we created three diagrams that were designed to summarise the arguments and propositions we found in each of the three documents. We presented all three diagrams to the participants in each of the three workshops, for them to discuss and critique. This process substituted for the brainstorming exercise with which a typical scenario workshop begins because it primed the workshop participants with information and ideas about the topic of each workshop, in order to stimulate their thinking and get the conversation flowing.

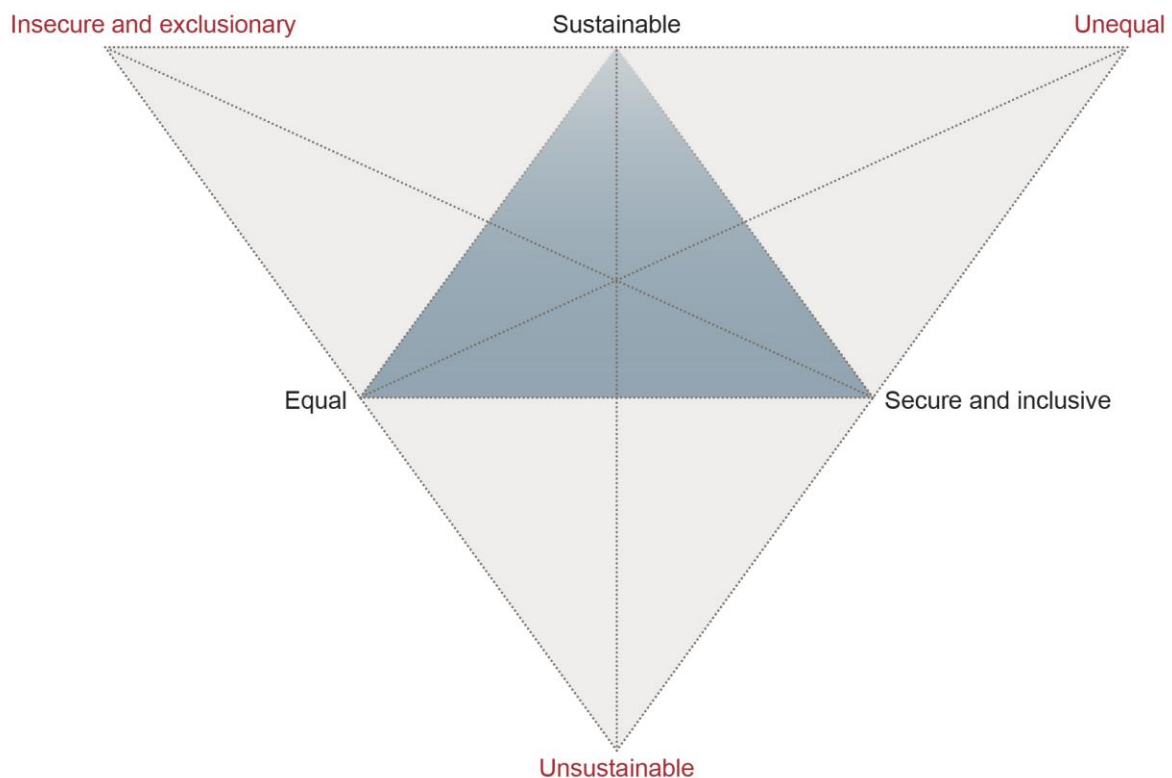
2.2 A scenario-building exercise using the 'trilemma' framework

Instead of the classic two-dimensional matrix with four quadrants, we adopted a triangular framework for our scenarios, called the 'trilemma' (see Figure 2.1), which we adapted from a previous scenario exercise carried out by the energy company Royal Dutch Shell (2005). The trilemma framework helped us to explore the interaction among three major axes rather than two. The blue triangle in Figure 2.1 illustrates the interaction among the three positive goals of equality, sustainability, and security/inclusion; each corner of the triangle is in a direct relationship with the other two corners. The larger, grey triangle illustrates the interaction among the corresponding negative poles of inequality, unsustainability and insecurity/exclusion. The trilemma framework also illustrates interactions between positive and negative aspects (for example the positive goal of 'sustainability' sits in the middle of one of the sides of the large grey triangle, in which position it is directly connected to the negative outcomes of 'insecure and exclusionary' and 'unequal'). In this way the diagram helped to ensure that the workshop discussions would focus on potential negative interactions (such as tensions and trade-offs) as well as positive ones (e.g. mutually supportive or reinforcing relationships). We often referred to the blue triangle as the

favourable space within which development actors should strive to achieve a positive alignment of the three competing development goals.

To begin developing the scenarios, we asked participants to focus at first on possible negative outcomes for the goal in which they were particularly interested; for example, participants in the ‘reducing inequalities’ workshop began by exploring scenarios of high inequality. In particular, we wanted participants to consider the possibility that negative outcomes for the goal in which they were most interested (e.g. inequality) could be associated with positive outcomes for the other two goals (e.g. sustainable and secure/inclusive). This uncomfortable mental exercise ensured that the scenario-building process would tease out possible negative associations or relationships.

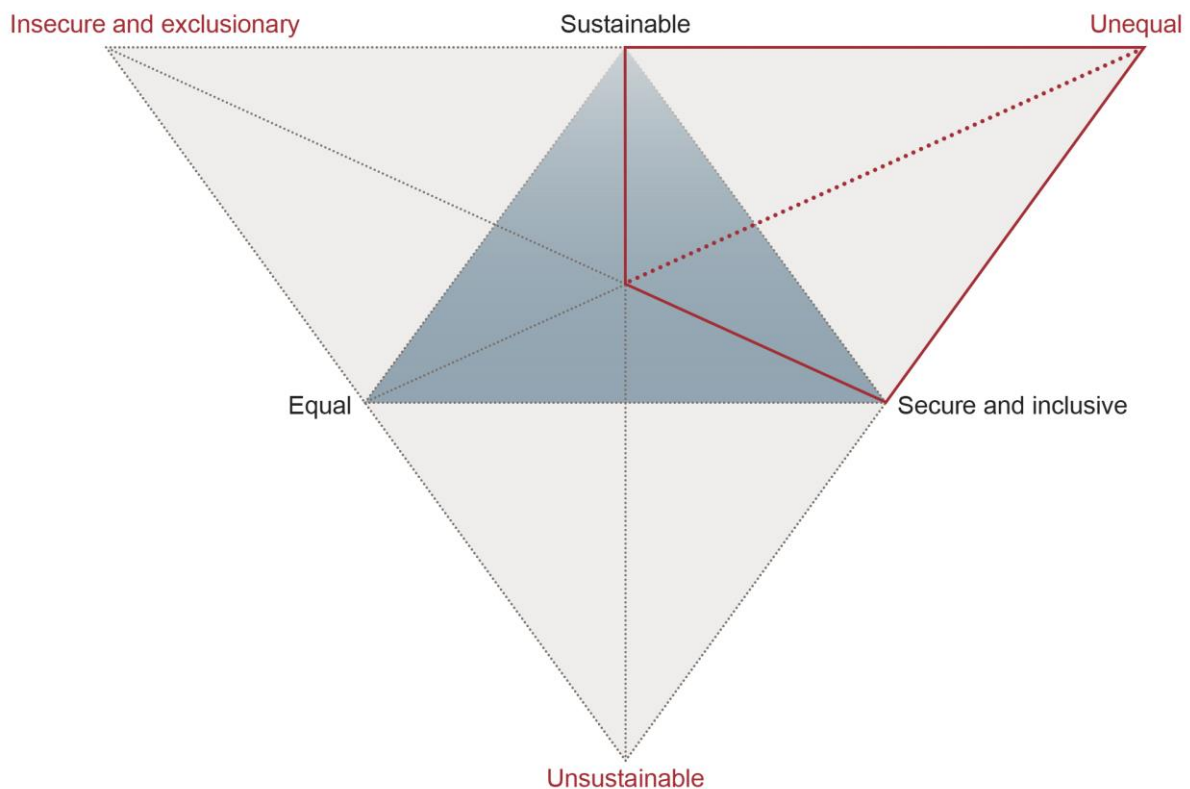
Figure 2.1 Key features of the trilemma framework



Source: Authors' own.

The bold red lines in Figure 2.2 delineate a kite-shaped scenario space, which is divided by the dotted red line into two triangles. Both the red kite and the two red triangles contain an area that falls within the blue zone, but at first we asked participants to concentrate on the grey, more dystopian portion where negative interactions would come to the fore. At this point, the workshop participants were split into two small groups and each one focused on one of the small red triangles; we designed this procedure to ensure that the interaction of the main theme with each of the secondary themes would receive full consideration in each workshop. This entailed that the two small groups generated the outlines of two scenarios that were dystopian to some degree. They presented their dystopian scenarios to each other, and these were discussed for a short time before we moved to the final phase. For this phase, the two groups were united into one again and the whole group worked on a third, unified scenario that would bring out the interactions between the axis of principal concern and both of the secondary axes, i.e. a single scenario occupying the space of the red kite in Figure 2.2.

Figure 2.2 Scenario spaces (example for the (in)equality scenario exercise)



Source: Authors' own.

2.3 A wind-tunnelling analysis

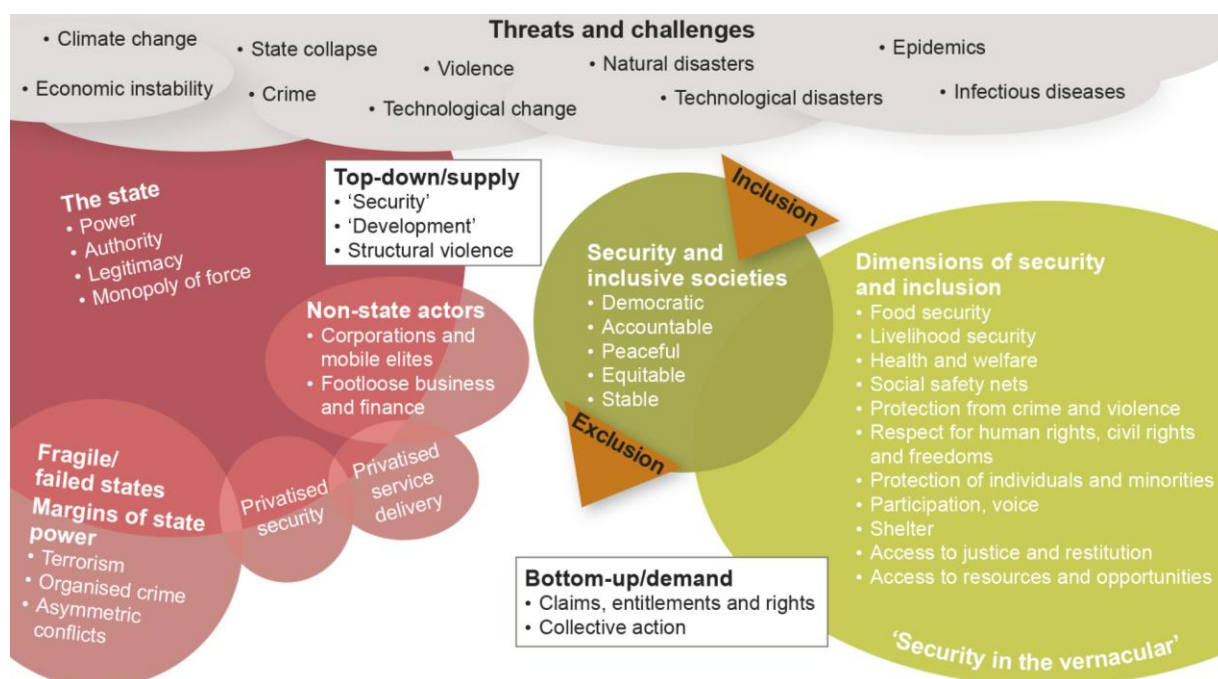
We loosely based the final phase of the workshops on the foresight method of 'wind-tunnelling' (Rhydderch 2009). Wind-tunnelling may be used to evaluate the 'fitness' of a given policy or strategy within the scenarios that have just been generated, but we used it as a way to think about policies and strategies that might be used to steer towards a desired future located somewhere in the 'blue zone', in scenarios characterised by greater security and inclusion, sustainability, and equality. Our scenarios were set 30 years into the future, around the year 2046.

3 Programme theory analysis

3.1 Building secure and inclusive societies

Our source material for understanding the drivers of human security and insecurity, inclusion and exclusion was the IDS Evidence Report by Luckham (2015). Our summary of the ideas we found in the document is depicted in Figure 3.1. We presented this diagram alongside the others (see below) in each of the three workshops and discussed it for a short time with the participants.

Figure 3.1 Programme theory on drivers of (in)security and in/exclusion



Source: Authors' own, derived from Luckham (2015).

In Figure 3.1 the small, dark green circle in the approximate centre of the diagram represents the goal or aspiration of a secure and inclusive society, which is characterised by some essential features including democracy, accountability, peace, equity and stability. The yellow triangles are arrows, which represent forces that operate to include and exclude people and groups from mainstream society. However, as Luckham (2015) points out, a desirable conception of human security goes far beyond the bare minimum of freedom from violence or crime; in fact, a narrow concept of security along such lines could be used to justify a police state of surveillance, control and punishment. Luckham argues in favour of a richer and more generous concept that he calls 'security in the vernacular'. This is represented by the large green oval on the right-hand side of Figure 3.1 and it includes a more extensive list of the fundamental building blocks that underpin a secure, stable and peaceful society, including food and livelihood security, health care and social safety nets, access to justice, respect for human rights, shelter, and other positive values.

On the left-hand side of Figure 3.1, the large red oval represents a classical, rather old-fashioned vision of the state as a repository of legitimate power and authority, exercising a monopoly of force over a defined community and territory. Luckham (2015) points out that this Westphalian ideal does not describe modern states very completely or very well, for

several reasons. At the margins, state power is often limited or ineffective, and this is particularly visible in the case of so-called 'fragile' and 'failed' states, where the authority of central government is often ineffective or contested. At the same time, modern neo-liberal economic ideologies at national and international levels have led many states to cede direct control over the provision of functions and services that fell within the remit of many 'Western' states during much of the nineteenth and twentieth centuries and especially in the 'welfare states' of the post-1945 period. Many states have delegated or sub-contracted responsibilities for delivering welfare and services, extending even to judicial, military and police powers, both within and beyond state borders.

Non-state actors inhabiting this zone of devolved, compromised and contested state power include corporations, philanthropic and non-governmental organisations (NGOs), footloose investors and wealthy individuals, militias and paramilitary groups, organised crime and terrorist groups, and others. These non-state actors often exercise state-like powers, sometimes including effective control over territory, through which ordinary people experience security and insecurity, inclusion and exclusion. This penumbra of non-state and quasi-state actors are depicted in Figure 3.1 as the translucent, pale red circles around the edges of formal state power.

Across the top of the diagram is a cloud of looming threats and challenges from which individuals and groups may require or seek protection. These include examples of natural disasters, such as earthquakes and floods, technological disasters such as nuclear power plant explosions, epidemics and infectious diseases, crime and violence, state collapse, technological change that affects livelihoods and changes employment prospects, and so on.

Figure 3.1 includes a 'top-down' vs 'bottom-up', supply vs demand dynamic, although the 'top' of this relationship (supply) is represented conceptually by the actors and structures on the left-hand side of the diagram, while the 'bottom' (demand) is represented by the green oval, representing a space populated by citizens and civil society, on the right. The white boxes depict the idea that security and inclusion are supposed to be supplied by the state and its agents, while these public goods are demanded by people and communities in society. People express their claim for security and inclusion in terms of rights and entitlements and through collective action, while the legitimacy of the state is supposed to rest partly on its ability to provide public goods including security and development. But 'security' and 'development' are in inverted commas because they are contested concepts, and sometimes what the state supplies is a structure of systematic violence, exclusion and repression.

Participants in our workshops pointed out that collective action implies more than organising to claim rights, lobby powerful actors or demand services from the state. It also encompasses many forms of social organisation and movements operating at local, national and transnational levels. People and communities are not only passive recipients of public services and goods but agents who often find ways to cope with insecure situations and create their own frameworks of security and inclusion. This is the realm of the non-state actors we often think of as non-governmental and civil society organisations (NGOs and CSOs). These may include neighbourhood, community, religious, traditional, professional and labour organisations and other forms of social solidarity, through which collective goods and services may be organised by people for themselves.

These forms of grass-roots, non-state self-organisation can be seen as analogues of the non-state actors depicted on the fringes of state power on the left-hand side of the diagram, and it was argued during our workshops that this new set of non-state actors ought to be added to the figure as a cluster of translucent, pale green circles overlapping the 'security in the vernacular' zone on the right of the diagram. At the same time, however, participants

recognised that collective action and bottom-up self-organisation might not necessarily contribute benignly to security and inclusion in the vernacular sense. Grass-roots movements might also organise for violence and exclusion, leading to majoritarian populism, sectarianism, and the marginalisation of minorities. The absence of social solidarity or a failure to organise, perhaps due to personal experiences of alienation, exclusion or disempowerment, could impede the collective action needed to resist oppression or address shared problems or individual deprivation. Acts of resistance or rebellion could also be unorganised and unruly, challenging the state while creating both opportunities and risks for individual human security and empowerment. Through this discussion it became clear that the various kinds and categories of non-state actors in the system could not be assigned necessarily, exclusively or permanently to state or non-state spaces, or to positive or negative dynamics contributing to or undermining security and inclusion.

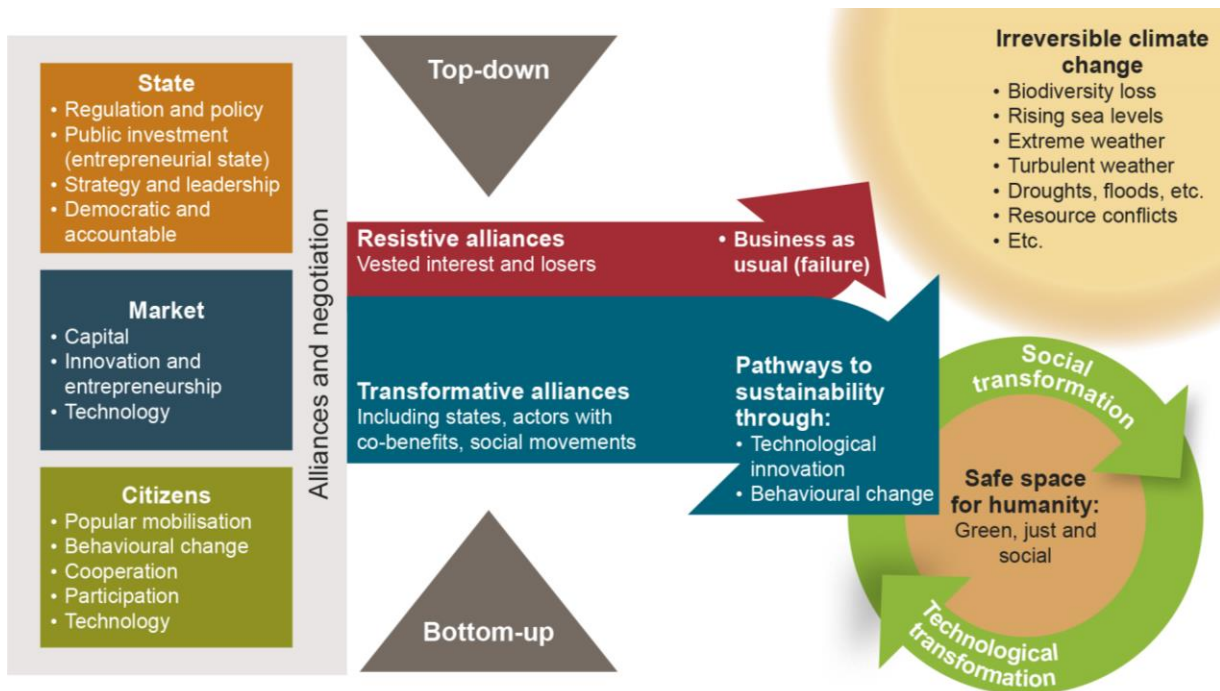
Inclusion may be an ambiguous benefit for individuals and groups. Inclusion may occur involuntarily or on unfavourable terms (adverse inclusion), in ways that impose obligations and create dependencies that may not be beneficial to the individuals and groups concerned. Inclusion may also be on terms that create inequity in the treatment of individuals and groups, even if the outcomes are not actually negative for minorities or subaltern communities. The problematising of both 'security' and 'inclusion', as well as the relationship between them, turned out to be among the major insights emerging from this scenario study; this point will reappear below.

Workshop participants felt that a huge range of factors have a bearing on human security and inclusion in the vernacular sense, including history, politics, law and justice, gender relations, urbanisation, the arms trade, electronic security and surveillance, migration, global governance structures, cultural and religious beliefs and ideologies, and many others. Traditional and social media organisations and networks were identified as important communication channels and mediators between state and citizens as well as social and economic actors in their own right, which are missing from the diagram. It was pointed out that the apparatuses of the state, for example, could be generators or providers of either security or insecurity for individuals. Moreover, individuals, groups and states are not discrete abstractions, they are real and concrete features of societies, whose characteristics are deeply embedded in and shaped by their mutual relationships and associations. Also, while we think of the state as representing a public space (e.g. republic, *res publica*), the apparatuses of the state may be (and often are) hijacked by and used to promote sectional or private interests. While it would undermine the clarifying purpose of the diagram if all these complexifying features were included, the fact that these considerations were brought to the surface during our discussions confirms that the diagram was successful in stimulating the workshop participants' thinking, thus helping to prepare for the scenario-building phase of the process.

3.2 Accelerating sustainability

To explore the dynamics of sustainability and unsustainability we used the Evidence Report by Schmitz and Scoones (2015) as our resource. This document contains a clearer, rather more normative programme of action than the other two source documents we used for this project. Figure 3.2 depicts the process and route by which the authors argue that humanity may reach a safe space that is ecologically sustainable as well as socially just and inclusive.

Figure 3.2 Programme theory on drivers of (un)sustainability



Source: Authors' own, derived from Schmitz and Scoones (2015).

According to Schmitz and Scoones (2015), a socially just and green transformation of human society is likely to require collaborations among actors with different capacities and interests, including social movements and civil society groups, private sector organisations, and states. Progressive alliances may contribute to transformational change towards greener and socially just futures; alternatively, alliances may be resistive and attempt to defend the status quo or promote narrow or short-term interests, holding back progress towards a sustainable future. These alternative pathways are represented by the blue and red arrows, respectively, in Figure 3.2. The large blue arrow thrusting from left to right across the centre of the diagram represents a progressive pathway towards greater sustainability and social justice, while the smaller red arrow represents an unsustainable continuation of 'business as usual'. The arrows end in a sustainable and socially just future on one hand, or climate crisis on the other.

We emphasised that these arrows should not be taken to represent singular pathways, since many different kinds of alliances, across diverse sectors and locations, may create various alternative pathways with varying degrees of potential to contribute to a sustainable transformation (or not). Note also that the pathways should be understood to have multiple dimensions including political, social and technical. Pathways leading to green transformations are expected to involve substantive technological and socioeconomic transformations in order to arrive at a socially just and ecologically sustainable 'safe space for humanity'.

Alliances may be formed between actors whose interests are not completely aligned including, for example, entities for which green transformations and environmental sustainability are not individual priorities but where the alliance might provide co-benefits, such as profits, portfolio diversification, enhanced competitiveness, innovation, job creation, and so on. Resistive alliances may include not only market incumbents and other vested interests but also workers in polluting industries whose jobs are at risk, citizens whose pensions are invested in dirty energy, and so on.

A crude generalisation portrayed in the diagram is the interaction between top-down and bottom-up dynamics, represented by the two black arrows. This stimulated considerable discussion about the potential for movements of change or resistance at global, regional, national and local scales. Arguably, in order to reach a safe space for humanity, not only governments and industry/market incumbents need to be involved but also civil society groups, social entrepreneurs and small start-up companies. Top-down, directive, technocratic solutions are probably not sufficient on their own. Disruptive socio-technical change may emerge more easily from actors on the fringes rather than from incumbents, who benefit from the status quo.

The diagram in Figure 3.2 is not confined to a particular sector, context or scale. It can be applied to large global transformations or to city- and neighbourhood-level socio-technical change, and it may be applied equally to food or energy systems, mobility solutions, housing, sanitation, and so on. Participants pointed out that the specific situation and context matters, however. In what particular settings and sectors could and would these alliances and pathways be found to emerge and develop?

During our workshops it was noted that the diagram omits nature as an agent, although bio-, geo-, physical and chemical processes are playing vital roles in shaping the future climate and determining the safe space for humanity. The emerging effects of climate change may provide humanity with increasingly urgent incentives to change behaviour. The diagram also compresses many details, for example the detailed characteristics of a safe space for humanity are not explored. Participants argued that questions should be asked about the meaning of sustainability, and for whom. Participants noted that the definition of sustainability has not always included social dimensions, and the concept will probably continue to evolve. The diagram also reifies a simplistic contrast between the two extremes of irreversible climate change and a just, green and social safe space for humanity. Overall, progress towards sustainability is likely to be complex, ambiguous and incremental; the movement towards bio-fuels was given as an example of a technological development with ambiguous implications for social and ecological sustainability. Participants also noted that an advance towards sustainability in one arena, such as a new energy technology, could change the potential for further advances to occur following on, and also that there could be steps backward as well as forward. It was argued that the diagram ought to include some feedback effects of this kind. The diagram also says nothing about the speed and timescale required to transform different sectors or achieve impact at different scales. Despite giving the impression of a dynamic progression, the diagram really lacks any sense of historical context, which some participants felt was an important factor underpinning sector- and region-specific opportunities for change in the present and the immediate future. For example, it was asked whether, as a matter of historical fact, sustainability is better understood as a condition towards which humanity is heading or an original condition from which we have moved decisively away.

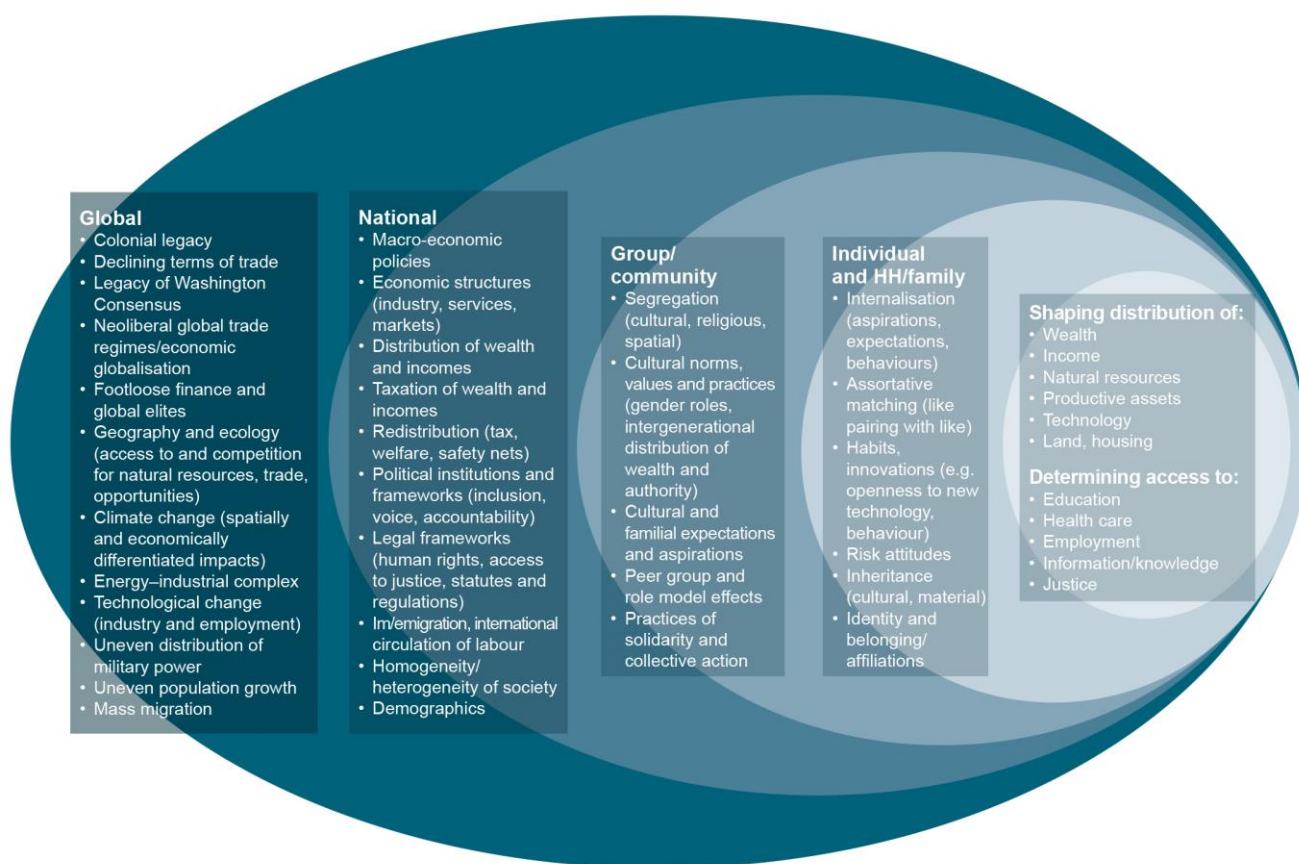
Participants in the workshops also queried the depiction of state, market and citizen spaces as distinct units. Some felt that citizens were the key actors, who engage with one another quite fluidly across civil society, commerce and public arenas. The classification of alliances into transformative and resistive groups was also considered too binary. In reality it might be difficult to assign alliances clearly to transformative or resistive categories; the diagram also omits the turbulence, conflict and politics of knowledge that may exist within and between alliances, and the potential that alliances might change in composition and strategy as circumstances changed. Some participants also questioned the use of the term 'resistance' only for alliances seeking to *prevent* change; they argued that resistance could also be applied correctly to activities that seek to undermine incumbent industries and destabilise established regimes in order to *bring about* change.

Participants anticipated the scenario exercise when they noted that progress towards ecological sustainability might not be accompanied by justice or inclusion, for example the sustainability agenda could be driven from above in a technocratic style, with the result being not necessarily equitable or just. Similarly, it was noted that there is a tension between the value of stability, which may be regarded as a desirable feature associated with human security (see Section 3.1), and the idea of transformation, which implies disrupting and subverting the status quo. For this reason, one participant proposed that resilience was a more appropriate goal than stability.

3.3 Reducing inequality

Our source for the programme theory on drivers of equality and inequality was the report by Justino and Moore (2015). Our summary of the mechanisms and drivers outlined in this report, which determine the distribution of wealth, incomes and other resources, is depicted in Figure 3.3. The diagram and the underlying ideas were presented and discussed, alongside the other two diagrams, during all three workshops.

Figure 3.3 Programme theory on drivers of (in)equality



Source: Authors' own, derived from Justino and Moore (2015).

Figure 3.3 depicts various mechanisms, processes and structures that determine the distribution of assets and resources within a set of nested scales. The diagram can be read from left to right as a descent through a series of steps from the global scale down to the scale of households and individuals. Within each scale mechanisms and drivers are listed which shape the distribution of assets and resources across societies. The pale circle on the right-hand side of the diagram represents outcomes for individuals and groups, and here are listed some major aspects of the distribution of both real assets and intangible resources

(such as power and opportunities) which collectively are determined by the many factors listed within the nested hierarchy of scales depicted in the diagram.

The diagram has an algorithmic quality, like a calculating engine. Either negative or positive outcomes ('outputs') may be produced on the right-hand side (that is, lesser or greater equality), depending on what 'settings' are given to the various factors and mechanisms shown in the diagram (the 'inputs'), as well as their dynamics and interaction. An alternative way of phrasing this is to liken the factors in the nested scales of the diagram to many independent variables that influence the outcomes, i.e. the dependent variables, which are produced in the pale blue circle on the right-hand side. In principle, empirical data could be gathered relating to each of the points listed in the diagram, regardless of the particular setting or context, and inserted into this framework as a means to assess how assets, resources, rights and opportunities are distributed to different communities, social groups, and individuals in that setting. In that sense, the framework has a mechanical quality rather than a normative, value-laden tendency towards a particular outcome. In other words, the structural properties of the diagram do not determine that outcomes must necessarily tend towards greater equality or inequality; the outcomes found in a given situation will depend on the distributional characteristics and mechanisms operating in that particular case. By focusing on structures rather than processes, the diagram lacks a clear normative programme for reducing inequalities. (Some participants in the workshops argued that our interpretation overlooked a more normative section of the source document, which discusses potential policies and interventions to create greater equality (Justino and Moore 2015: 22–24)).

Thanks to its structural quality, the framework depicted in Figure 3.3 might be used in principle as a sort of checklist or system diagram, which would help to identify points and scales where interventions (e.g. policies or investments) might affect (in)equality, positively or negatively. For example, if one wanted to investigate or influence the gender distribution of wealth in a given society or community, a diagram like the one in Figure 3.3 could be used to help identify the many structures and mechanisms at global, national, community and household scales that help to determine men's and women's access to property, income, wealth, education, justice, and so on, within that particular setting. Alternatively, as one participant suggested, a diagram like this one might guide researchers in an investigation of the factors that contributed to historical successes in reducing inequality in particular places and times, such as Latin America (2002–15), South Korea (1960–90), or Malaysia (1969–95). In theory if not in practice, coefficients might be estimated for each of the independent variables listed, which would make it possible to identify which factors were having the greatest effects on (in)equality. Policymakers and programme designers could then use this information to identify the most effective and promising places to intervene. The particular factors that might be most salient in one context might be different in another setting, and the outcomes for different stakeholders, such as men and women, or people in different locations, would also be different.

The mechanical and algorithmic character of the diagram de-emphasises temporality, including the specific historical processes that have led to the substantial inequality observed in our world today. These processes, which in fact are highlighted in the source document (Justino and Moore 2015), appear in the diagram only allusively and at the largest, global and national scales, where reference is made to historical contexts such as colonial legacies, the creation of welfare states and the Washington Consensus. Several participants complained that power was an invisible dimension of the diagram, both as an aspect of and a major cause of inequality.

The stacked layers of the diagram are also less good at depicting the dynamic processes and interactions among factors within and between scales, including feedback loops and recursive processes that mutually support one another to amplify and reinforce the unequal

distributions of wealth and power that we observe in the world today. Some participants complained therefore that the diagram lacks a political economy dimension. For similar reasons the diagram does not offer guidance to help distinguish causes from consequences of inequality; nor does it tell the reader how the different factors might be valued and prioritised by different individuals, such as elites and subaltern groups. Participants in our workshops pointed out that scholars from different disciplines might hold different views on the priority to be given to different kinds of inequality. For example, some participants opined that the diagram emphasises material inequality (unequal distribution of income, wealth, and natural resources) and neglects inequalities in the social, care and reproductive economies. The diagram also ignores the technical distinction drawn in academic literature between vertical inequality (among households or individuals) and horizontal inequality (among social groups sharing a common characteristic, e.g. gender or ethnic groups). Some participants objected that the diagram emphasises a nested hierarchy of scales and argued that alternative heuristics might be better at explaining how inequality is created, such as pathways.

It was suggested that the pale circle should include the distribution of opportunities such as access to markets. Also, there are well-known differences between political traditions (e.g. liberal vs socialist) with regard to the priority they give to equality of opportunities or equality of outcomes, but the diagram ignores this debate and perhaps implicitly favours the socialist emphasis on equality of outcomes (i.e. the pale blue circle). Several participants suggested measures that could be added to the pale circle, such as access to social protection. Finally, it was pointed out that the different types of inequality may be tackled and are being tackled using different strategies, but without joined-up thinking it was possible for these efforts to conflict with or undermine one another. This observation was a helpful prelude to the deliberations in the next phase of the workshop.

4 Scenario development and wind-tunnelling

After the discussion of the programme theory diagrams, the workshops moved into the scenario-building phase. This phase had two parts, as explained in Section 2 of this report. In the first phase, the workshop participants were asked to begin the scenario development process by focusing initially on negative interactions among the three themes under consideration, of the kind discussed in Section 2.2 (see Glover *et al.* 2016). These exploratory and somewhat ‘dystopian’ scenarios are presented in Annexe A. We observed that some of the participants found this phase of the workshop rather uncomfortable, since the process obliged them to consider outcomes that were unpleasant or difficult to contemplate. Thankfully, the participants demonstrated their willingness to place their trust in the process and they engaged with the constraints we imposed on them. A certain dark humour was evident in some of the scenarios as the participants considered how positive outcomes in some aspects of development might be accompanied by negative features.

Once the participants had completed this phase of the process, in which they focused on negative interactions and tensions between pairs of goals (such as a scenario of high inequality with sustainability), we asked them to build integrated scenarios that would accommodate interactions among all three of the themes in which we are interested, paying special attention to the factors or measures that might help humanity to steer towards scenarios where positive outcomes could be envisaged in all three domains. These integrated scenarios are presented in Annexe B. During this phase of the workshop, we noticed a strong utopian, idealistic tendency emerging in the scenarios, leading us to wonder whether the scenarios met the test of plausibility. We interpret this turn of the process in two ways. First, it may be a symptom of the participants’ urge to recover a positive spirit after we had insisted that they had to consider potential negative outcomes in the previous stage. Participants were evidently relieved to be able to tell more positive stories and we observed a new cheerfulness as group members ‘rebounded’ from the dystopian scenarios they had discussed during the previous step of the process. Second, this step of the workshop process was designed to move our discussion in a more aspirational direction. People had in mind the challenge of how to achieve human development that would be more inclusive, secure, egalitarian and sustainable. This gave participants the opportunity to sketch out the kind of world they would like to see in 30 years’ time. Our hope was that they would do so while bearing in mind the need to construct a plausible pathway towards this destination, as well as the pitfalls and challenges that were highlighted in the previous, dystopian scenarios. As can be seen from the rather utopian character of some of the integrated scenarios in Annexe B, this expectation was not completely met. However, participants did succeed in fleshing out a picture of the sustainable, equitable, secure and inclusive societies that development should aspire to achieve, which helped to illustrate how different values and goals might be connected and integrated.

The scenarios themselves are less important as finished products than as resource and stimulus for reflection and discussion about the issues and questions they raise. This is why we present the scenarios separately, in annexes. In the next section, we discuss the insights we recorded during and after the workshop deliberations, including the discussions around the programme theory diagrams, the two phases of scenario building, and the wind-tunnelling analysis in which the workshop participants considered the policies and strategies needed to guide human development towards the triple-positive ‘blue zone’ depicted in Figure 2.1.

5 Discussion

Overall, the scenario-building processes in each of the three workshops were quite successful in drawing out a range of key issues, dilemmas, challenges and opportunities for integrating the competing development goals of *accelerating sustainability*, *reducing inequality* and *building secure and inclusive societies*. The eventual scenarios had a utopian flavour and were disappointingly thin in terms of describing plausible pathways by which such happy outcomes might be achieved. Nonetheless, the process of discussion and deliberation that was used to develop the scenarios proved to be remarkably effective in teasing out some of the ways in which positive outcomes might be achievable independently or in concert, how they might support one another and in what respects they might be in tension with each other. In this section we highlight the key insights that emerged from the workshop deliberations with respect to these interactions and their implications for international development research, policy and practice in the coming years.

5.1 Unpacking the three themes

Our scenario discussions reminded all participants that it is important to adopt clear and useful, and ideally shared, working definitions of key terms of interest, such as ‘secure and inclusive societies’, ‘inequalities’ and ‘sustainability’ in the present case. The workshop deliberations brought to the surface a number of difficulties and potential ambiguities relating to the interpretation of each of these terms, as well as the risks involved in certain ways of understanding what they could mean and how they could be fulfilled. In the following paragraphs, we discuss how the meanings of the three themes of interest may be ‘unpacked’.

5.1.1 Unpacking ‘security and inclusion’

The aspiration to build secure and inclusive societies implies that security and inclusion go naturally together and buttress one another. However, security and inclusion are distinct values with different implications. It seems trite to observe that social exclusion is disadvantageous and may be associated with insecurity, but citizens may also be included in political and socioeconomic structures involuntarily or unwillingly, or on adverse terms. For example, individuals may acquire obligations such as taxation or military service, yet not reap the rewards of social inclusion on equal terms with other members of society. In extreme cases, the inclusion of marginalised groups or minorities may operate more to the advantage of others than for their own benefit. This is a key reason why Luckham (2015) enjoins us to interpret ‘security’ as entailing much more than keeping control over force and protecting individuals from physical violence. ‘Security in the vernacular’ implies a model of social inclusion that provides each individual with the tangible benefits of engagement in a wider collective, including security of food and shelter, access to resources and services, protection of essential rights, and opportunities to participate in society.

5.1.2 Unpacking ‘sustainability’

The workshop discussions confirmed the importance of recognising ‘sustainability’ as a very complex concept even if one considers only its biophysical or ecological aspects. Environmental sustainability encompasses a wide range of different dimensions, including greenhouse gas emissions and their relationship to global warming, climate change and extreme weather; biodiversity loss and species extinction in agriculture and ‘natural’ spaces; air and water pollution and soil erosion; the production, distribution and consumption of energy, information, products and services, and so on. Surrounding all these and intimately connected with them are diverse social, economic, political and technological issues, varying

in intensity across spatial and temporal scales and influencing development pathways through feedback loops, recursion, lock-in and other mechanisms. This makes it extremely hard to envisage how sustainability might be achieved in the future and it highlights the importance of attending to complex interactions, unintended consequences, and unknown variables.

5.1.3 Unpacking ‘(in)equality’

Compared to the complexity found within the other two themes, the development goal of reducing inequalities seems much simpler. The tension between giving priority to (in)equality of opportunities or to (in)equality of outcomes is a widely appreciated and well-rehearsed topic in political and philosophical debates. An alternative way of framing this dilemma is to distinguish equality as procedural fairness from equality as substantive equity of treatment. A perennial question is when fairness requires or allows unequal treatment, for example when an objective difference in the capacities or needs of an individual or group demands special and differential treatment compared to others who have greater capacities or less pressing needs. The conceptual difference between ‘vertical’ and ‘horizontal’ (in)equalities is perhaps less widely discussed outside specialist circles, yet the distinction matters keenly to efforts to reduce gender inequality, for example. All of these kinds of (in)equality came up during our workshop deliberations and in the scenarios. In particular, some participants emphasised that (in)equality could be either (or both) cause and consequence of poverty, deprivation, social exclusion, etc. These complexities within the concepts of equality and inequality are connected to all the problems of international development and are certainly implicated in both ‘building secure and inclusive societies’ and ‘accelerating sustainability’.

5.2 Exploring interactions among pairs of themes

5.2.1 Sustainability with equality

The relationship between equality and sustainability was prominent in some of the workshop discussions and cropped up in different guises in the scenarios that emerged. Participants expressed the widely shared anxiety that if economic equality is achieved at the levels of wealth and consumption that are current in affluent countries, then the environmental impacts will be severe – essentially making ecologically sustainable development impossible to achieve. Two alternatives to this negative pathway were explored during the scenario exercises. One option would be for economic equality to stabilise at a level of wealth and consumption much lower than the one currently enjoyed by the human beings with the largest environmental footprints. This would be politically contentious and would likely face resistance from richer people faced with a reduction in their living standards, unless an ethic of transnational solidarity were to emerge or if a majority among the wealthier citizens of Earth were to become so convinced of the need to curb their appetites that they would be willing to make personal sacrifices for the greater good. In one of the scenarios a transition of behaviour and values along these lines was a key plank. Is this realistic and plausible? Values can and do change, and sometimes values such as altruism and solidarity may defeat selfishness and chauvinism, yet some human instincts and cultural norms are deeply engrained and unlikely to disappear.

Another pathway might emerge if new technologies make it possible to sustain elevated standards of living for a greater human population while stabilising or reducing pressure on the environment. This hopeful prospect was embraced in some of the scenarios. Workshop participants envisaged that such a transition might be achieved with new renewable energy technologies and through much more efficient use of natural resources in a ‘circular economy’ or a ‘sharing economy’. Importantly, these transitions would involve social (organisational and behavioural) change as well as technological advances. There are signs of technological and commercial developments along all these lines, so perhaps these

transformations are plausible; however, will they be substantial enough to raise the living standards of billions of poor people without putting impossible strain on the environment? And will the redistributive effects of these technologies, in terms of political power, inclusion, voice, human rights and control over resources be equitable (horizontally and/or vertically) and also socially just?

Another important note that emerged from the scenario workshops was the concern that ecological sustainability might be achieved in ways that would not be socially just, inclusive or egalitarian. For example, political, economic or military power might be deployed to impose austere livelihoods on a mass of the population while elites enjoyed high levels of consumption. In this inequalitarian manner, greenhouse gas emissions might be reduced and climate change avoided at the cost of undermining justice, social solidarity and human security for many people. Some participants in our workshops wondered if environmentally sustainable practices would be easier and quicker to implement if they were imposed in a top-down manner, and of course political and moral leadership may play positive roles. However, many participants in our workshops felt that any pathway that involved serious and visible inequality would not be sustainable in the long run because people would be unwilling to submit to such an unfair regime.

It was also pointed out that tackling economic and social inequality could be a means of accelerating sustainable development. Inequality and poverty contribute to unsustainable behaviour by individuals, communities and organisations, through complex mechanisms ranging from short-term resource depletion caused by poor people who are unable to take a long-term perspective, to status anxiety among richer people who feel driven to consume more. On the other hand, when people feel less poor and more secure about the future they are inclined to preserve resources; similarly, social safety nets and the empowerment of women are known to have driven down birth rates worldwide, which have been the keys to reducing unsustainable population growth in recent decades. A key challenge for development policy, research and practice in the coming years will be to understand how to achieve a balance between equality and sustainability and how to carefully sequence interventions that may change the relationship between them.

Finally, our workshop discussions affirmed that different kinds of equalities or inequalities may interact with sustainability in different ways, for example horizontal inequalities could have different implications for sustainability than vertical inequalities; and (in)equalities of opportunity might be connected to sustainability differently from (in)equalities of status or outcomes. Similarly, inequalities in different dimensions, such as wealth, resources, political and economic power, voice, and so on, might be connected to sustainable development in contrasting ways, and each interaction merits specific consideration.

5.2.2 Sustainability with human security and inclusion

Some participants in our workshops averred that human security and inclusive development often are, could or should be given a higher priority than sustainability. This can be interpreted as a pragmatic or realist argument, based on a premise that survival and the right to existence are basic requirements before values such as sustainability (or equity) can rise to the top of the development priority list. Some political theorists would argue that economic stability and secure livelihoods need to be achieved before people's attention can or should turn to higher questions, such as ecological sustainability. Similarly, some economists would argue that the wealth generated by economic growth in the short and medium terms will eventually supply the resources needed to finance conservation and environmental rehabilitation, as well as the technological innovation needed to achieve higher standards of living based on relatively or absolutely smaller ecological footprints. Of course, such an argument can also be labelled risky and short-termist, since environmental harms inflicted

today may be irreversible, or may substantially impair the ability of future generations to survive and thrive in their turn.

During the development of the scenarios, our workshop participants explored the possibility that strategies to achieve ecologically sustainable development could be imposed from the top in undemocratic ways based on mechanisms of control, regulation, surveillance and punishment. Such an arrangement might even be regarded as legitimate and might be tolerated if it delivered basic needs for the population such as shelter, food and livelihood security, and economic stability. A top-down strategy for achieving ecologically sustainable development might meet the criteria of 'secure and inclusive' but fail to deliver human development based on a richer conceptualisation of human and livelihood security 'in the vernacular'.

The alternative vision of a kind of sustainable development from the 'bottom up', which is 'just' and 'social' as well as 'green', seems to imply a looser, less controlling kind of strategy that mobilises the creativity of diverse actors and facilitates the free participation of citizens and communities. However, governments and other authorities may be reluctant, indeed fearful of ceding control and distributing power in this way, moves that may make it appear more difficult to ensure that environmental problems are confronted in a coherent and effective manner. In other words, societies will want to be confident that opening up a diverse array of innovation pathways will create more effective and quicker routes to sustainable development transformations than trying to impose sustainable development through managerial interventions from above. They might need to be convinced that development pathways that are socially just and inclusive are also likely to be more sustainable in ecological terms, or to achieve sustainable development progress more quickly and with greater certainty. This implies that a significant challenge for development researchers as well as practitioners will be to persuade policymakers and voters that environmental sustainability and social justice can be pursued together – and explain how this can be done.

An interesting strand of the workshop discussions focused on stability and its relationship to innovation. It is reasonable to identify stability – of the economy, of employment, of human relationships, and so on – as a key component of human security and social inclusion; however, too much stability can be stultifying and oppressive. Instability creates opportunities to bring about change (whether positive or negative); moreover, positive change requires the disruption of the status quo. Achieving social and technological transformations that lead to greater sustainability will require innovations that destabilise existing institutional and cultural frameworks, norms and practices. Even state collapse may eventually create opportunities for something better to be created. Yet severe or prolonged instability can be chaotic, creating situations of acute insecurity that encourage very short-term thinking and promote powerfully unsustainable practices, such as resource depletion and hoarding of productive resources. If societies are to deliver human security as well as more sustainable ways of life, then a key challenge is to achieve a productive balance between stability and change, between security and opportunity. This may be among the reasons why concepts such as resilience have come to the forefront of some discussions about sustainable development and adaptation to climate change, for example.

5.2.3 Equality with human security and inclusion

The relationship between equality and social inclusion formed another interesting strand of the workshop discussions and scenario-building processes. In a certain sense, social exclusion is incompatible with equality, since by definition it requires unequal treatment of the included and excluded. As some of the scenarios illustrated, it is possible to imagine societies in which a mass of citizens share fairly equally in deprivation, while a much smaller elite enjoys much higher standards of living (which might be relatively equal when compared

across the elite stratum). We could not honestly call this equality, and therefore social inclusion seems to be a pre-requisite of equal treatment. Yet, inclusion is not sufficient to guarantee either procedural or substantial equality. The point is important because all of us are born into an existing social framework we cannot choose; just as refugees, for example, may be obliged to accept the rules and norms of an alien society because their survival depends on it.

In addition to being involuntary, inclusion in society may be unwilling. For example, nomadic pastoralists and itinerant peoples such as Roma resist incorporation into nation states, yet because their itineraries overlap with the fixed territories and settled populations of states they may find themselves included in society in certain concrete ways, and obliged (even by force) to assume particular duties and responsibilities towards the state, sometimes on adverse terms of unequal and unfair treatment. The negative connotations of social inclusion are sometimes overlooked in development interventions, as one of our workshop participants observed in programmes that aim to promote financial inclusion, where people facing huge economic disadvantages may be exposed to market risks of which they have little understanding and over which they have no control. In these examples, the insistence on treating all people equally – that is, including everyone in regimes of equal treatment – may produce outcomes of substantial or procedural unfairness, and a reduction in human freedom.

The workshop discussions affirmed that the relationship between (in)equality and (in)security is dynamic and reflexive. Our scenario-builders assumed that a more equal world is unattainable in a context of widespread insecurity (including in the vernacular sense) because the most powerful people in society are readily able to obtain greater security for themselves (at least in the formal, classic sense of security), even at the expense of others. The appearance of gated communities in highly unequal societies seems to authenticate these fears. Some of the dystopian scenarios illustrated the fact that this kind of security (in the formal sense) can be used by the powerful to sustain conditions of social and economic inequality, which in turn implies a substantial undermining of human security for many people, in the vernacular sense of the term. On the other hand, while the provision of the basic conditions of human security for all citizens on an equal basis is an egalitarian principle in its own right, it also underpins the freedom of individuals and groups to pursue opportunities on equal terms. Through such means they may be able to advance their wealth, status or power compared to others in society and, over time, this may entrench substantial inequality that cascades through generations. But inequality itself may undermine security by fostering dissatisfaction and resentment against the status quo and the groups or individuals that benefit from it. These sentiments may create stresses that progressively undermine social cohesion, ultimately jeopardising security in both classic and vernacular senses.

The intricacy, reflexivity and dynamism of the relationships that connect human security, social inclusion and different kinds of equality suggest that there is a 'sweet spot' in which security promotes rather than undermines equality and where inclusion is positive and empowering rather than oppressive. This requires that security is understood not only in the classic sense of protection from violence or oppression, but also in the richer, vernacular sense of everyday human security, which safeguards individual rights, provides essential services and underpins the basic freedoms that promote equality of opportunity and freedom of expression. It also implies that social inclusion should be willing even if it is literally involuntary; in other words incorporation into society should be recognised as legitimate and beneficial to all citizens. Ultimately, for social inclusion to be literally voluntary and consensual the possibility would have to exist for citizens to withdraw from society, which would mean being willing to give up its benefits as well as its obligations.

5.2.4 Threefold integration: A socially and ecologically sustainable, more equal, secure and inclusive world

Work towards understanding the interconnections among the three themes discussed in this document is ongoing within IDS. This report is a contribution to that effort and a stepping stone in a wider process. Overall, our workshop discussions and scenario-building deliberations affirmed that a positive integration of the three key goals of reducing inequalities, accelerating sustainability, and building secure and inclusive societies can be achieved but it will not be a simple or straightforward process. For example, finding a good balance between competing positive values that are in tension with each other, such as stability and innovation, will be key to achieving a rapid transition to a green, inclusive and equitable society. Protecting essential values such as participation and fairness may sometimes be difficult to reconcile with the urgent need to introduce new technologies and change behaviours to drive down greenhouse gas emissions. One lesson to draw from our deliberations is the importance of having good working definitions of key terms such as sustainability and security, being clear about what we understand by these slogans, and being reflexive about their underlying values whenever we seek to implement change.

Our scenario-building discussions suggest that, in order to address these integrated challenges, development scholars, practitioners and policymakers will need to be creative and ready to adopt new tools and methods that can help them design, implement and monitor development interventions that take into account more than one dimension at a time. An example of such a tool was the radar chart proposed by one workshop participant, in which the interaction among scales of sustainability, equality, human security and inclusion could be depicted in a common framework, providing a means of thinking about how to influence the 'shape' of the 'safe space' for humanity. Tools of this kind could be used to encourage decision-makers and citizens to approach development challenges such as the SDGs in an integrated rather than a fragmented, piecemeal way. As ever, it is important to understand the nature of the challenge one faces; but understanding the challenge is only the first step.

6 Post-script: The implications of Brexit for the UK and international development

Our scenario workshops were conducted in the first week of January 2016, months before the United Kingdom's referendum on the country's future relationship with the European Union. The narrow victory for 'Brexit' – to leave the EU – has major implications for the UK, EU and potentially for the world as a whole, including for international development cooperation. Neither the referendum nor any of these outcomes were on the radar of our workshop participants in January 2016. This reflects the degree to which the referendum result was unexpected by many stakeholders including many business leaders, members of the professions, and academic researchers.

The implications of Brexit – whatever Brexit may eventually mean in practice – for international development are hard to fathom, but they could be significant. It remains to be seen whether the new UK government will sustain the country's commitment to development cooperation, and if so how its size, distribution and delivery might be changed. These effects of Brexit on international development could have implications beyond UK government policy as well, because the UK has been a major provider of European international aid and development resources as well as exerting a strong influence over the aid and development strategies of the EU.

This uncertain situation makes the deliberations and outcomes of our scenario workshops even more pertinent. As discussed in the previous section, instability creates great risks as well as new opportunities. A state of flux may open up new possibilities, novel options and alternative pathways that would have been hard to contemplate before, but whether these pathways will be made positive rather than negative for sustainable international development is a challenge that remains to be seized. Under these circumstances, the overarching framework provided by the SDG agenda may provide an opportunity to avoid the risk of an inward turn by the UK. This is because the SDGs have been framed as a horizontal, symmetrical development challenge facing the affluent countries of the 'global North' as well as the low-income countries of the 'global South'. If a post-Brexit UK remains true to its commitment to the SDGs domestically as well as internationally, and especially if it retains its commitment to spending on international aid, it must address the challenges of sustainable development as an integral part of its new economic, diplomatic and international cooperation relationships. Development academics and practitioners in the UK (together with our friends and collaborators abroad) need to consider whether Brexit makes it harder or easier to build a transformation to a green, just and social economy in the UK and in low-income countries supported by the UK and EU. Above all, we need to work hard to ensure that the destabilisation of existing frameworks of power and governance will not create insecurity and exclusion for vulnerable people, but will be used to create better outcomes for individuals and communities in the UK and overseas.

Annexe A Exploratory ‘dystopian’ scenarios: Focusing on trade-offs and negative interactions

In this Annexe we present concise versions of the exploratory, ‘dystopian’ scenarios developed by the workshop participants. Note that these scenarios were developed very rapidly and roughly, with the aim of exploring how a negative outcome in relation to the primary theme under consideration in each of the respective workshops could be associated with positive outcomes for the other two themes. The goal was only to oblige participants to confront the possibility that their personal or professional priorities might fail to be achieved even while advances might be made in other areas of development.

According to the process design, six of these exploratory scenarios should have been developed, however, in the first workshop (focusing on *building secure and inclusive societies*), due to sickness and scheduling problems, we had too few participants to develop two separate dystopian scenarios. Instead we asked the participants to focus on the interaction between (in)security and in/exclusion and both (in)equality and (un)sustainability simultaneously (exploratory scenario 1). This meant that only one dystopian scenario was created in this workshop, and this also had knock-on implications for the next step in the scenario-building process, which was intended to involve integrating the three themes in a single scenario (see Annexe B).

Exploratory scenario 1: An insecure and exclusionary but sustainable and equal world

This single scenario was developed during the workshop that focused on the theme of building secure and inclusive societies. In this workshop, a shortage of participants made it undesirable to develop two separate ‘dystopian’ scenarios, each dealing separately with the negative interaction between insecurity/exclusion on one hand and either sustainability or equality on the other. Instead, the participants were asked to address both interactions at the same time. The resulting scenario is summarised in the following paragraphs.

In 2020, a large Middle Eastern (West Asian) war erupted, which led to the destruction of the existing world order of nation states and the emergence of a wealthy and powerful group of plutocratic, technicist eco-zealots who eventually manage to seize control. By 2045, global sustainability has been accelerated at the cost of all other values. The ruling class has determined that fossil fuel use brought humanity close to destruction, and they justify the use of force to maintain an economic and social order in the name of maintaining an ecologically sustainable safe space for humanity. In this sustainable but undemocratic and non-participatory world, there is a strong international order that faces some pockets of resistance. In place of democratic decision-making, the rulers have established an eco-capitalist religion for a post-growth era (emerging from the idea of Gaia), in which a high priesthood has declared ecological unsustainability to be a mortal sin; anybody who threatens ecological sustainability may be eliminated. Although the religion has been imposed from above, most people have learned to follow the new doctrine. The global eco-religion comprises numerous denominations (franchises), each one sponsored and run by a major multinational company. These corporate religious factions compete with one another for adherents, territory and resources, often through cyber-attacks on infrastructure as well as physical violence. City-regions around the world have become charter cities governed by their sponsoring corporations and affiliated with the companies’ religious sects; for example, New York City has evolved from The Big Apple into Apple City, sponsored by Apple Inc. Cities pay tithes to their corporate rulers. There is a very large underclass in which the great

majority of people are equally poor and deprived. The best jobs are in technology, surveillance, government and the official media organisations.

The power of the eco-religious movements is sustained by control over technologies including new energy-generation systems, surveillance and control technologies, robots, drones and advanced weapon systems. These help the elites to monitor and control the masses. Intellectual property rights are highly exclusive and rigorously enforced; pirating technology is another mortal sin and anyone stealing technology may be lawfully executed. Economic growth continues to be a prime value. A small middle class exists, creating a model that many from the underclass aspire to join. Middle-class employment includes media jobs that promote the new religion, government, and policing the environment.

The charter cities are pockets of peace in an unstable and sometimes violent world. Some blocs of countries as well as groups of dissenters persist, which refuse to give up their freedoms to the plutocrats. These include some oil-rich nations that continue to exploit fossil fuels to underpin a progressive tax system and welfare states; some popular social movements of financially excluded people; some mafia-like anti-ecology criminal networks; some disaffected youths including a widespread, retro 'Diesel punk' movement that celebrates hydrocarbon energy; and underground networks of hackers and technology pirates.

Exploratory scenario 2: An unsustainable but more equal world

In 2045, a highly egalitarian society has emerged under the pressure of massive environmental disasters. In the decades after 2016, floods, droughts, ocean acidification and other climate-related disasters led to a massive reduction in the global population and huge waves of migration. The global governance systems designed to tackle environmental problems broke down rapidly as temperatures rose. There was huge instability. Food-producing regions collapsed, cities and coastal population centres were submerged and had to be abandoned, protectionism spread and trade ground to a halt. Property and wealth that had been accumulated over decades became worthless overnight. In a reversal of historical patterns, climate refugees began to migrate from previously more developed regions and cities towards rural areas and less-developed parts of the world. There was widespread disruption and some violence as people struggled to survive. As this process unfolded, population growth went into reverse. Under enormous pressure, traditional forms of government struggled to cope but eventually new, plural forms of governance emerged that focused on meeting people's basic needs as fairly as possible, in order to minimise social upheaval and mitigate its many adverse consequences. Although the crisis drew attention to the impacts of ecologically unsustainable practices, the governance of the environment was focused only on crisis management rather than long-term resilience. Gradually, out of this crisis there are signs of an emerging cosmopolitan human identity and a more equal distribution of resources, but at a very low level of material subsistence. However, aspects of horizontal equality also improved, for example patriarchy was undermined and women's rights continued to advance as women became more embedded in resilience movements.

Exploratory scenario 3: An unsustainable but secure and inclusive world

By the year 2045, the 'planetary boundaries' (Steffen *et al.* 2015; Rockström *et al.* 2009a, 2009b) have long been transgressed. Just under 30 years previously, a military elite had commenced a new space programme using public funds to seek resources from elsewhere in our solar system and develop technologies that would make it possible to sustain life on other planets. In the year 2025, the wealthiest 1 per cent of humanity boarded a spaceship and abandoned Earth, taking with them a huge supply of the planet's resources (rather than people). New facts of life for those remaining on Earth included mass migration driven by

extreme ecological disasters, but the departure of the world's elites created an opportunity for a new, more inclusive and egalitarian world order to emerge, based on human security through the sharing of scarce resources. A new and more muscular United Nations-type global governance regime has emerged, which provides a universal basic income and ensures fair access to resources for everyone on a global scale. The new dispensation has an authoritarian tinge, for example, criticism of the new world order is proscribed and environmental activism is outlawed. Sustainability is not on the agenda, instead, the priority is to divide and use all remaining resources on Earth for the benefit of the remaining humans. Meanwhile, a new space programme has been started, with the hope of finding another planet for everyone remaining on Earth.

Exploratory scenario 4: A highly unequal but secure and inclusive world

The group responsible for this scenario concluded immediately that a world could not be highly unequal yet also highly secure if security were understood as 'security in the vernacular' (Figure 3.1). Group members argued that high levels of inequality would necessarily imply an unequal distribution of wealth and power, which would certainly undermine the human security of individuals and groups. Therefore they felt obliged to resort to a more limited, classical understanding of security as protection from actual violence. The group also found it convenient to sketch their scenario of life in 2045 largely from the perspective of an individual country, China, which based on current trends seemed a likely candidate to achieve a more unequal but largely secure and inclusive society.

Under this scenario, by 2045, China has fully emerged as an economic and geopolitical superpower. This has been accomplished without destabilising the incumbent powers or China's existing political structures. The population as a whole enjoys full employment and stable, predictable livelihoods, presided over and policed by the Chinese Communist Party. State policies are paternalistic, inclusive, and sensitive to environmental sustainability. Crime and violence are effectively proscribed, ensuring that men and women enjoy physical security. However, though Chinese society remains inclusive and stable it has become more patriarchal, dominated by a small political and economic elite that owns a disproportionate amount of wealth and power. Men and particularly women suffer from political, income, and power inequality. However, this economic model continues to enjoy widespread legitimacy thanks to the country's continued prosperity. There are few challenges to the Party but there are power struggles within the Party elite.

At the global level, India has also risen as a major global power, which provides China with a significant geo-political competitor. India's alternative model is more democratic, though more turbulent, and it attracts political refugees from China to seek asylum in India. Internationally, the two new superpowers have established neo-colonial relationships of patronage and alliance with African nations, with Nigeria and South Africa in China's camp and Tanzania and Kenya forging closer ties with India. A new kind of cold war has emerged, in which the allegiances of former developed countries of the West are split. The United States has built stronger relationships across the Pacific Ocean with China while Europe has built stronger ties with India. Russia has declined in influence due to its dependence on oil and natural gas, which have been displaced by much cheaper and highly efficient renewable energy technologies produced in China and India. A Scandinavian social democratic model survives in a northern European niche, but this region is small and weak in comparison to the two new superpowers.

Exploratory scenario 5: A highly unequal but sustainable world

The group responsible for this scenario also found it helpful to imagine their scenario from the perspective of a particular country. In 2045, India has emerged as a global superpower.

Its new development model espouses Gandhian ideals of simple and austere living, which have been imposed on the population as a culturally appropriate, indigenous and sustainable economic development model that will address the global climate crisis. This is a top-down agenda that has been imposed from above in the name of protecting the nation and the planet. However, Indian society is highly stratified and controlled by a small group of globally integrated, culturally homogeneous, super-rich, Hindu elites. A 'Second Green Revolution', based on new sustainable agricultural technologies and changes in consumption patterns, has ensured that India's and the world's record population can be fed without destroying the planet. Consumption and various human freedoms are highly restricted for many people. Vegetarianism has been imposed following a meat ban, and this, together with technological advances, has enabled crop production to keep pace with population growth. However, ecological sustainability has been achieved at the cost of high inequality and socioeconomic exclusion. Ethnic and religious minorities, women, and other marginalised groups suffer from discrimination. A very small middle class of highly skilled workers aspires to join the elites, however, the vast majority of the people belong to the lower class, whose basic needs are met in order to legitimise the system and mitigate the threat of revolution. Access to education, health and occupations are controlled and segregated. Some jobs are performed by robots rather than providing employment for poor people. Social media and information are subject to surveillance and control. Mandatory birth control measures are imposed on the lower classes, which are justified in the name of sustainability.

Globally, many people aspire to the Indian dream; however, India's borders have been sealed. Dirty and extractive industries have been sent offshore to Bangladesh and some African countries, externalising the environmental effects of Indian consumption. Discontented citizens in the 'developing countries' are forming a transnational rebel movement that poses a low-level threat to India and other superpowers.

Annexe B Integrated scenarios: Seeking positive interactions among all three themes

The scenarios outlined in Annexe A were not polished, final products but stepping stones in the process of considering how all three of the strategic goals in which we are interested (accelerating sustainability, building secure and inclusive societies, and reducing inequality) might interact positively or negatively, and how they may realistically be pursued together. In this annexe, we present the three scenarios produced during the next step of the workshops, in which we invited the participants to turn their attention to building new scenarios that would (a) encompass all three themes at once and (b) sketch out pathways towards positive outcomes for each of them. We present concise versions of the scenarios as they were developed by the workshop participants.

The first scenario from this set is extremely short. This scenario was produced by participants in the workshop on the theme of *security and inclusion*, which was the workshop in which we had too few participants to work on two separate 'dystopian' scenarios in the preceding phase of the workshop programme, as originally planned (see Annexe A). We found that, since the participants in this workshop had already had an energetic discussion about the interaction between all three themes of the project, it was hard for them to recommence the scenario-building exercise all over again but this time with positive attributes. Instead, the discussion moved naturally into a more reflective, analytical mode, focused on what the participants had learned from the insights generated during the process. We have incorporated these reflections into Section 5 of this report (Discussion).

Scenario 1: Technological breakthrough leads to sustainable utopia

In the world of 2045, new and environmentally sustainable technologies have created food and energy security and they now provide abundant public goods for the population. Technology and knowledge are generally Open Source and Open Access. Patents protect new inventions for just three years. Co-operative and employee-owned business models are at the heart of a more democratic economic system. Global leaders have recognised that equality, sustainability, security and inclusivity are interlinked, therefore they seek to tackle them together rather than pursuing them independently.

Scenario 2: A new popular enlightenment of ethics and social responsibility

By the year 2045, human values, priorities and behaviours have shifted significantly compared to 2016. Most people are now well informed about and more engaged with social and global issues. A widely shared identity of global citizenship has led people across the world to recognise their interconnections and the implications of their actions on others. This facilitates collective action, such as crowd-sourcing solutions to decrease inequality, accelerate sustainability, and build more secure and inclusive societies. For example, human beings collectively have taken responsibility for the problem of climate change and are tackling it together. Over-consumption and causing pollution are viewed as immoral and have become socially proscribed. Instead of consuming non-renewable resources, people seek experiences. In politics, movements of socially conscious citizens occupy political spaces and create new opportunities and options to tackle global issues in multiple ways, creating diverse pathways that tend towards ecologically sustainable and socially just

development. Values of sociability, neighbourliness, mutual support and citizenship are widely esteemed and celebrated.

Citizens are able to hold their governments to account. Governments curtail conspicuous consumption and environmental pollution through taxation. Subsidies on irresponsible behaviour, such as the combustion of fossil fuels, have been abolished and replaced in some cases by taxes. Governments cooperate to combat tax evasions and loopholes. These measures help to secure the revenue that provides a transnational basic income for all. Citizens are supported by a strong publicly funded safety net.

At the global level, new and stronger structures of global governance have been created and old ones have been reformed with mandates to pursue human security, equality, and sustainability. New global environmental institutions have the level of status and influence in 2045 that the international financial institutions enjoyed in 2016. The Sustainable Development Goals, which were reached in 2030, were replaced by the Security/Inclusion, Equality, and Sustainability Goals (SIEGAs), including strong accountability mechanisms as well as mechanisms of soft power to hold states to account, such as through a regular SIEGA development report that gives an account of progress towards the goals.

Patents now protect inventions for just three years, which diminishes incentives for corporations to engage in rent-seeking behaviour and lawsuits and instead encourages real innovations from big companies as well as entrepreneurs and small, agile start-ups, often supported by crowdfunding. In this situation, companies make money by solving problems and improving products and services. A system of licensing makes new technologies widely available for use by anyone. Meanwhile, states behave in entrepreneurial ways to create new value for citizens; technologies generated with public funding are automatically Open Access, unrestricted by intellectual property rights. Innovative companies nurture creative platforms that bring together people, encourage conversations and promote participation. Developers of new technologies typically encourage public deliberation and assume their social responsibilities. Technology is increasingly democratised, and is curated and shared collectively at local and community levels. Fears that innovation would dry up if entrepreneurs were not granted exclusive ownership of their innovations were unfounded; in this innovation-friendly environment the pace of innovation actually accelerates.

Smart cities have emerged around the world, characterised by bottom-up participatory decision-making and solutions that are social as well as technological. Citizens are able to hold companies to account due to new laws on transparency and liability. Businesses are generally responsible, transparent, and major participants in society. 'Impact investing' (investing for the sake of creating social benefits) and social entrepreneurship have become conventional. A new wave of peer-to-peer investment and business models has removed barriers to entry and seen more and more people become entrepreneurs. Materials are re-used, re-purposed, and recycled in a circular economy, in fact, many companies have stopped marketing physical products and instead sell services, utilities and experiences. This has created an incentive to build products that are more durable, modular, and easy to maintain and recycle, which has reduced the toll of human activity on the environment.

Life-long education now produces well-rounded citizens and equips them with a range of life skills. Children and adults learn how to live harmoniously with nature and each other. Educational curriculums are gender-neutral and accessible to everyone. Learning models are flexible and operate over global Open Access platforms. Social status is now based on celebrating creativity and conviviality rather than material possessions and economic wealth, which gives rise to a more mentally healthy, creative and socially engaged population. Wider involvement in politics helps to keep governments accountable. This well-educated, socially conscious and engaged global citizenry receives a basic income from the state, which means that people work fewer hours in conventional paid jobs and spend time doing

voluntary work, creative projects, gaining new skills, developing social enterprises and exercising different parts of their personalities.

Although the world has advanced significantly in terms of security, inclusion, equality and sustainability, human society still faces some challenges and there are dissenters from the mainstream of society. People now commonly live to over 120 years old, and health-care costs are skyrocketing. Some religious and ecological groups in society object to the 'unnatural' prolonging of human life. Some people resent paying taxes so that a minority may sit around all day consuming entertainment, wasting time on social media, drug taking and other vices. Libertarians fear that strong governance structures have created an overpowering global government that seeks to control and exploit the population. Anti-social and anti-environmental activities are illegal, yet they still flourish underground and on the dark web.

Scenario 3: Participation, inclusion and accountability in democracy and economy

Ongoing financial and economic crises during the 2020s and 2030s eventually create a public and policy backlash against the financial sector and free-market ideology. Financial institutions are now tightly regulated and social values such as solidarity and justice now dominate political and public discourse. Political and economic power has become more widely distributed, into the hands of citizens and consumers. This is reflected in processes such as participatory budgeting for cities and regions, and democratically managed stakeholder capitalism in business. States provide a universal basic income and essential public services, which liberate human potential and involve more people in productive and socially valuable work. As a consequence, more people have a direct stake in the economy, politics and civic life. More people have jobs, but people spend less time in paid work in 2045 than they did in 2016; however, they also value paid work less and place a higher value on priorities such as sustainable and ethical behaviour. Individualistic consumption patterns have declined as the sharing economy has spread. Gender equality has increased through behavioural and cultural changes as well as formal policies. Men and women enjoy equal access to paid employment, receive equal pay for equal work, and share substantially equal responsibilities for domestic and care work, which are valued and celebrated as highly as paid employment. Violence against women has substantially decreased. States and employers share the responsibility to provide childcare and elderly care facilities that support individuals and families to engage in productive and satisfying work.

Many people see themselves as global citizens and express solidarity transnationally rather than nationalistically. People are able to move freely across territories to live, work, study and recreate, and national borders are now largely symbolic. A representative citizens' council of the United Nations directly represents citizens' interests to governments, international agencies and development organisations. New regimes of global governance regulate global financial transactions and a progressive system of global taxation redistributes the wealth of the richest citizens to produce various public goods, including the basic income for all. Tax havens and tax loopholes have been eliminated, which helps global institutions to generate the revenue needed to implement social programmes.

Annexe C Workshop participants

The scenario workshops were designed with the benefit of expert guidance from Alun Rhydderch of the School of International Futures, who also co-facilitated the workshops and assisted with the documentation and analysis of the workshop discussions.

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