

# Disasters Avoided

## Analysis of action we can take to prevent situations and events turning into disasters

An emerging model we are seeing from our research work into the key elements of how disasters can be avoided

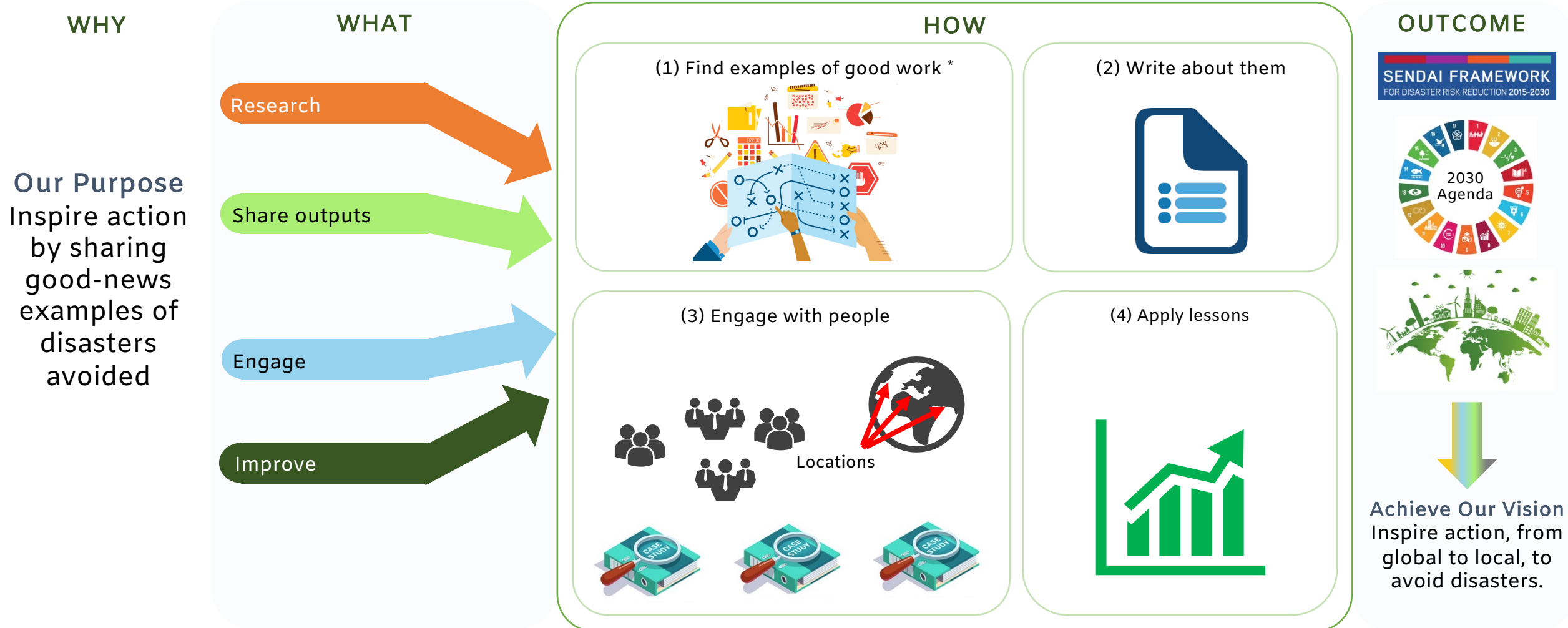
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# The Disasters Avoided project - a visual overview of our approach

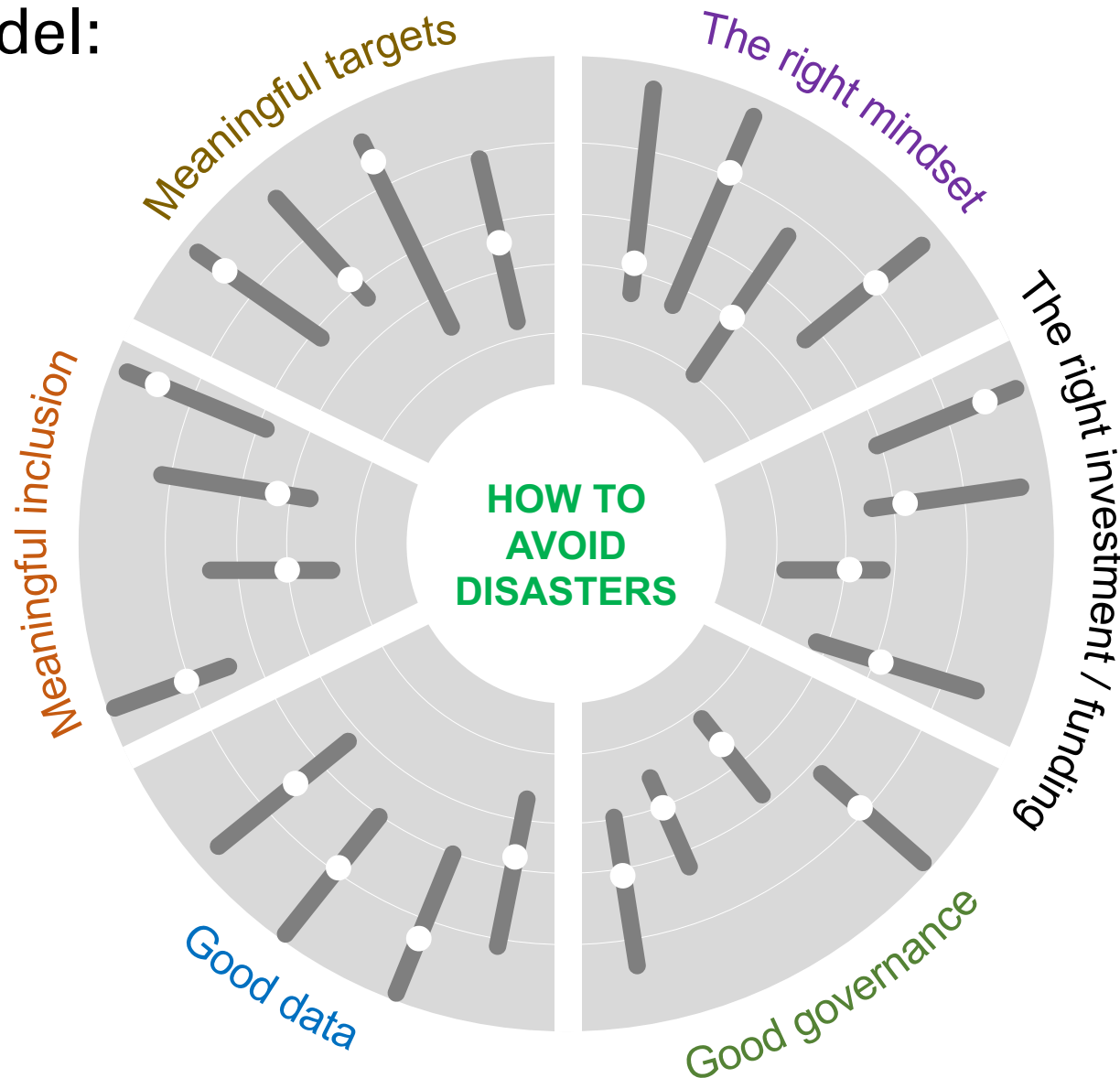


\* Case studies are funded by NASA Earth Sciences

## An emerging model:

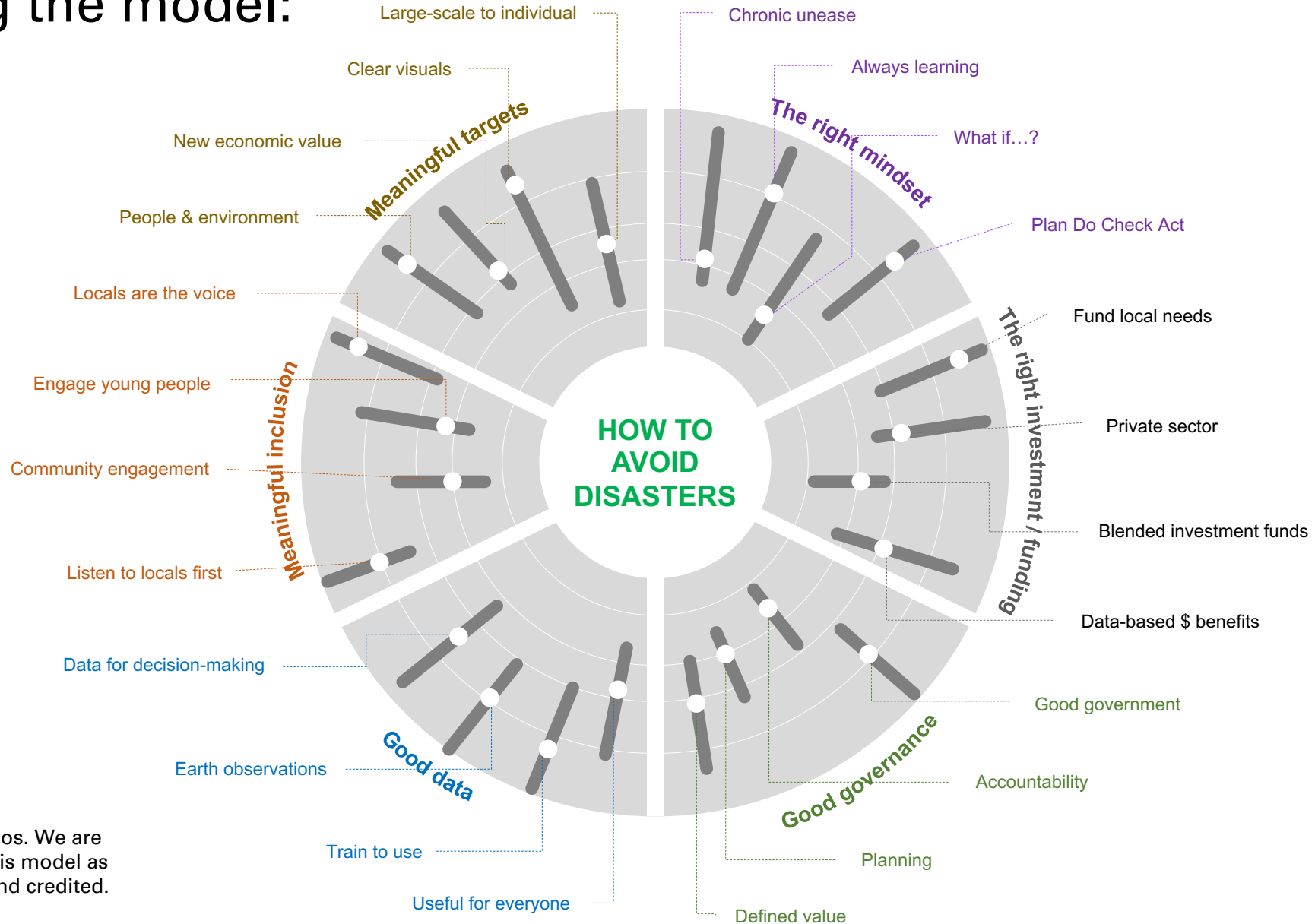
As we work on our case studies of disasters being avoided, we are seeing some patterns and trends which are contributing towards us starting to develop an emerging model for avoiding disasters.

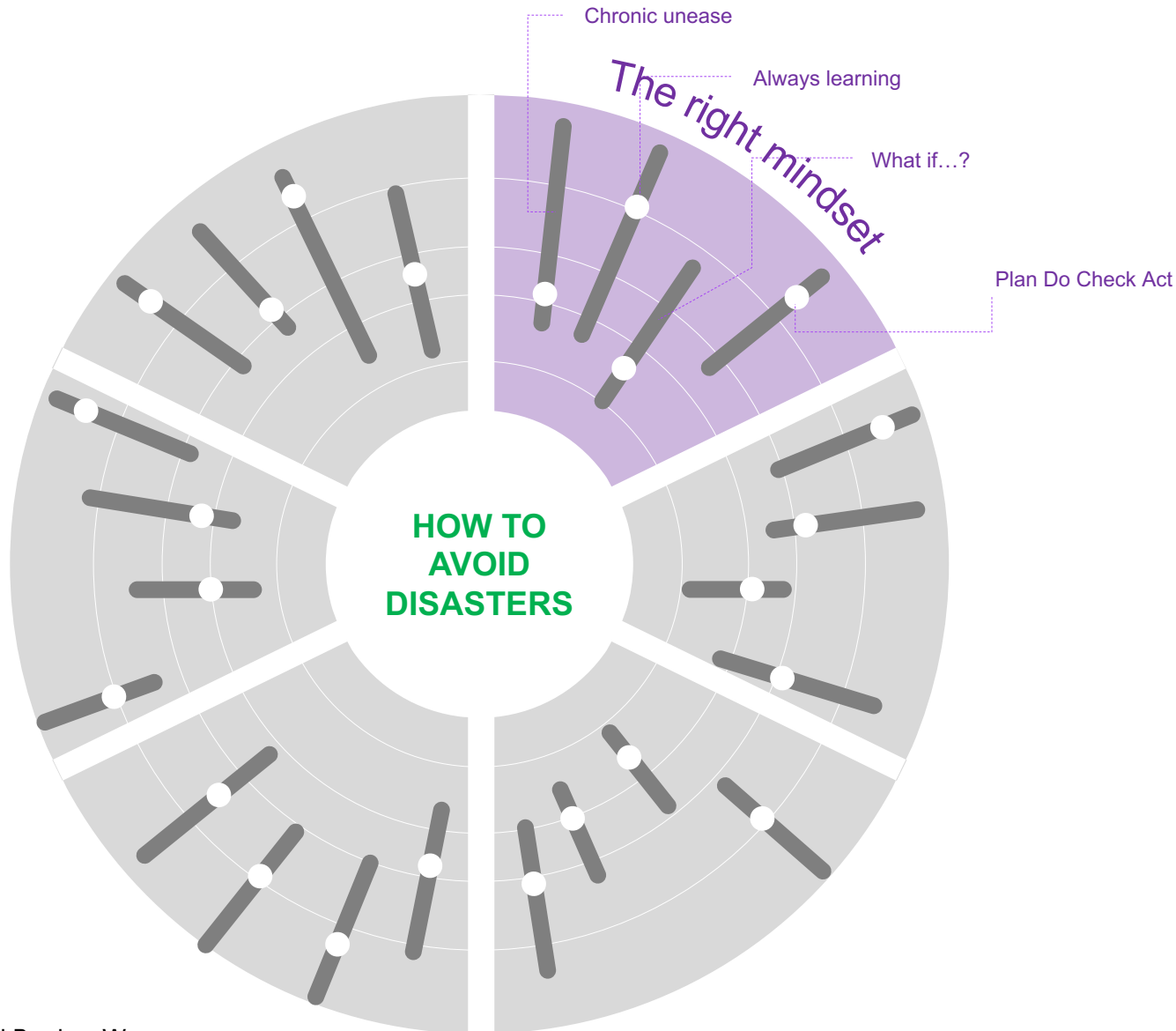
This model is a "work in progress". It does not seek to cover all aspects of disaster risk reduction and management; instead, its purpose is to highlight key points that we see arising in the actions people are taking to avoid disasters in different parts of the world. There is no "right or wrong" answer to how we approach the goal to avoid disasters, and context is always important. What we are seeking to distil are some common threads that we see, which we hope are of use to consider.



We will be stress-testing our emerging model through 2023 and 2024 to see if it needs modifying or whether it needs to be replaced by something else.

# Unpacking the model:





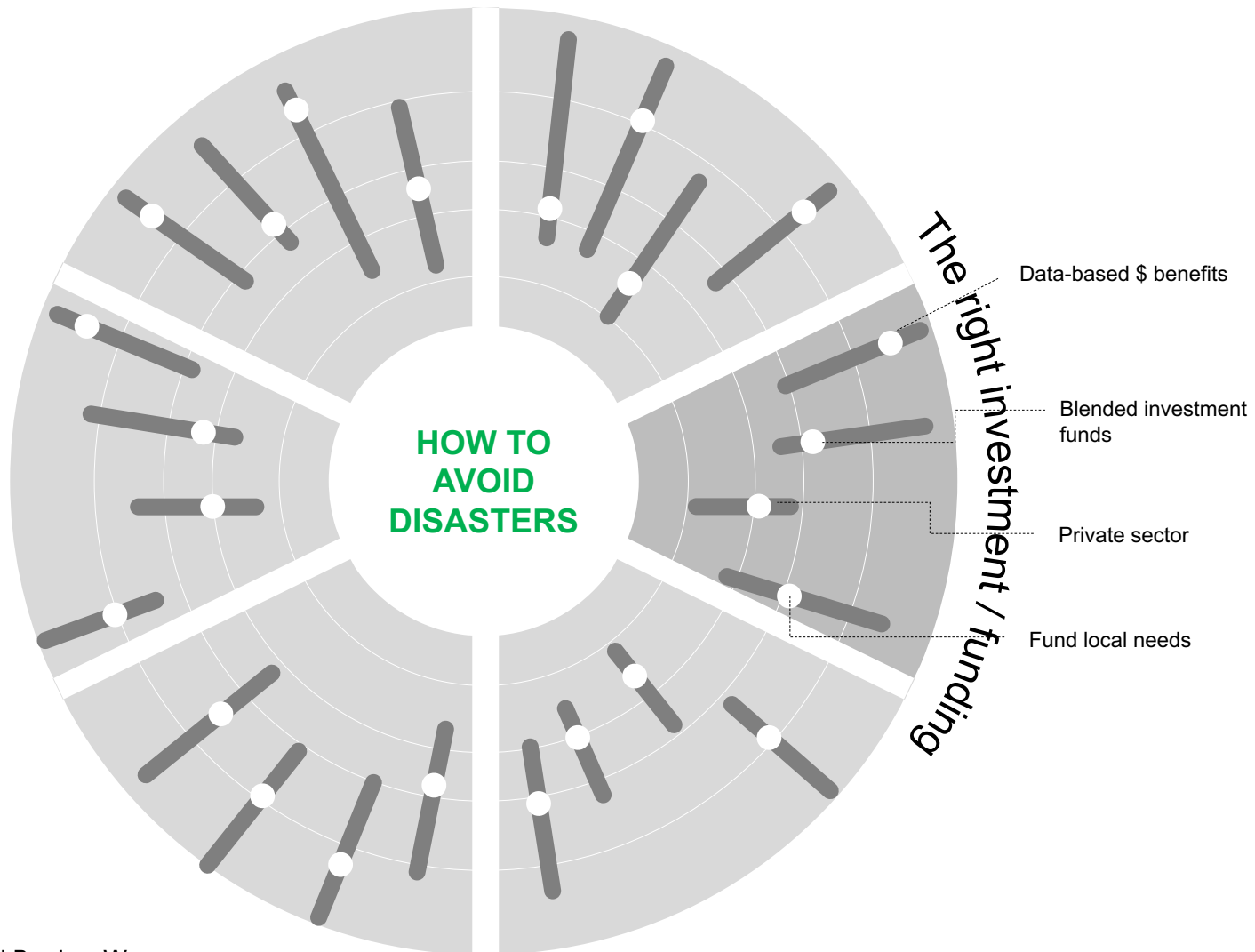
## The right mindset

**Chronic unease** is a term used in safety, to describe - in a positive way - a mindset that is always looking to improve, that never thinks “the job is done”.

**Always learning** means that we are continually looking for ways to improve. It is linked to having chronic unease. We seek knowledge and lessons from around the world and think through them, applying our context, not assuming facts and stories in one place automatically apply to another.

**What if...?** is an important part of the disasters avoided mindset. For things that have happened, it provides us with a focus on thinking about how things could have been different if circumstances had taken a different turn (counterfactual thinking, and reviews of near misses). For things that have not yet happened, it is about “prospective hindsight” to imagine the future, and how it might occur. Can we reimagine the future by thinking differently about it?

**Plan Do Check Act** is a mantra that has been around for several decades. It is a continuous loop of planning, doing, checking (or studying), and acting on feedback received to improve. It provides a simple and effective approach for thinking through and solving problems and managing activities and change, with risk and resilience tools that can be used to support activities by different groups of people.



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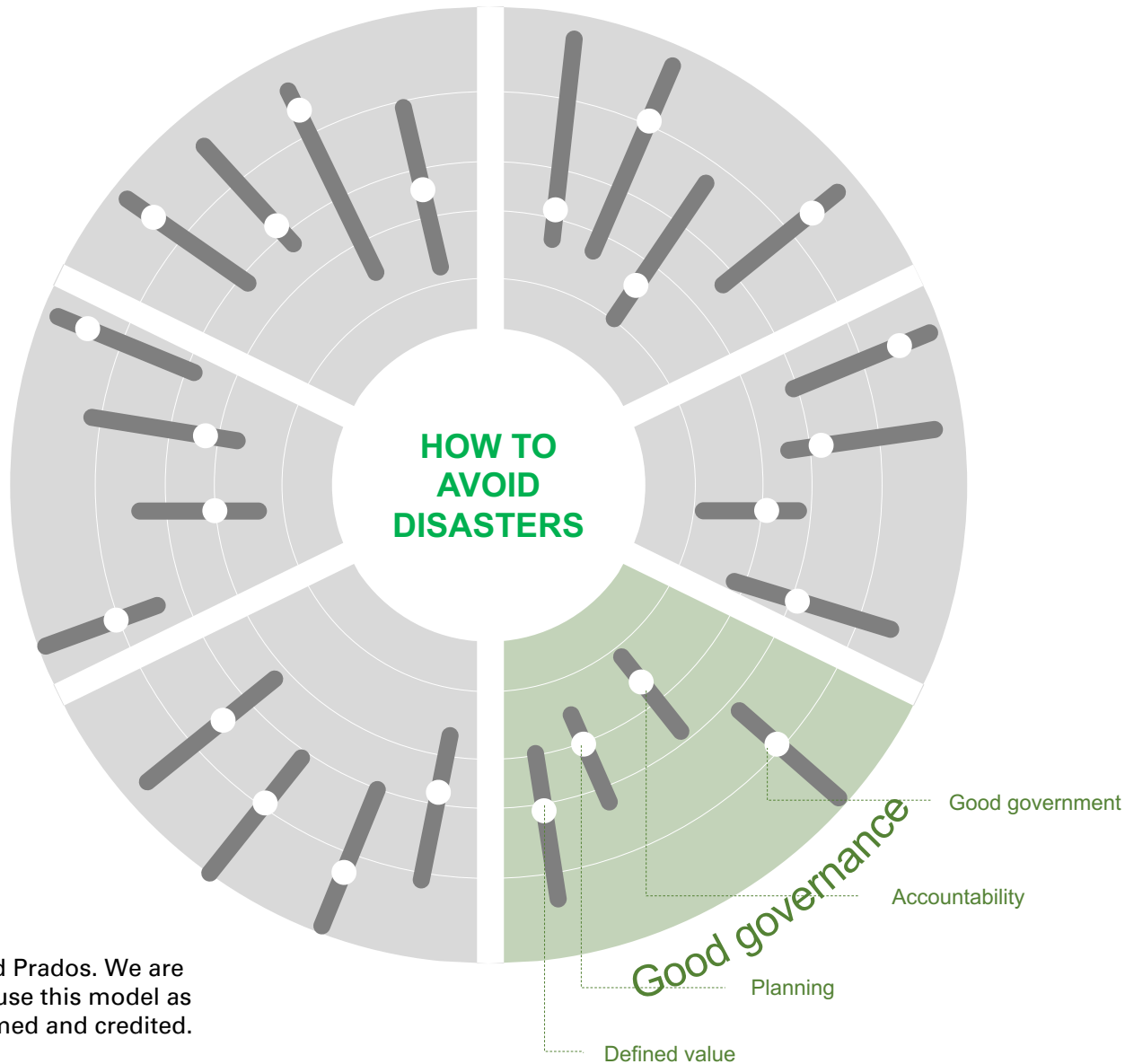
## The right investment / funding

The allocation of scarce resources (people, finances, materials and others) towards measurable and, when appropriate, quantifiable actions to avoid disasters requires the right investment and funding. Investments should be linked to agreed **data-informed benefits** that are monitored for achievement. Trust and accountability in good governance includes local government teams being involved in managing investments, working with citizen, community and business groups where feasible.

**Blended investment funds** means investment that arises from various sources, in an agreed split. This type of arrangement can work when there is clear accountability of ownership in place.

The **private sector** has a valuable role to play to support investments to avoid disasters. It includes innovative funding for R&D and ventures to develop technology, through to providing good insurance solutions. Good investment planning needs input from a range of people representing different needs from the beginning, not once an investment plan has already been created.

Finance needs to be allocated to **fund local needs** at the local level. The extent of this as a percentage of total funding should be agreed and monitored as part of quantified targets tracking. Good governance should ensure that local funding is being spent in the best way and is delivering the right value - from an individual and local level through to national level and The Sendai Framework.



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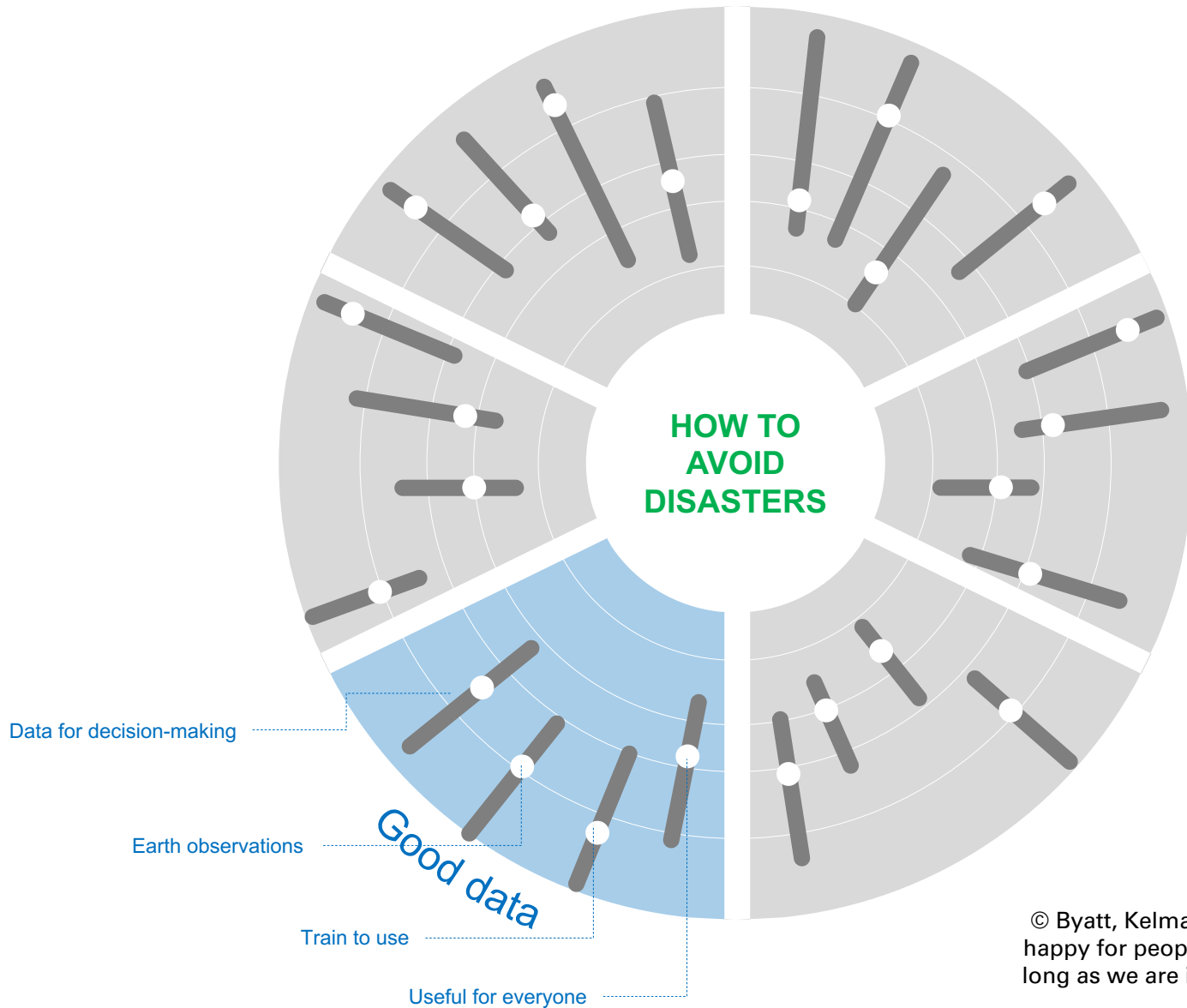
## Good governance

**Good government** at all levels is critical to taking upfront action to invest in and allocate scarce resources (people, finances, materials) towards measurable and quantifiable actions to avoid disasters. A key point is to avoid having many layers of decision-making. Trust and accountability means providing local government teams on/near to the front line with autonomy to act.

**Being accountable** for actions means there are consequences to what we agree to do and implement. When we commit to do something, we must feel accountable for our part. If someone cannot take on the required level of accountability they should step aside and let someone else who will commit to it take over.

**Well-thought-through planning** which reviews different perspectives and angles and assesses risks and vulnerabilities now and for the future using science-based data, is inherent to good governance. Good planning needs to invite input from a broad range of people representing different needs - and they need to shape things from the beginning, not once a plan has been created.

We are what we measure. Good governance instils the demand for **defined value** through science-based evidence and data to inform whether quantifiable targets are delivering the right value - from an individual and local level through to national level and The Sendai Framework. Governance defines the way elements of value come together - the value of life, the environment, our physical built world and our social systems.



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## Good data

**Data for decision-making** requires us to gather the best data to be analysed and acted upon with the focus of avoiding disasters, and monitoring outcomes. This action is aided by science, technology and innovation. We can link local granularity to the global goals of the Sendai Framework and the SDGs. Some data such as long, medium and short-term weather forecasts has been used for a while. New data and technology includes the use of AI solutions and machine learning. All solutions need to link to good governance and to ensure we can measure performance and outcomes in a quantifiable way.

**Earth observations** are an important part of the data set. Weather forecasts are obvious. We are also interested in data about settlement development in vulnerable areas vs government policy, the way land is being used and managed and how flora is developing.

People need to be **trained to use** the data available, and the tools and techniques that are used to create it, which links to good governance, the right mindset and societal cohesion. It is particularly important that local communities and businesses are trained to use the data we make available, and that it is easily accessible to them for free through the Internet and mobile devices.

Using Plan Do Check Act, data must provide to be **useful for everyone**. We all need to use it, and it must inform whether quantifiable targets are delivering the right value - from an individual and local level through to national level and international level.





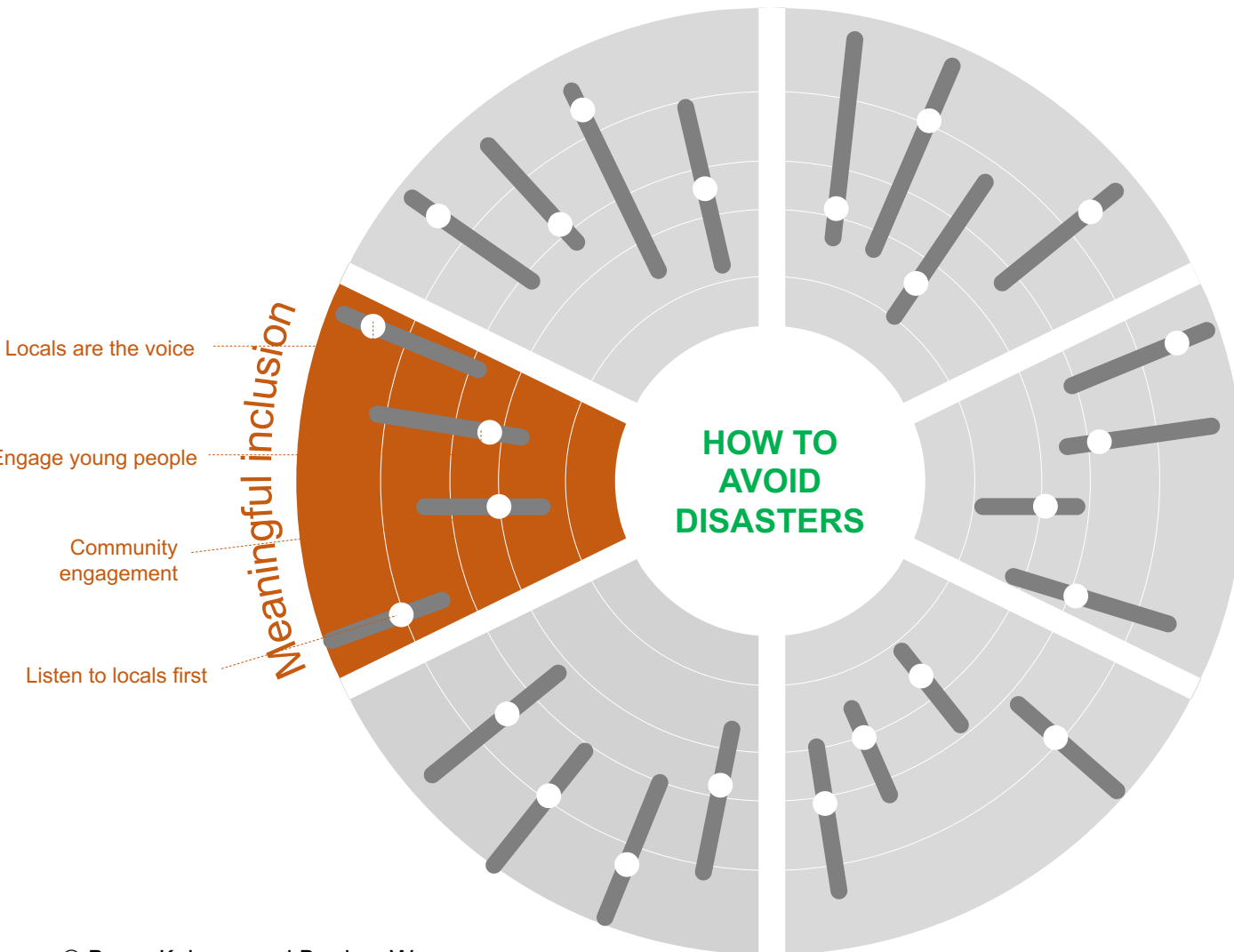
## Meaningful inclusion

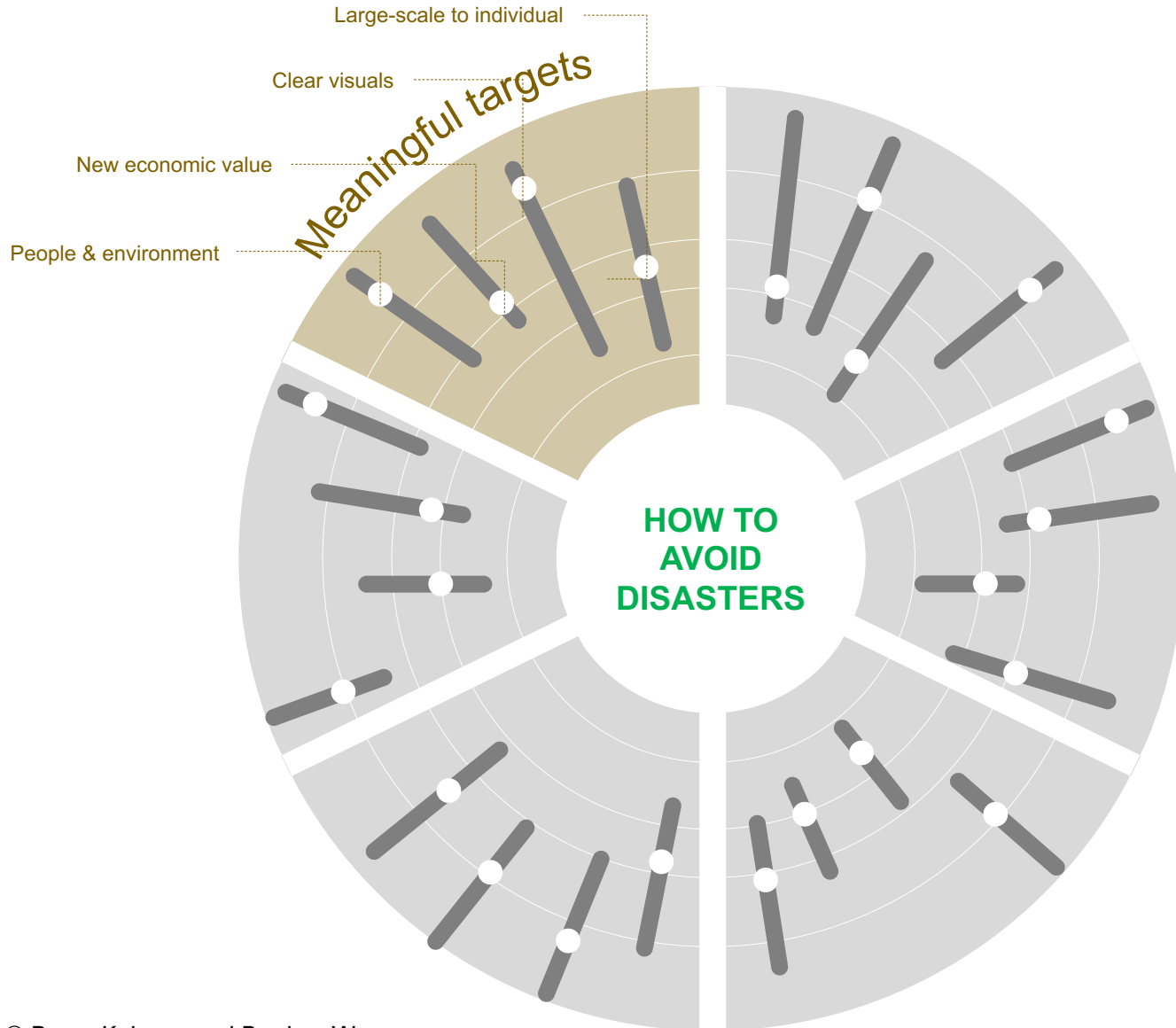
It is important that we **listen to local people as a priority**, from the earliest concepts of ideas to improve how disasters are avoided through to the planning of actions to be taken and how to monitor progress. Locals must be thought of as “the first mile” of engagement for actions and activities; they should not be left till “the last mile”. Locals, including indigenous peoples, have a great deal of knowledge and experience, and many ideas to offer and share - they should be rewarded in an appropriate way for their contribution.

**Community engagement** means working with community networks that are already in place, or helping to establish them if they need to be created. It is not ‘top down’ or ‘bottom up’: it is about doing things together.

It is important to **engage young people** in the discussions. Young people deserve the right to have a voice that is listened to as part of the overall work to agree how to avoid disasters.

**Locals are the voice** for communicating what is happening, how well actions are working and specific, local examples of how disasters are being avoided. As well as locals having their own community groups (in person and online), they should be supported in this effort by people who can capture their feedback for wider sharing, and perhaps connecting local groups with each other from around the world to share experiences and ideas (to contribute to the first key point above).





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## Meaningful targets

Targets for avoiding disasters should focus first on **protecting people and the environment**. However, disaster events down the years show that this is not always the case. In some places, the value placed on life and the environment has been shown by those in authority to be lower than perceived economic gains. This is why buildings continue to be built inadequately in earthquake-prone areas, for example.

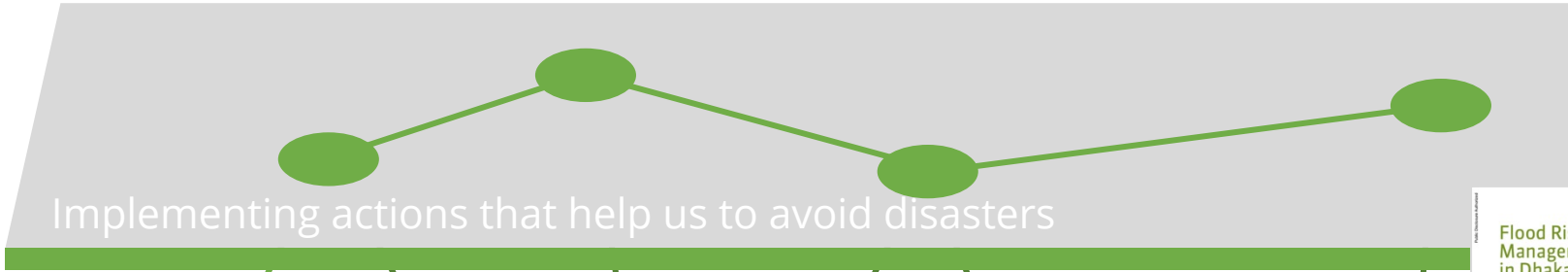
**Economic value** is key to quantifying targets and seeing good outcomes. There is enough evidence around the world to show that upfront investment to avoid disasters leads to economic benefits. It is also crucial to work out what to do about the economic drivers that lie behind some of the vulnerabilities and problems we face.

We should use **clear visuals** to communicate targets and show progress to achieving these targets. Visuals can show the protection of people, the environment and economic value. Earth observations maps of local areas can show action to minimise risk and vulnerabilities. They can show a positive impact at a community level.

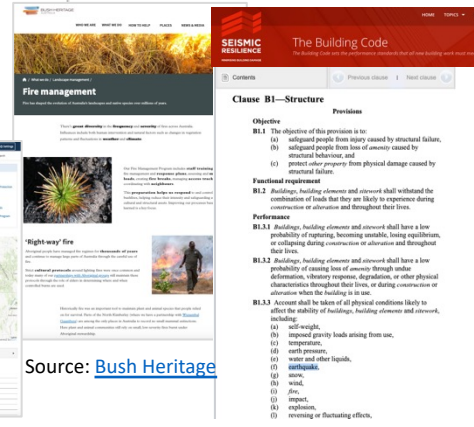
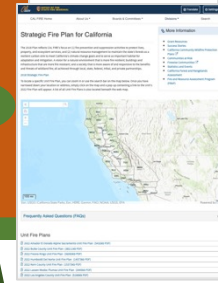
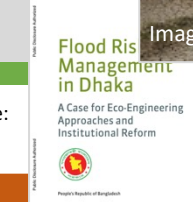
The targets we set should be from **large-scale to individual**, threading through from an international and national level through to targets that matter to individuals, families and small businesses. People in local communities can help set targets, and they can be involved in discussing progress and further action required. Many targets should be long-term and not subject to political change (such as elections) or events.

# Linking aspects of avoiding disasters to “the greater whole”

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Decision-making processes