PLANNING FOR SUSTAINABILITY IN A SMALL REGIONAL TOWN

Bringing the Sustainable Development Goals to Forrest

Partners:

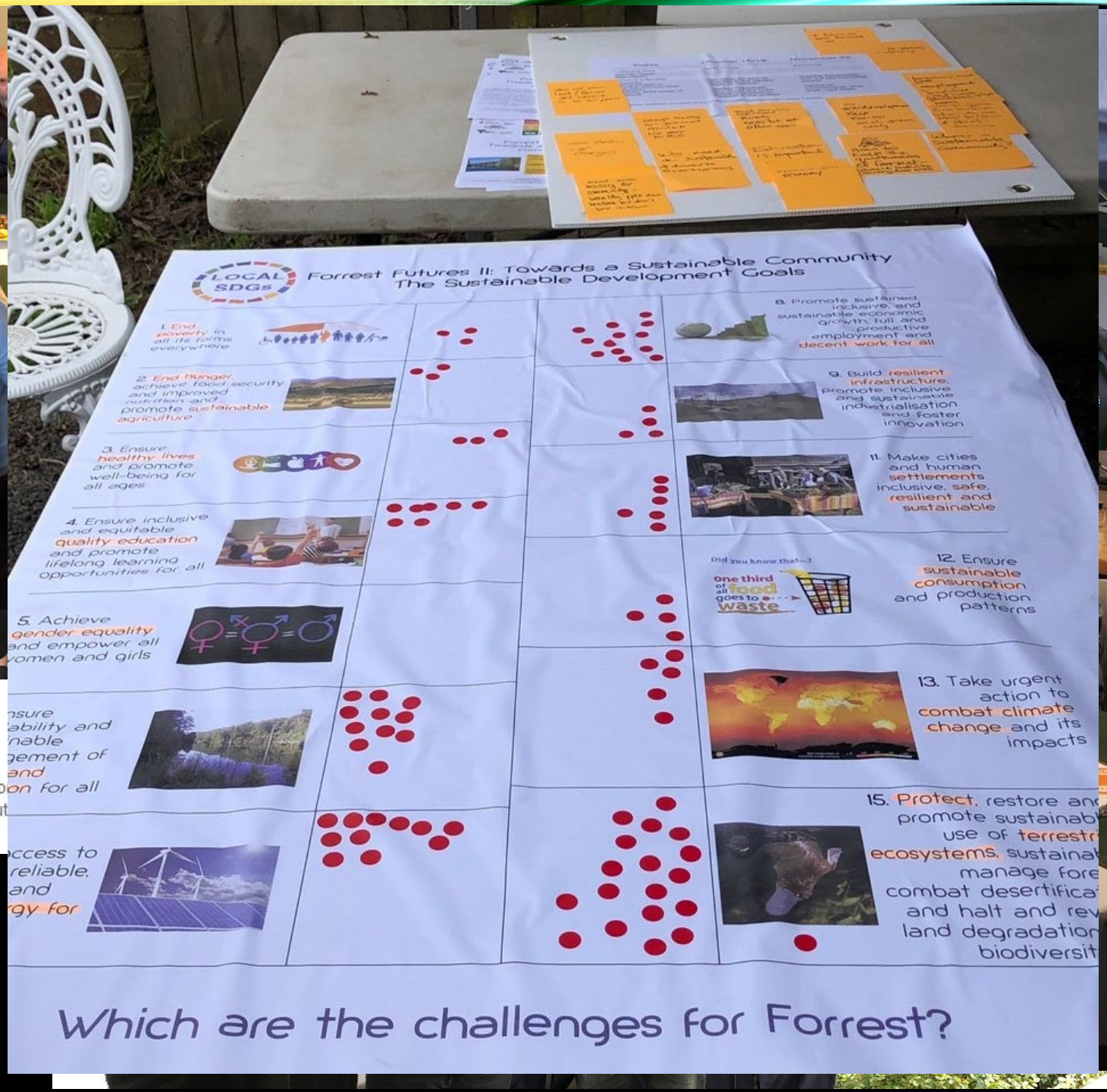
Forrest Gateway Project
Monash Sustainable Development Institute
Department of Environment, Land, Water and Planning (DELWP)
The Ian Potter Foundation

CASE STUDY COMMUNITY: FORREST

- Small community within the Otways region
- Former logging, agriculture region
- Successful transition to tourism
- High bushfire risk
- Highly engaged community
  - Proud of the uniqueness of their town
  - Keen to make it safe and sustainable for the future

COMMUNITY ENGAGEMENT

- Grassroots change begins with the community
- Learning what the local residents want for the future of their community
- Creating "*The Forrest Plan*" based on their vision



Forrest Mountain Bike & Cycling Club
13 September at 10:39 ·

Forrest Futures Project part 2
Looking at sustainable development goals for the Fo
infrastructure, waste water or employment into the fut
See more

insight

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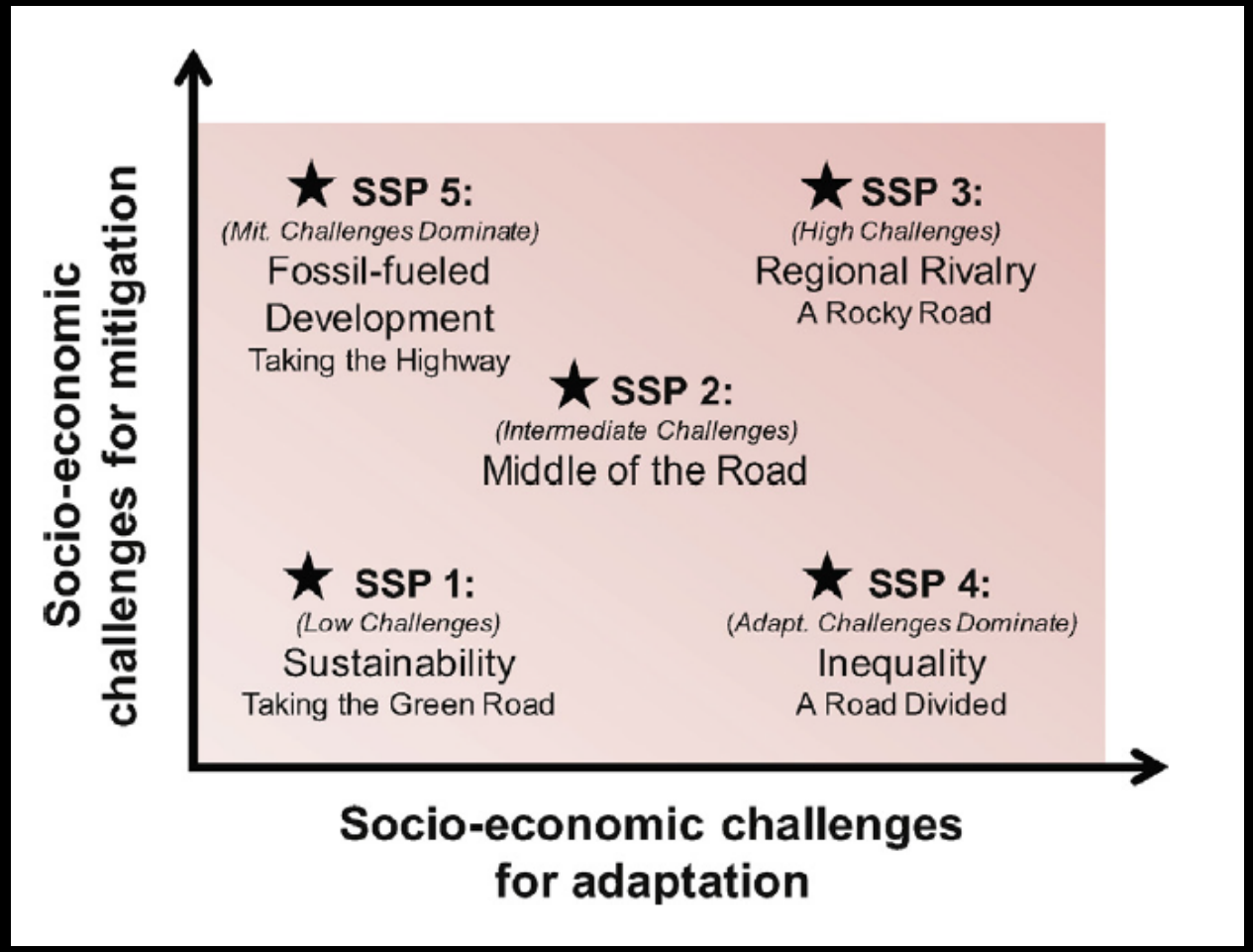
CREATING SCENARIOS

- Scenarios are narratives of possible futures
- Research gap – there is no standardised method of scenario generation for the SDGs
- Adapt existing method used for climate research
- Alterations required:
  - Change conceptual basis
  - Include the SDGs
  - Scale down to local level

THE SHARED SOCIOECONOMIC PATHWAYS (SSPs)

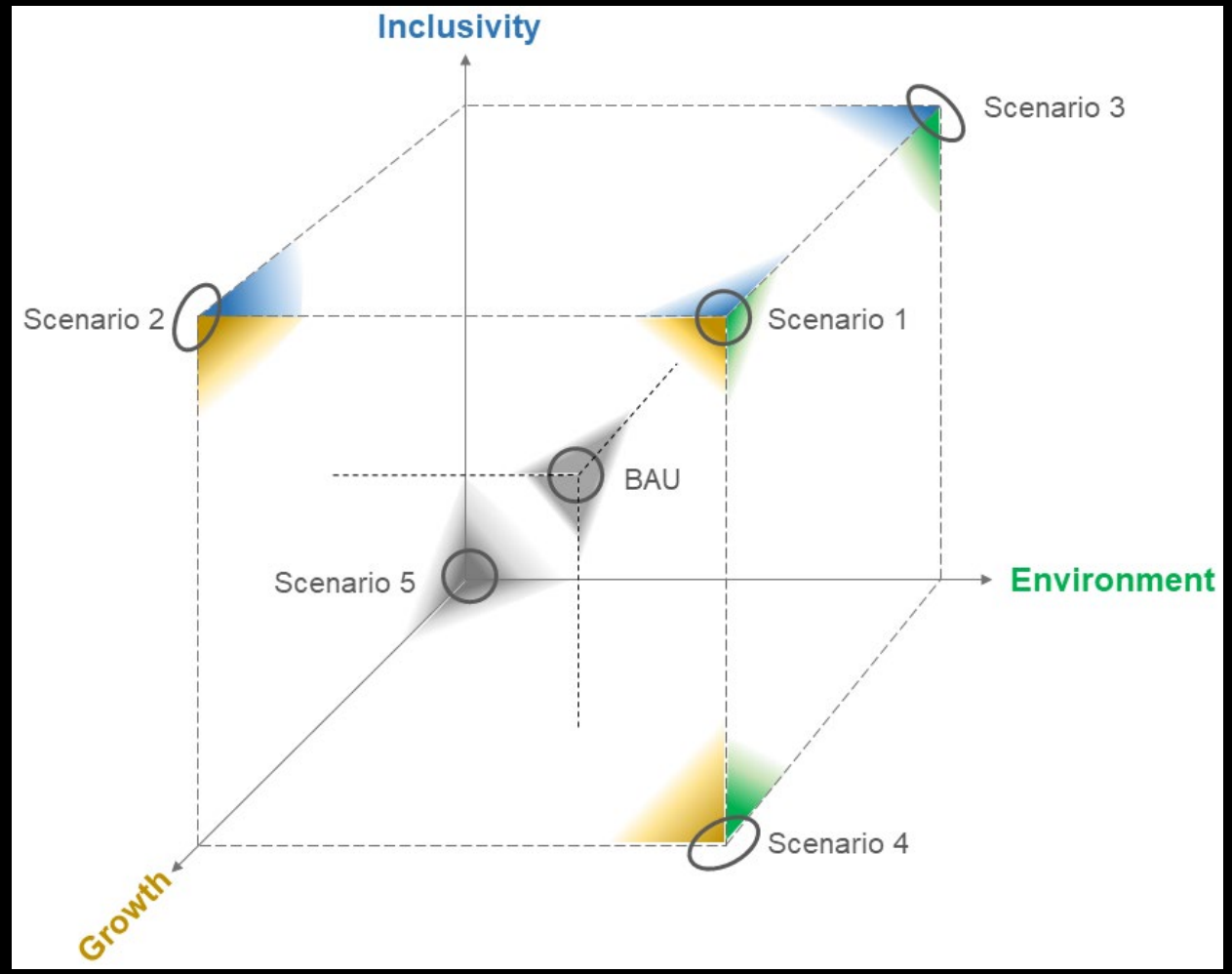
- Originally designed as climate change scenarios – scenarios framed by levels of challenge to climate adaptation and climate mitigation

- Ebi et al. (2014): "Because sustainable development is a policy goal, a further advance could be to explicitly model developmental pathways as an outcome."



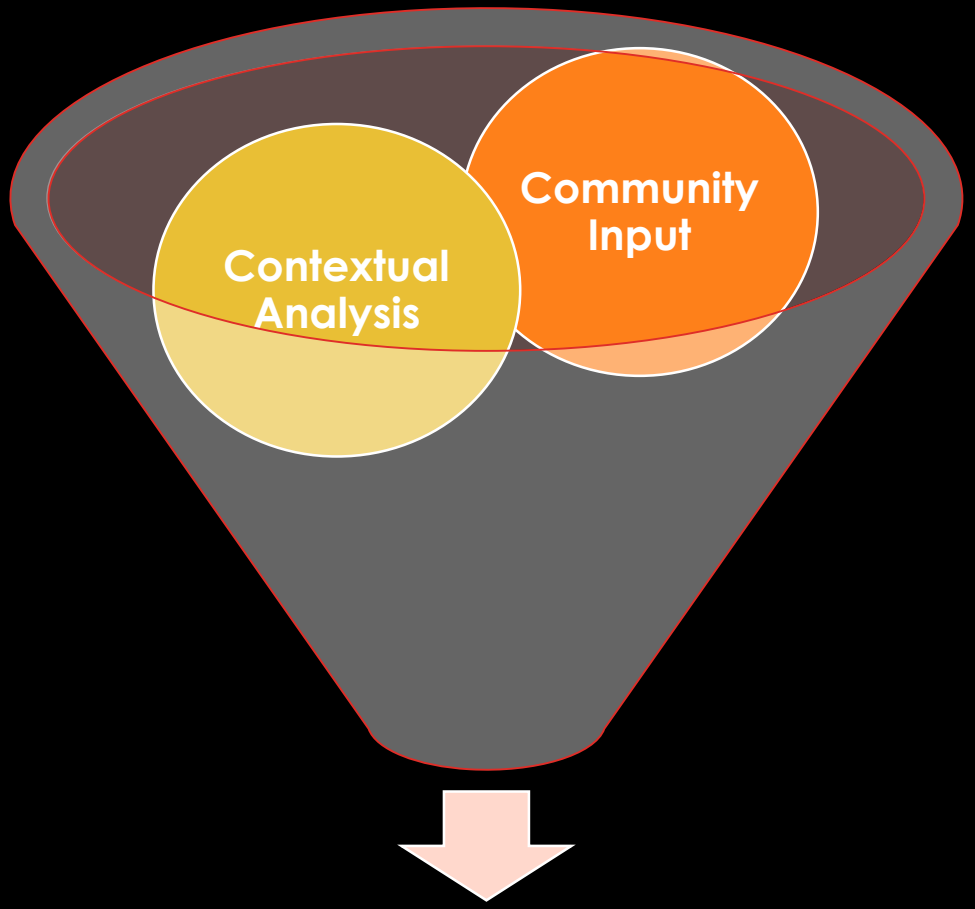
(from O'Neill et al. 2017)

SCENARIOS IN A SUSTAINABILITY CONTEXT



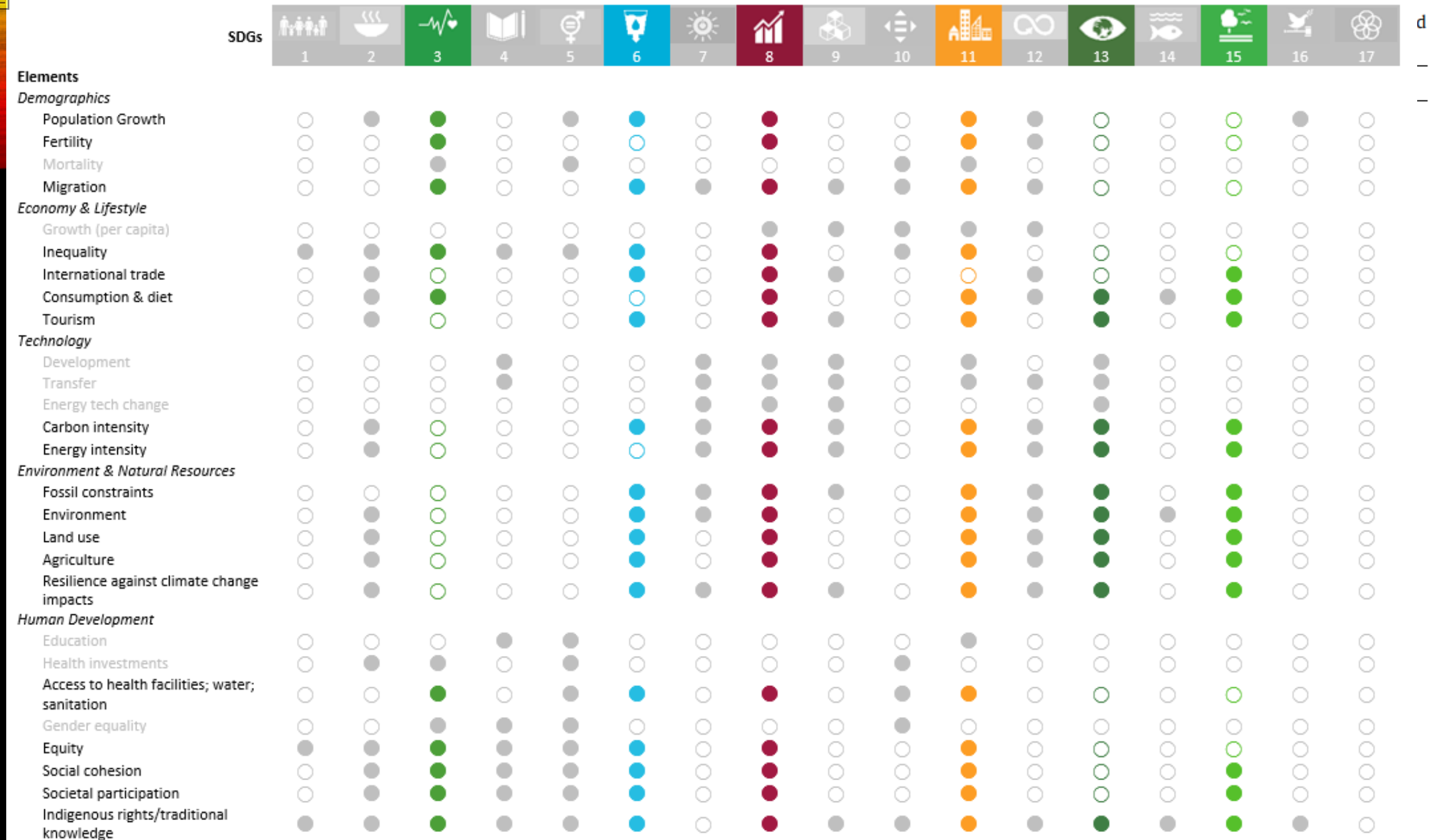
- Can't use the climate change axes for sustainability
- Develop new set of 3-D axes – each axis a "pillar" of sustainability
- Can then create new sustainability SSPs by placing scenarios at the vertices of the cube
  - Results in five scenarios, plus a sixth for Business As Usual

DOWNSCALING FROM GLOBAL TO LOCAL



Localised SDGs & Driving Forces

- 17 SDGs + scenario driving forces
- Exclude those which aren't relevant to the local context
- But how to choose?
  - Desktop review
  - Ask the community


SDGs
1
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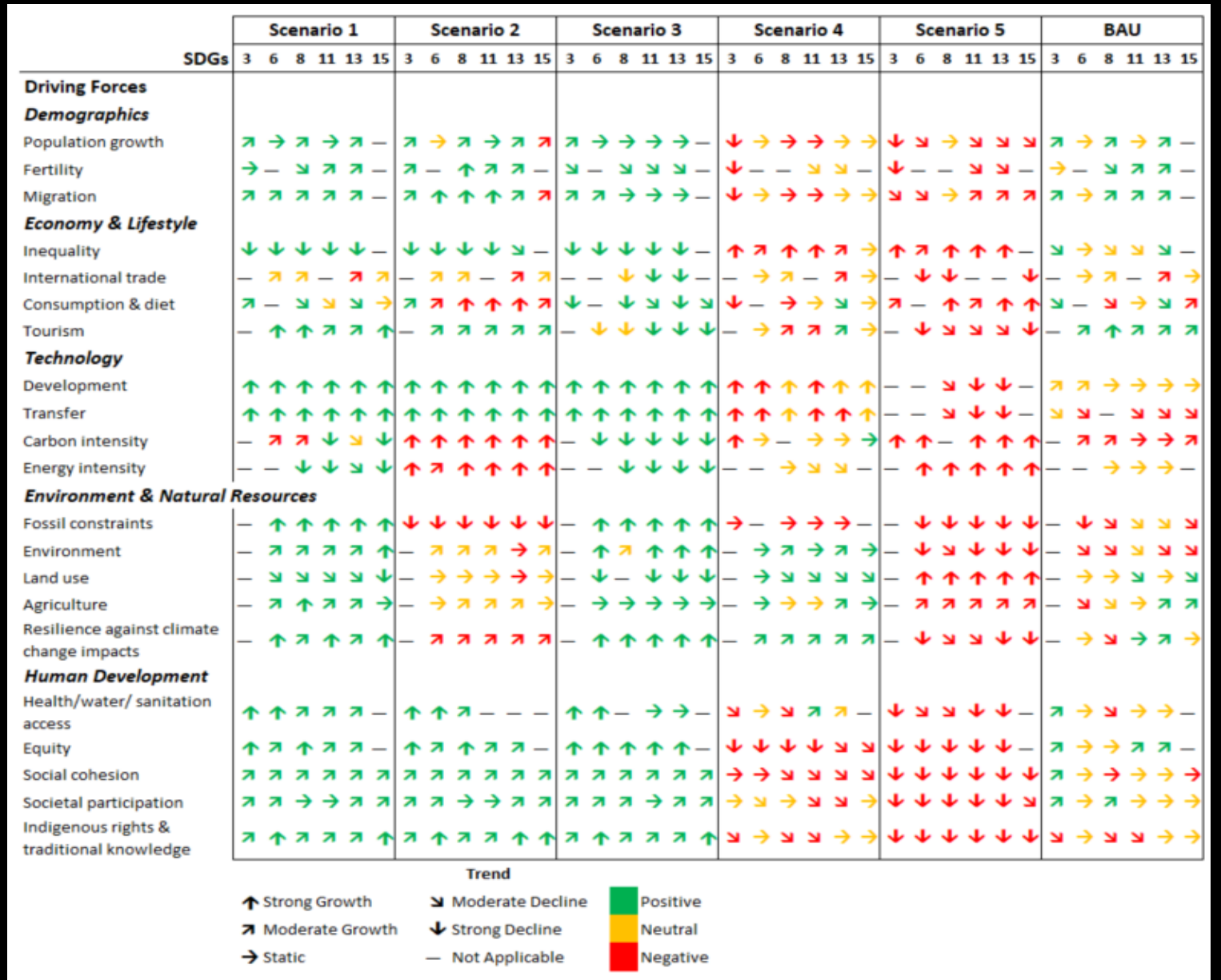
Elements
Demographics
Population Growth
Fertility
Mortality
Migration
Economy & Lifestyle
Growth (per capita)
Inequality
International trade
Consumption & diet
Tourism
Technology
Development
Transfer
Energy tech change
Carbon intensity
Energy intensity
Environment & Natural Resources
Fossil constraints
Environment
Land use
Agriculture
Resilience against climate change impacts
Human Development
Education
Health investments
Access to health facilities; water; sanitation
Gender equality
Equity
Social cohesion
Societal participation
Indigenous rights/traditional knowledge

SDG / Driving Forces		3	6	8	11	13	15
	Population Growth	Excellent health care increases life expectancy. Deaths from road traffic accidents decline.	Water is used efficiently and sustainably, within the carrying capacity of the community.	Sustainable tourism creates jobs in the community, encouraging people to migrate in.	The number of deaths due to disasters (e.g bushfire, flood, climate change) reduces. Housing availability is a limiting factor	Climate-related disaster resilience is improved (bushfire, flooding). This makes Forrest a desirable place to live.	—
	Fertility	Maternal and reproductive health care is excellent. The fertility rate is at replacement level	—	Women can choose to not have children, or limit the number they have, enabling more women to enter the workforce as they aren't acting as primary caregivers.	Forrest is a safe, affordable and sustainable place to live. Parents are comfortable with having and raising children in the community.	Climate-related disaster resilience is improved (bushfire, flooding). This makes Forrest a desirable place to live and have families.	—
	Migration	Health care is excellent, encouraging people to migrate to the town.	Water use is sustainable and efficient, and a sewer system is installed in the town. The local waterbodies are protected. The security of the water system encourages migration in.	There is full and productive employment for everyone in the community (including through tourism). This encourages migration in.	Forrest is a safe, affordable and sustainable place to live, encouraging migration in. Alternative housing options such as co-housing emerge to sustainability house new residents without re-zoning land for new housing	Climate-related disaster resilience is improved (bushfire, flooding). This makes Forrest a desirable place to live and migrate to.	—
	Inequality	Substance abuse prevention and treatment is strengthened. There is universal access to sexual and reproductive health services, and universal health coverage.	Water scarcity is substantially reduced. The community is involved in water and sanitation management.	Policies are implemented that support productive activities. There is full and productive employment for all, and reduction in the number of youth not in employment, education or training. Labour rights are protected.	There is access for all to safe, adequate and affordable housing and public transport. There are fewer people affected by disasters. There are policies for inclusion, resource efficiency, climate change, and disaster resilience.	There are improvements to resilience against climate-related hazards across the community. Additional resources are devoted to those without the means to fund such improvements alone.	—
	International trade	—	Protection of local water-related ecosystems results in international tourism, and thus a moderate level of international trade.	Policies are implemented which promote sustainable tourism, which results in international tourists and a moderate level of international trade.	—	International tourism promotes a moderate level of international trade. International tourism has tradeoffs against carbon intensity.	Protection of terrestrial ecosystems results in international tourism, and thus a moderate level of international trade.
	Consumption & diet	Prevention measures reduces premature mortality from non-communicable diseases like cardiovascular disease or diabetes	—	There has been an improvement in resource efficiency of consumption, and economic growth has been decoupled from environmental degradation	Policies have been adopted for resource efficiency	There has been an improvement in resource efficiency of consumption. Sustainable local agriculture is a way to lessen climate impact	Ecosystem and biodiversity values have been integrated into planning and development processes, poverty reduction strategies, and accounts

LEVELS OF SDG FULFILMENT

- SSP driving forces group according to sustainability pillars
- SDG fulfilment represented by colour-coding in table
- Outcomes specific to the localised case study
- Fine-grain detail permits precise adjustment for improvements



MODEL DEVELOPMENT

- System dynamics modelling
- Causal loop diagrams
  - Limits to Growth – World3 model

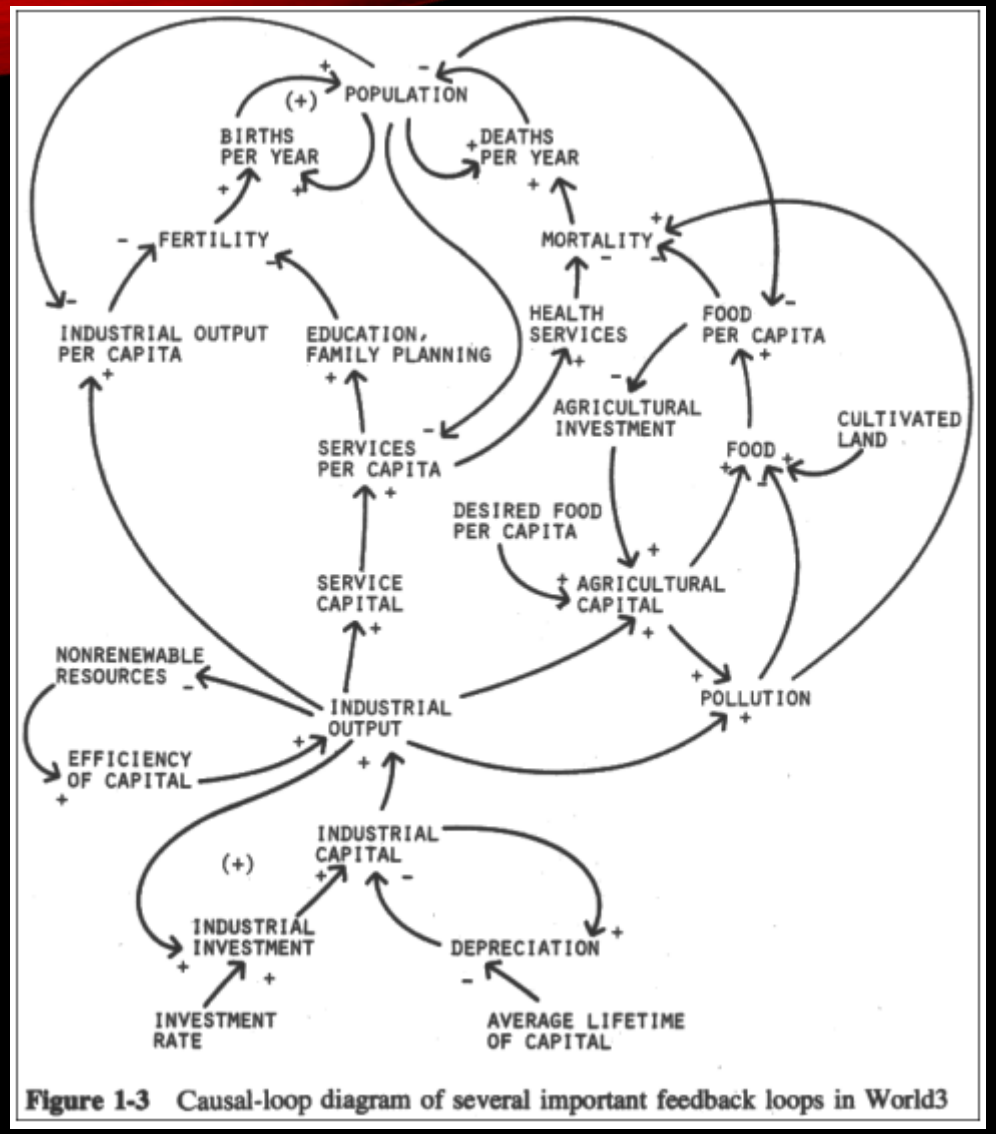
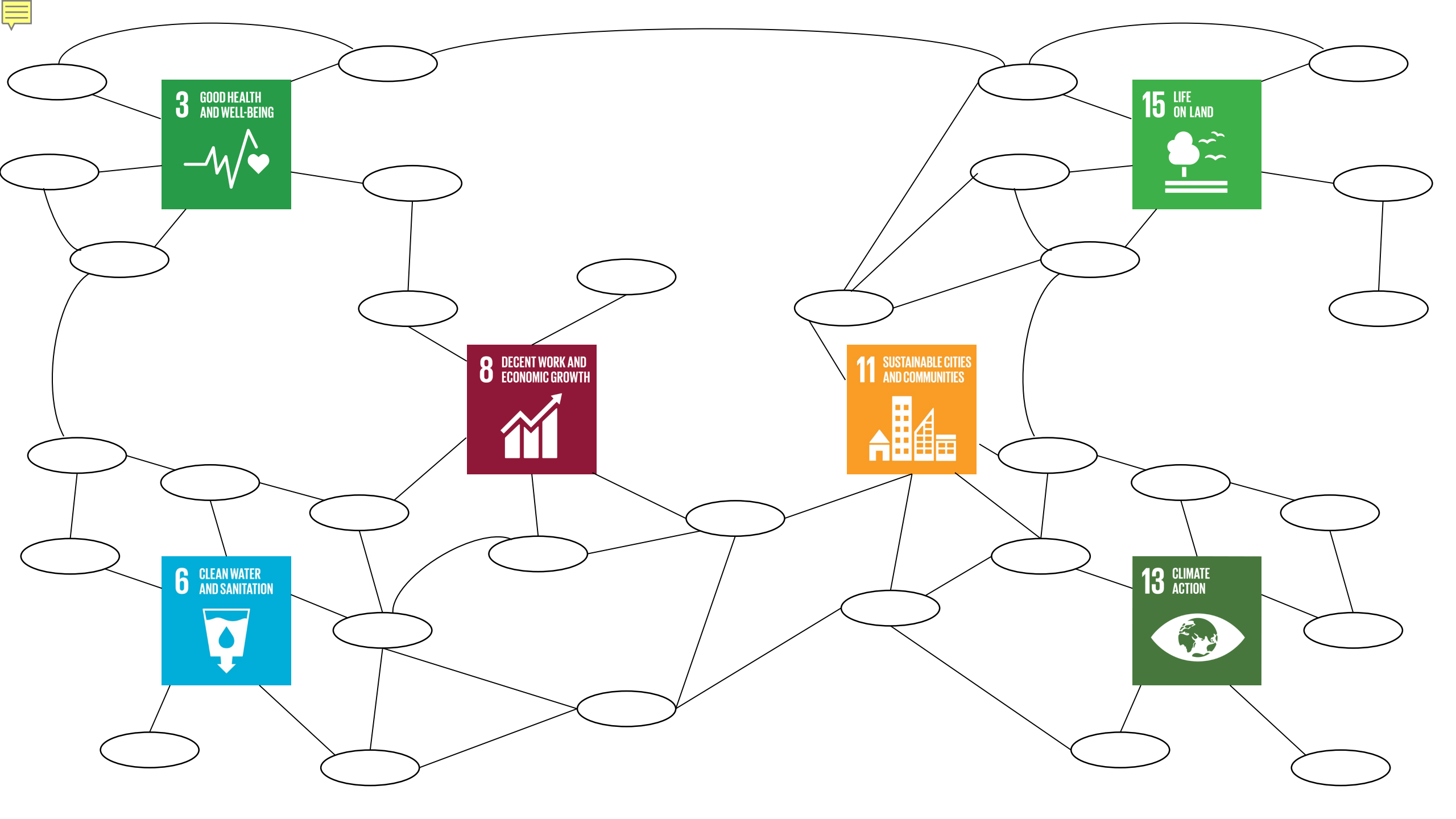


Figure 1-3 Causal-loop diagram of several important feedback loops in World3


3 GOOD HEALTH AND WELL-BEING
15 LIFE ON LAND
8 DECENT WORK AND ECONOMIC GROWTH
11 SUSTAINABLE CITIES AND COMMUNITIES
6 CLEAN WATER AND SANITATION
13 CLIMATE ACTION

SUMMARY

- Community Engagement work
  - Shared community vision
  - Town sustainability plan
- Linking the SDGs and the SSPs and creating local sustainability scenarios
- Building a local system dynamics model

THANK YOU – QUESTIONS?

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