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JNCC
Joint Nature Conservation Committee

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South Atlantic Overseas Territories Natural Capital Assessment: St. Helena Scenario workshops report

ENVIRONMENTAL RESEARCH INSTITUTE
SOUTH ATLANTIC

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Review table

Name	Reviewed by	Date
Version 1	Ness Smith	20/12/18
Version 2	Tara Pelembe and Paul Brickle	02/01/19
Version 3		
Version 4		

Acknowledgements: We would like to thank everyone who took part in the two scenario workshops.

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1. Summary

The St Helena Natural Capital Assessment, funded by the FCO and administered by the UK's Joint Nature Conservation Committee, is being conducted by the South Atlantic Environmental Research Institute (SAERI). It is working with SHG and other key stakeholders to deliver a suite of ecosystem service valuations which will provide new evidence for future decision making and environmental management on the island.

Human wellbeing is dependent on the benefits – or ecosystem services – which we obtain from the natural environment such as food, fresh water, tourism, spirituality and protection from flooding and erosion. Yet these benefits and the trade-offs made between them are often not considered when economic decisions need to be made. Values – both monetary and non-monetary – can be assigned to these ecosystem services which allow us to make longer-term, more strategic, decisions about how to manage them both now and for future generations.

More detailed information on the NCA project is available online[1].

2. Background

The outline plan is to develop a series of valuations (both monetary and non-monetary) for the Peaks National Park, agriculture and forestry estate, tourism and culture, which will feed into Bayesian networks. These networks are currently being developed using stakeholder-derived knowledge, and linked to GIS so that value maps can be produced. Scenarios will be developed to enable stakeholders to explore spatially the effects of different alternative futures on ecosystem service provision.

The process is outlined below (figure 1)[2].

[1] https://www.south-atlantic-research.org/research/terrestrial-science/natural-capital-assessment/
[2] For more detail on scenarios and the scenario process see accompanying PowerPoint presentations.

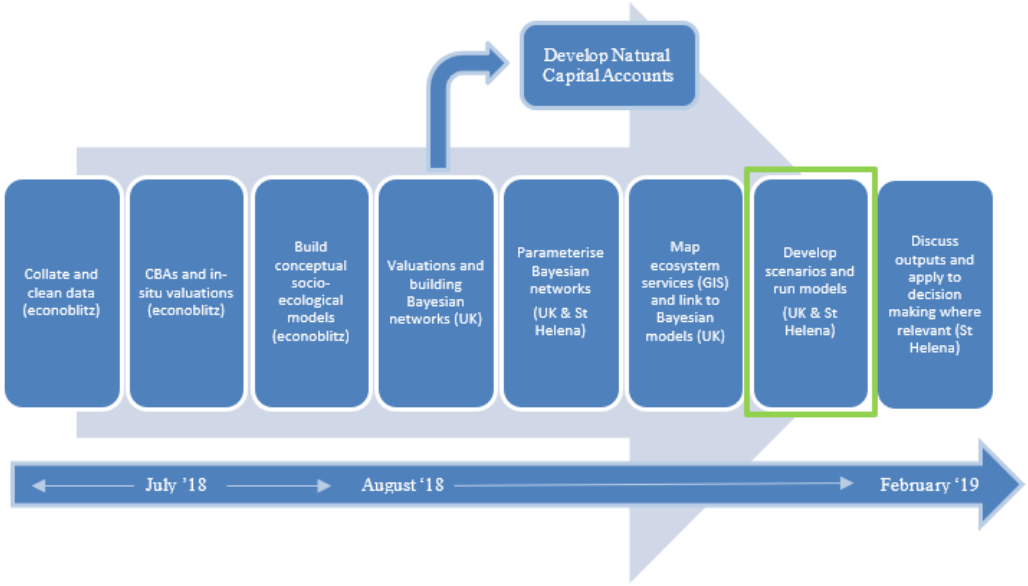


Figure 1: St. Helena NCA Process

This document summarises the outcomes of two scenario workshops held in St. Helena in October and November 2018.

3. Participants

Participation was by invitation, and participants came from a cross sector of government departments and NGO representatives. A detailed participants list is outlined in Annex 1.

4. Workshops

Two workshops were held one on the morning of October 24th and one the morning of October 31st to develop scenarios for the future for St Helena. See Annex 2 for the workshop programmes.

The process for identifying these scenarios is outlined in the accompanying PowerPoint presentations.

4.1 Workshop 1:

In workshop 1, the group undertook a PESTLE analysis to define the future drivers of change. The detailed notes of the outcomes from this exercise are presented in Annex 3. Following on

from this, the perceived importance and certainty of these drivers was assessed by the group in plenary. The detailed outcomes of this exercise are presented in Annex 4.

A judgement on which drivers should be taken forward to develop the future scenarios, based on importance and certainty was then made by the group. These agreed drivers (in order of importance) were:

- UK funding changes (both increase or decrease)
- Climate change
- Land use
- Less imports
- 2020 fibre optic cable
- Increased visitors and population
- Education
- 100% renewables
- Brexit
- Business diversification.

4.2 Workshop 2:

The best case and worst case scenarios associated with the 10 drivers for change taken forward from workshop 1 were then discussed and described within the group. Annex 5 provides the detailed flip charts with these assessments. From this analysis, the final matrix which provided the framework for the more detailed future scenario narratives was developed. This matrix is outlined below.

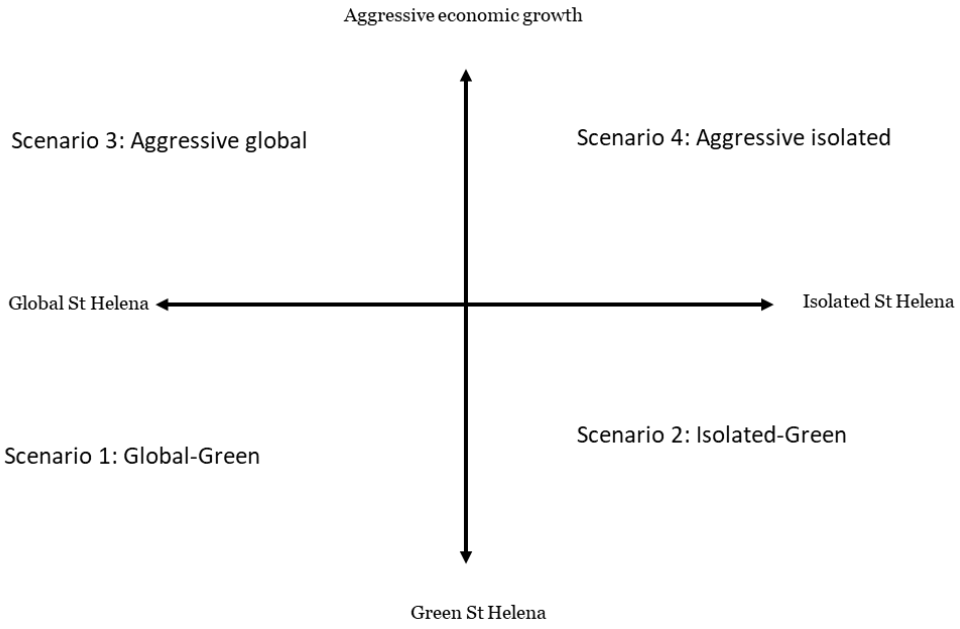


Figure 2: Final matrix used to develop the scenarios

4.2.1 Scenario outcomes

Using the scenario matrix in figure 2, the following four scenarios were developed by the group

- Scenario 1: Global Green Island
- Scenario 2: Isolated Green Island
- Scenario 3: Aggressive Global Island
- Scenario 4: Aggressive Isolated Island.

- The narrative for each of these scenarios were developed in more detail through four activities.
    - Activity 1: Visualisation; drawing what these future scenarios look like.
    - Activity 2: Describing the scenarios in bullet points
    - Activity 3: Writing a narrative for the scenarios.
    - Activity 4: Indicating where these scenarios (or parts thereof) might occur on a map of St Helena.

The flip charts sheets recording these outcomes are included in Annex 6, and recorded below.

4.2.1a Scenario 1: Global Green Island

Bullets:

- Ecohotels/lodges/transportation
- Renewable energy/recycling
- Increase flights/cruise ships/yachts
- Increase eco tourism visitors
- Cable connectivity –
    - stay at home jobs
    - cheaper internet
    - increased global presence
    - more knowledge transfer
        - health
        - education
- Increase innovation
- Healthy living/population
- More local production and use of local resources
- International access
- Increase international events
- More graduates/better educated population
- Better local infrastructure
- More pedestrian areas and green spaces
- Better environmental management/biodiversity
- Reduce emissions.

Narrative

In 2030 St. Helena is accessible by sea and air and tourist ships visiting have increased; we have attracted increased numbers of discerning visitors who stay in eco-lodges, and undertake more voluntourism activities. We have high speed affordable internet connectivity enabling improved education, health services, increased knowledge export.

In urban settings we have well defined green pedestrianised areas and increased eco-transportation. Our energy is from increased renewable sources. We have increased exports of niche products, improved environmental management; increased international events; appropriate governances arrangements to facilitate sustainable economic living. We are producing significantly more of our food supplies through agriculture and fishing. Lifestyle related illnesses are reduced through healthier lifestyles.

4.2.1b Scenario 2: Isolated Green Island

Bullets

- Less tourists arriving – low volume/high value
- More fishing and farming for food supply/less importing
- More reuse and recycling
- More renewable energy
- Greater tackling of Invasive species to access/use land and natural resources
- Less pressure on whale shark resources
- Low quality internet access
- More dependence on state for elderly care
- Retention of locals could increase
- More traditional uses/house building/use of local resources
- More tree planting
- No flights, only accessible via sea
- Improved environmental management

Narrative

In 2030 St. Helena is only accessible by sea, with a cargo ship arriving on a six weekly basis. We are meeting much more of our food supplies through local production; we are re-using

and recycling much more of our production to meet our needs and management of our environment has increased through improved invasive species management.

We are more reliant on traditional life styles (water, energy, building etc.) and methods of living.

Our fish stocks are replenished through traditional fishing methods. We are using less advanced technology and people are involved more in community projects. We manage our population.

4.2.1.c Scenario 3: Aggressive Global Island

Bullets

- Increased tourism
- Increased flights
- More technology – renewable energy
- Increased exports (honey, coffee, fish)
- Negative impact on environment and natural resources
- Increased development (hotels, housing, tourism attractions)
- Lack of available space/pressure on land
- Increased traffic and pollution (managed correctly)
- Increased agriculture
- Improved quality of life.

Narrative

In 2030, St. Helena will have aggressive economic growth and be part of the global village. We will have increased flights, facilitating increased tourism. There will be increased development with more hotels, and tourism attraction. There will be an increased resident population enjoying an improved quality of life including an availability of housing.
Whilst traffic and the generation of waste have increased, this is being managed effectively.
The fibre optic cable has enabled access to more advanced technology.
St. Helena has 100% renewable energy and utility prices are low and affordable. Agricultural production has increased and the export of honey, coffee and fish has been facilitated. All locals have access to honey.

4.2.1d Scenario 4: Aggressive isolated Island

Bullets

- Less flights
- High value/low volume tourists (niche markets)
- More sustainable agriculture and fisheries
- Improved technology – access to digital industry
- e-banking
- Living laboratory (research)
- Innovative planning and construction and eco-friendly design
- Preservation of local culture

- Less influenced marine environment.

Narrative

In 2030, St. Helena though isolated, has aggressive economic growth. There will be few flights but we will have high value low volume tourists attracting niche markets supported by innovative planning and construction and eco-friendly design using locally available materials

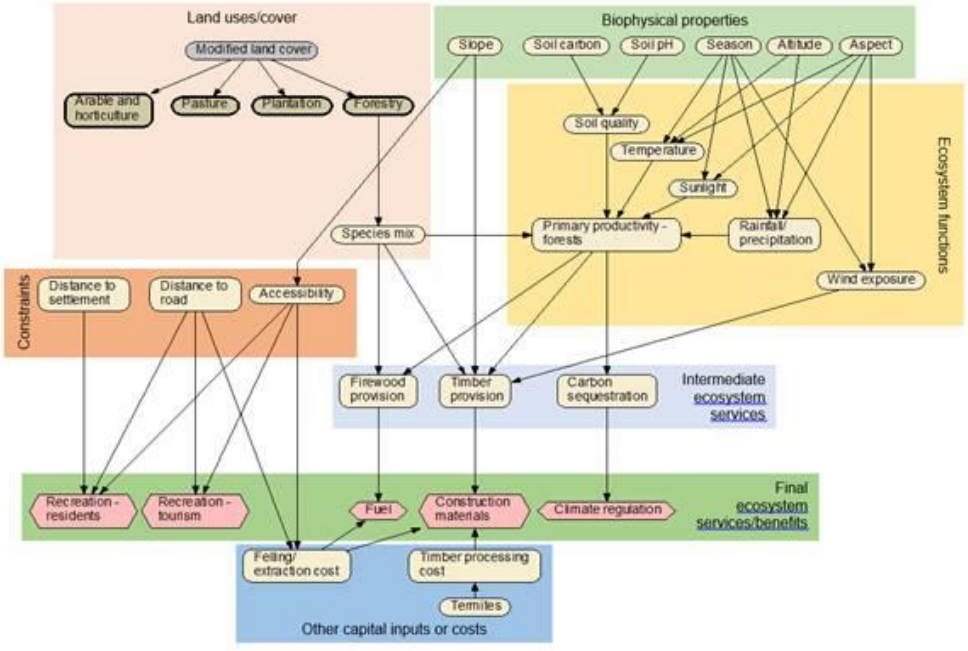
The main industry is the digital sector enabled by satellite ground stations and fibre optic cable. People are working from home and selling services via the internet. E-banking is used widely.

We will have sustainable agriculture and fisheries and our local culture is preserved.

The island has become a living laboratory for research and there is less influence on our marine environment.

5. Conclusions and next steps

We have developed a series of valuations (both monetary and non-monetary) and mapped the stocks and flows of natural capital for the Peaks National Park, agriculture and forestry estate, tourism and culture, which feed into a Bayesian network. This network is linked to GIS so that value maps can be produced. All scenario narratives that have been developed during these workshops see St. Helena's future as positive. These scenarios will now be fed back into the Bayesian network to enable stakeholders to explore both within the network, and spatially, the effects of different alternative futures on ecosystem service provision (benefits). Below is a section from the BN showing the flow from ecosystems through to final benefits.



Annex 1 Participants list

Name	Organisation	Position	Email	Workshop attended
Mike Durnford	SHG EMD	Head of Environmental Risk Division	mike-durnford@enrd.gov.sh	1
Darren Duncan	SHG ANRD	Head of Agriculture and Natural Resources Division	darren-duncan@enrd.gov.sh	1 and 2
Lourens Malan	SHG EMD	Terrestrial Team Manager Terrestrial Conservation Section	lourens-malan@enrd.gov.sh	2
Nicole Shamier	SHG CPPU	Government Economist	nicole.shamier@sainthelena.gov.sh	1 and 2
Councillor Russell Yon	Legislative Council	Member of the Legislative Council	Councillor.Yon@helanta.co.sh	2
Kirsty Joshua	Enterprise St Helena		Kirsty.joshua@esh.co.sh	1 and 2
Helena Bennett	St H Tourism	Head of Tourism	helena.bennett@tourism.co.sh	1
Amy-Jayne Dutton	SHNT	Head of Conservation	amy-jayne.dutton@trust.org.sh	1
Isabel Peters	SHG EMD	Chief Environment Officer	Isabel-peters@enrd.gov.sh	1 and 2
Susan O'Bey	SHG	Chief Secretary	Susan.obey@sainthelena.gov.sh	2
Derek Henry	SHG - ENRD	Director	Derek-henry@enrd.gov.sh	2
Melissa Fowler	STH Tourism		Melissa.fowler@tourism.co,sh	1 and 2
Juliet Williams	STH Tourism		Juliet.williams@tourism.co.sh	1
Vanessa Thomas	SHG-EMD	Nursery Officer	Vanessa.Thomas@enrd.gov,sh	2

Annex 2: Workshop programme

Workshop 1: 08.30-12.30 on Wednesday October 24th at the Mantis Hotel – Jamestown
Workshop facilitator: Tara Pelembe, SAERI

Time	Activity
08:30 – 10:00	Brief overview and update on where we are at First steps to developing scenarios: the PESTLE analysis
10:00 – 10:30	Break
10:30 – 12:30	Step 2: Developing the Scenario Matrix – Part 1.

Workshop 2: Wednesday 31st October at the Tourism Office - Jamestown
Workshop facilitator: Tara Pelembe, SAERI

Time	**Activity**
08:30 – 10:00	Developing the Scenario Matrix – Part 2
10:00 – 10:30	Break
10:30 – 12:30	Developing the scenario narrative.

Annex 3; Workshop 1 outcome – Pestle Analysis

Pestle Analysis
Political and economic: Helena, Kirsty, Nicole (yellow)
Social and technological: Juliet, Mike, Melissa (green)
Legal and Environmental: Amy, Isabel, Darren (pink)

Number on the matrix	Grouped as	Political	Economic	Social	Technological	Legal	Environmental
1		**Chinese world dominance means that the UK builds military bases in all OTs[3].**					
2		**Move to a system with less Councillors and one 'Prime Minister' type figure (yellow) Political leaders change of attitude towards investment/development with no focus on sustainability or balanced view of conserve and protect whilst developing (yellow)**					
3.		**UK Government in favour of funding OTs (currently funding is for aid in general and ODA applies) if this happens lots of £ for St. Helena.**					
3.		**UK withdraws funding for St. Helena, St Helena income drops significantly**					
4.	**Climate change**						**Climate Change impacts accelerated e.g. sealevel rise/weather changes**
5.	**Land Use planning**						**Land Use Planning – guidance/zoning (pink)** Pressure for land (development) – (pink) HPLS life reduced by population increase – new site required (pink)

[3] Bold represents the text provided and used for the matrix exercise.

Number on the matrix	Grouped as	Political	Economic	Social	Technological	Legal	Environmental
6.		**Political push for import less and export more – shift in industry (yellow)**					
7.	**Cable**		Hub for fibre optic cables crossing atlantic (yellow) Leading economic sector; digital sector advancements; 2 satellite ground stations; 100's working from home; visitors telecommuniting (yellow)	What if people cannot afford the cost brought with having the new cable? (green) What if we don't get fibre optic cable; the tourism industry is led by the digital market; how will St. Helena compete with other destinations in the world? (green)	**Fibre Optic cable introduced to St. Helena in 2020** Fibre optic technological opportunities; Education opportunities; Online business (green) Impact on terrestrial land availability for fibre optic cable (green) Ground stations (on island investments) (green) Technological advances e.g. fridge (home); smart car; medical equipment (green)		What if fibre optic cable affects the terrestrial natural environment (green)
8.	**Increases in people – mass immigration (refugees)**	North Korea detonates nuclear bomb; or pandemic; St. Helena becomes hub for refugees (yellow) Mass migration due to political instability globally (green)		Mass immigration[4]: civil unrest and crime (green) Mass immigration: potential health risks (green) Mass immigration: emergency planning, overwhelmed; medical, police (green) Mass immigration from conflict areas to St. Helena? (green)		Mass immigration: laws require changing (pink) Immigration changes nearest embassy is South Africa (pink)	Increase visitors will require increased infrastructure which can impact the environment (pink) Immigration changes (pink) Cap vehicle imports (pink)
8.	**Increases in people (visitors)**						Cap visitor numbers (pink)
8.	**Increases in people (resident population)**	Saints first policy – low population/no population growth scenario (yellow)	Population increase double – pollution, waste, water, infrastructure; accommodation (yellow) Doubling population = economies of scale for agriculture = more cultivation (yellow) High/low/No migration scenarios as set out in SHG				Population increase – housing (pink) Increased population – increased crime (pink)

[4] Note: Mass immigration here relates to relatively large numbers of refugees arriving.

Number on the matrix	Grouped as	Political	Economic	Social	Technological	Legal	Environmental
			stats bulletin 2018 (yellow)				
9.	**Education**		**International Research Hub; one primary school; degrees offered taught on island university (yellow)** Private school on island, attracts overseas students who subsidise talented St. Helenian students and attracts returning Saints (yellow)				
10	**Renewable Energy**		Strengthen the economy (green)	Stabilisation/reduction in energy bills for all sectors; job opportunities; increase in quality of life; dark skies accreditation; eco-tourism (green)	**Achievement of 100% renewable energy by 2022 (green)** Promotion of renewable energy on island (green); Technological opportunities e.g. hybrid vehicles; off-grid power solutions (green)		Climate change mitigation (green)
11.						**Changes to finance laws (pink)**[5]	
12	**BREXIT**		Brexit 'no deal' lose access to funding from the EU (yellow)			**Brexit outcome – environmental legislation (pink)**	
13			**Business diversification.** **Legalise 'weed' growing on island for medical/recreation = tax increases (yellow)**				
14			**Use of utilities per head increases if unchecked but more solar and unit cost goes down.**				
15		**International politicians decide that St. Helena should be a fully protected Marine Protected area (no take)**			MPA (pink)		

[5] This related to opening the island up for offshore banking

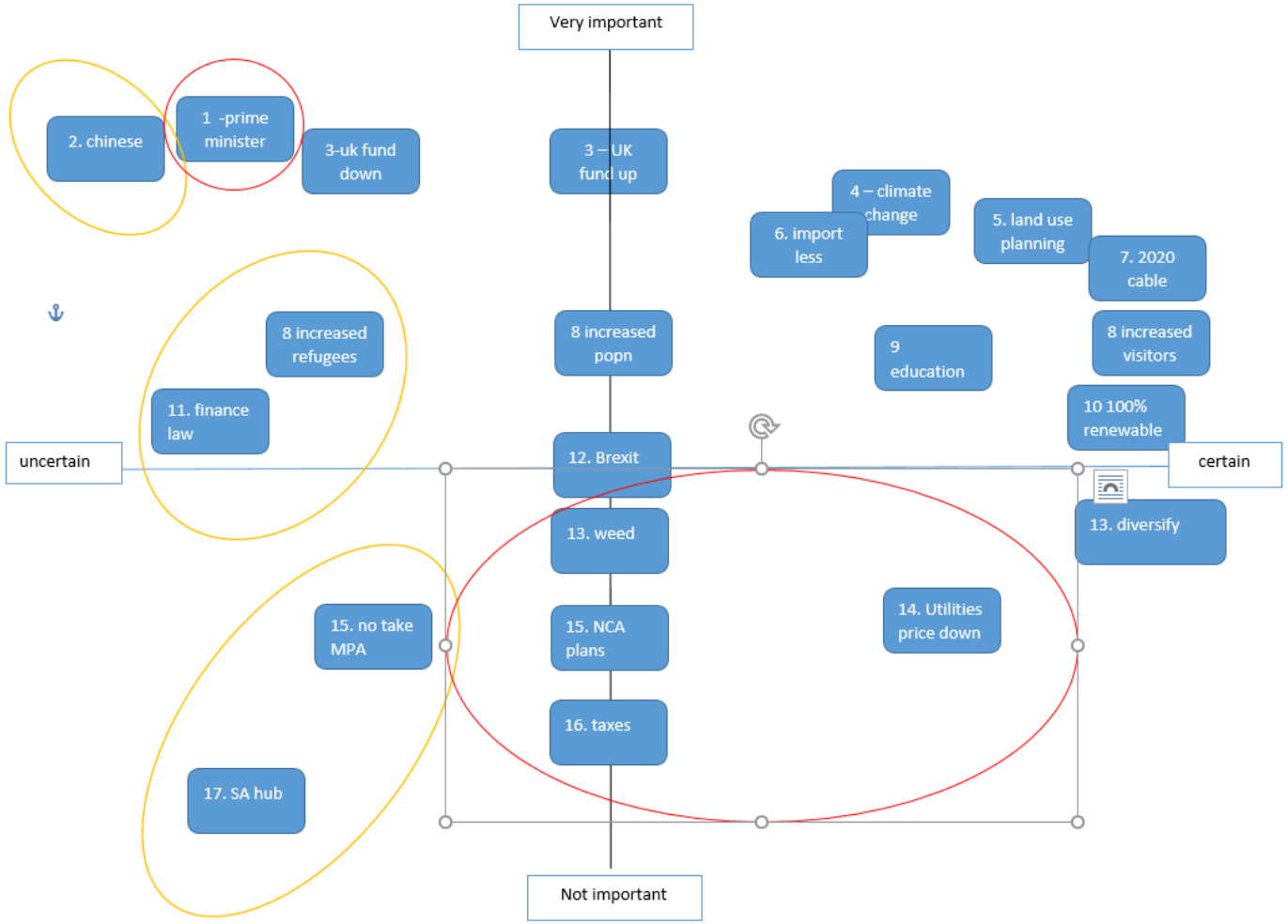
Number on the matrix	Grouped as	Political	Economic	Social	Technological	Legal	Environmental
15							**Terrestrial National Conservation Areas Planning.** Conservation areas – NCAs – writing and implementation of management plans (pink)
16			**Taxing empty properties and inheritance tax; more productive use of buildings; more international donations to civil society; cash influx if St. Helena starts charging national insurance to Saints Overseas (optionally paid like UK – benefits are healthcare and pension when return)**				
17		Joint political budget oversights between the South Atlantic (islands) hub to develop exports and increase revenues					
	Trade		Trade balance: Now £38 million money out vs £16 million money in. Move towards self-sustainability e.g. £45 mil out vs £30 million in – closing the gap (yellow) St Helena increase production of: honey; coffee; fish exported (yellow) Cars run by biodiesel/electric; reduced petrol and diesel needs; lower shipment of fuel; BFI used as a refuelling station for passing vessels (yellow); Transhipment into our markets; more regular cargo/plant increase exports (yellow)			Trading laws	Agriculture and fishing too much or too little (pink)
	Social			Social impact on tourism/health (green)			

Number on the matrix	Grouped as	Political	Economic	Social	Technological	Legal	Environmental
				Social impact on terrestrial (land availability (green) Government inability to deliver front line services and maintain public order (green)			
	Non-grouped		Investment strategy and immigration policy encourages working age people to come to St. Helena.. population grows from 4500 – 8000 (yellow) Wharf redevelopment: ruperts completion; slavery story is developed; increase in footfall by tourists; see NAO audit report for airport business case for forecast (yellow) More SHG investment – e.g. Solomons, Mantis, Connect (yellow) ESH-SHG (ESH smaller) and more consulting (yellow) Average salary £20,000 (yellow) Credit cards (yellow) Playgrounds pay to use (yellow)	What if current climate does not change, this will have a social impact on the island; cost of living – increased crime rate; government housing increasing (green) Regular flights to St. Helena island boosting our economy; socially this will change St. Helena; wages increase; standard of living increase; overall a brighter future for St. Helena (green) - SEDP			Natural environment affected if regular flights to St. Helena – carbon emissions (pink) Biosecurity (pink)

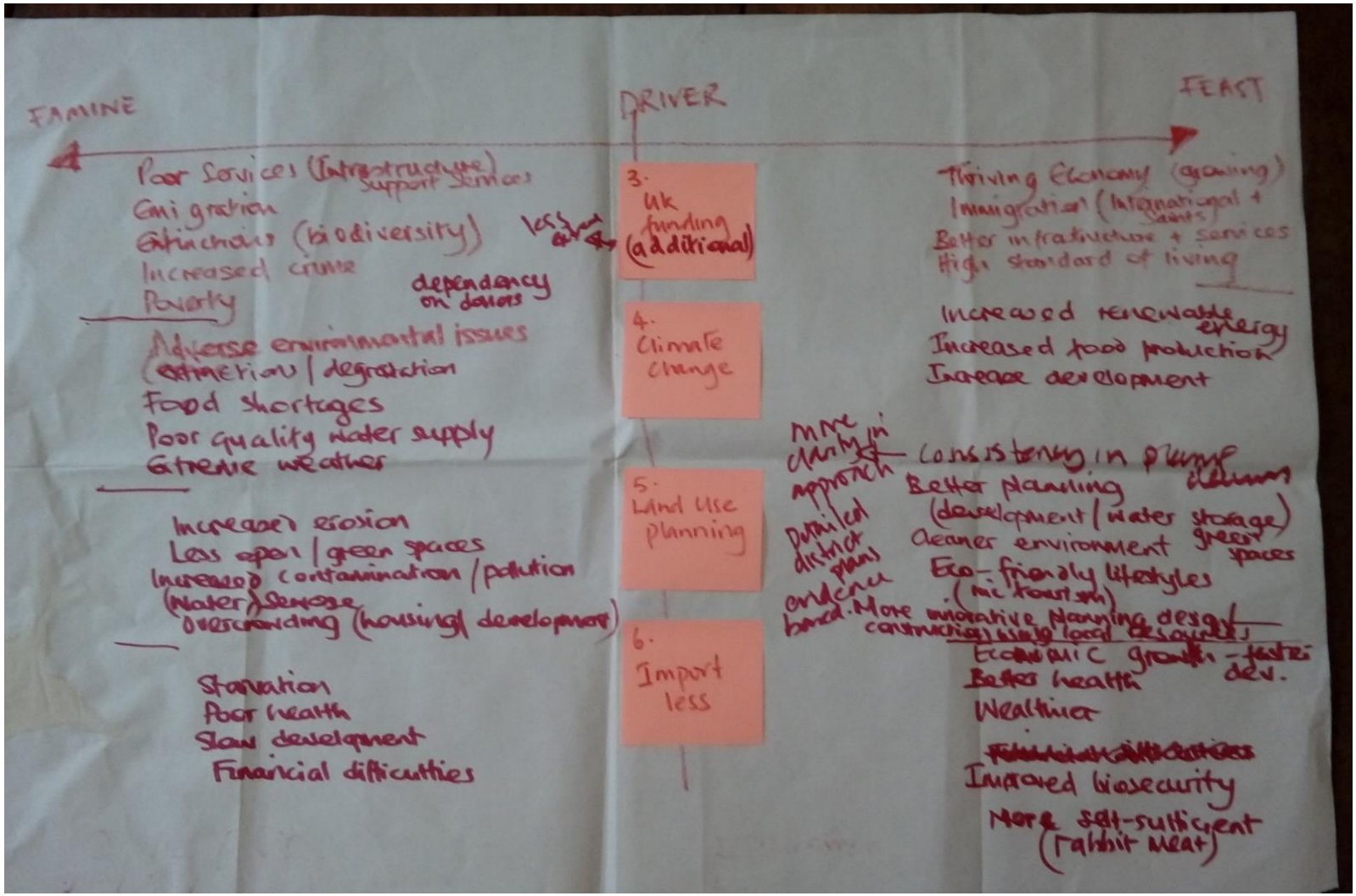
Narrative (yellow)

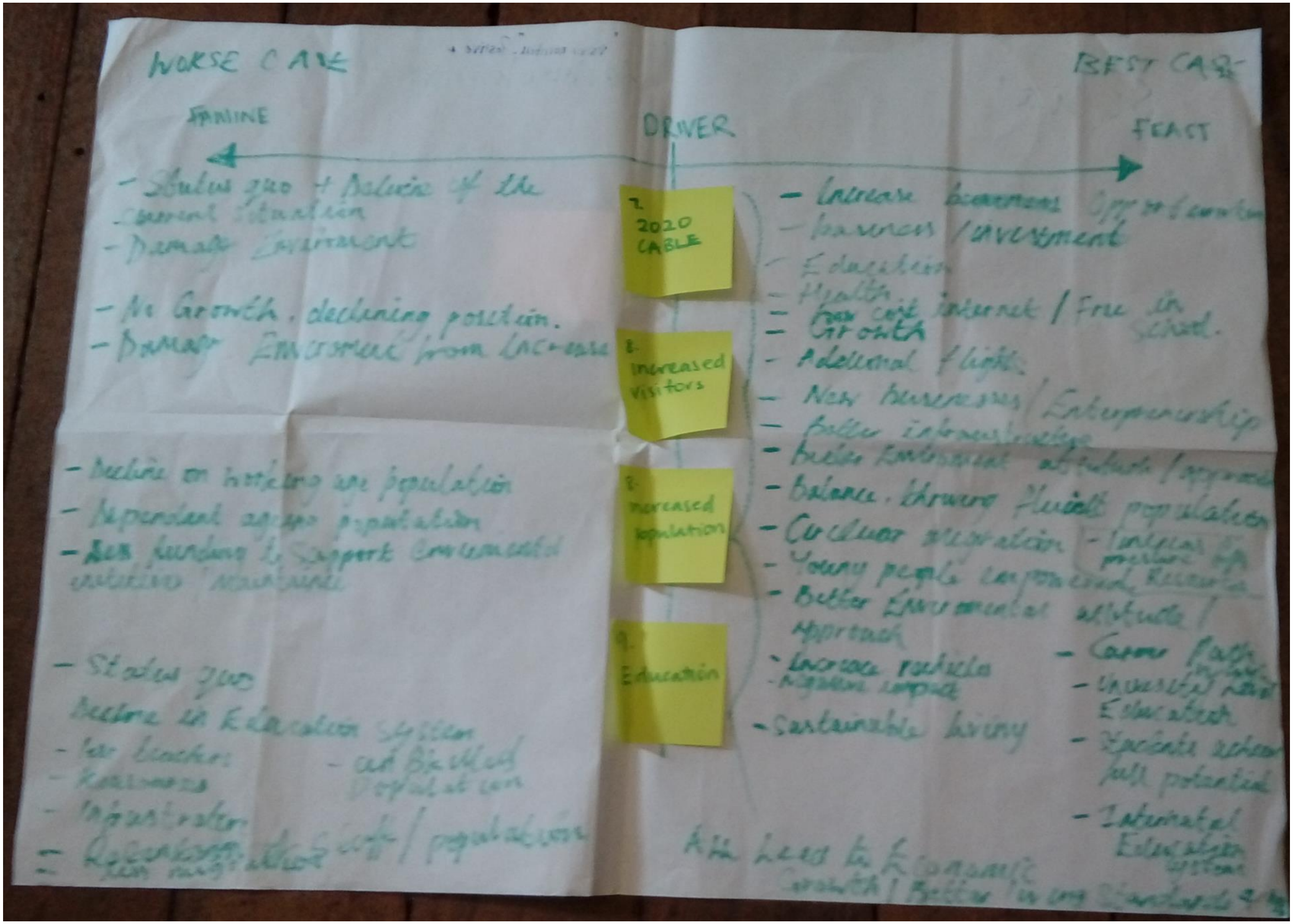
3-4 flights a week by 12 years – different hubs link to Brazil; link to Accra/North Africa (?) Link to the Falklands; St. Helena becomes an accredited international sustainable island (Green/Blue economies); St. Helena matches Falklands with cruise ship season and ability to hand in all weather; St. Helena becomes prominent fly/cruise destination; Tourism/historical stories connected worldwide to STH increasing footfall to St. Helena; increase in boutique hotels including a wellness/spa hotel (s) and other specific products; medical tourism – private healthcare system/care home. 2 tier system 'expensive' for tourists 'cheaper' for locals.

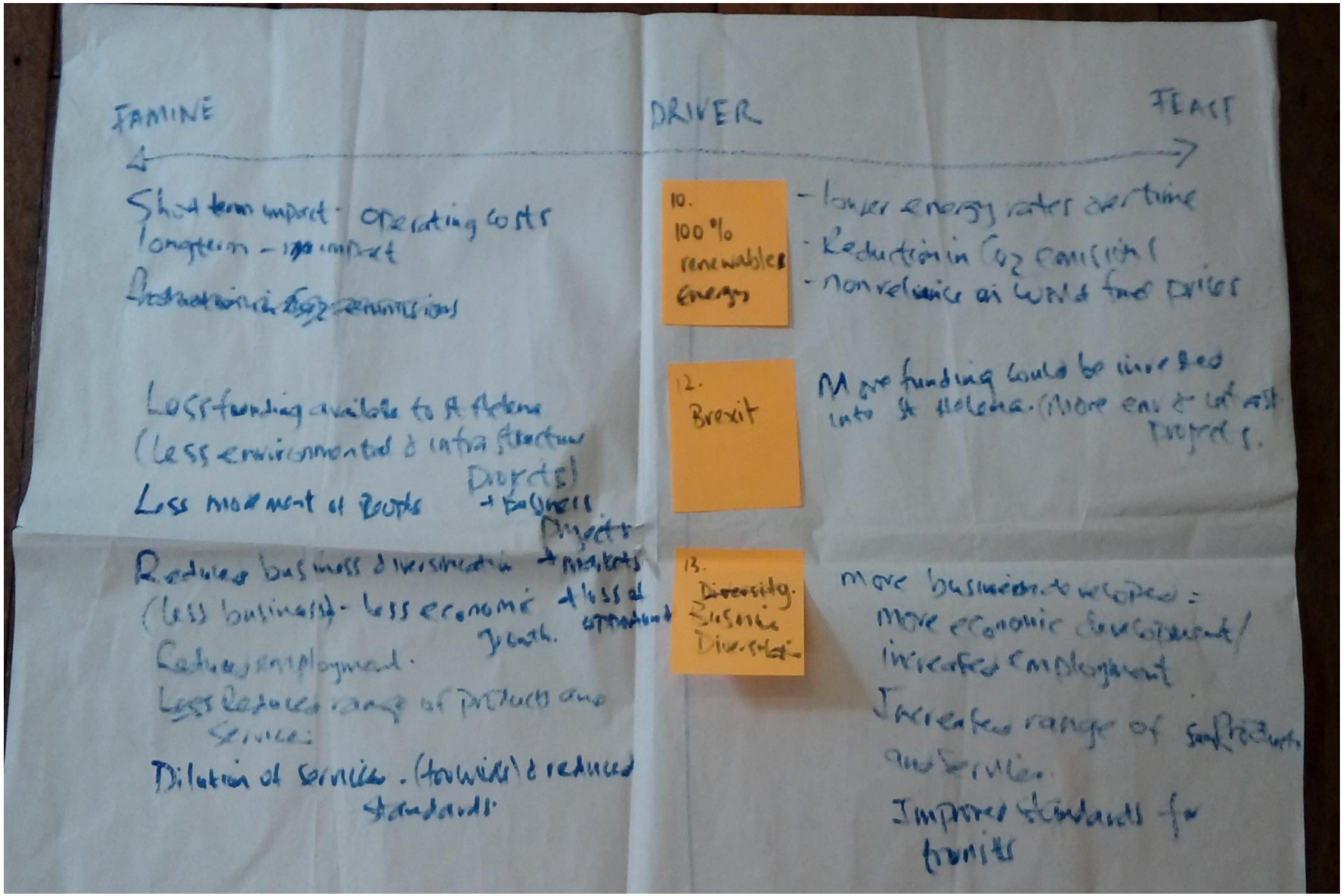
Annex 4: Workshop 1 outcomes: analysis of the importance of the drivers of change



Annex 5: Workshop 2 Outcomes - Best case/worst case scenario

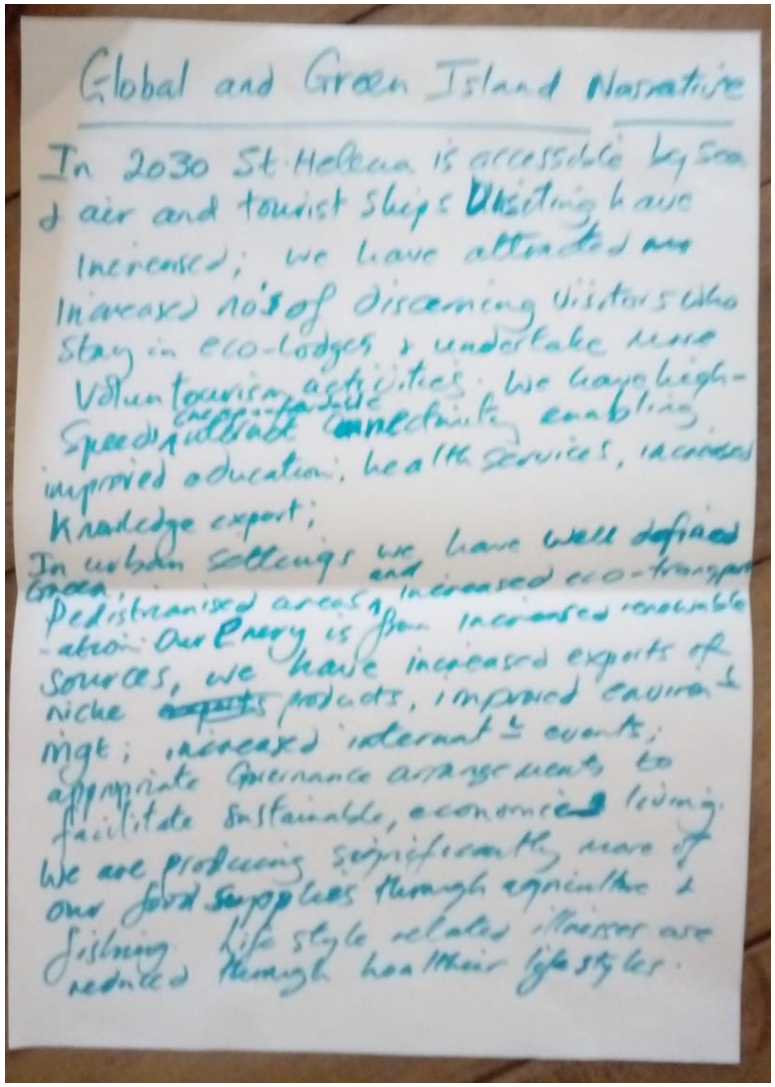


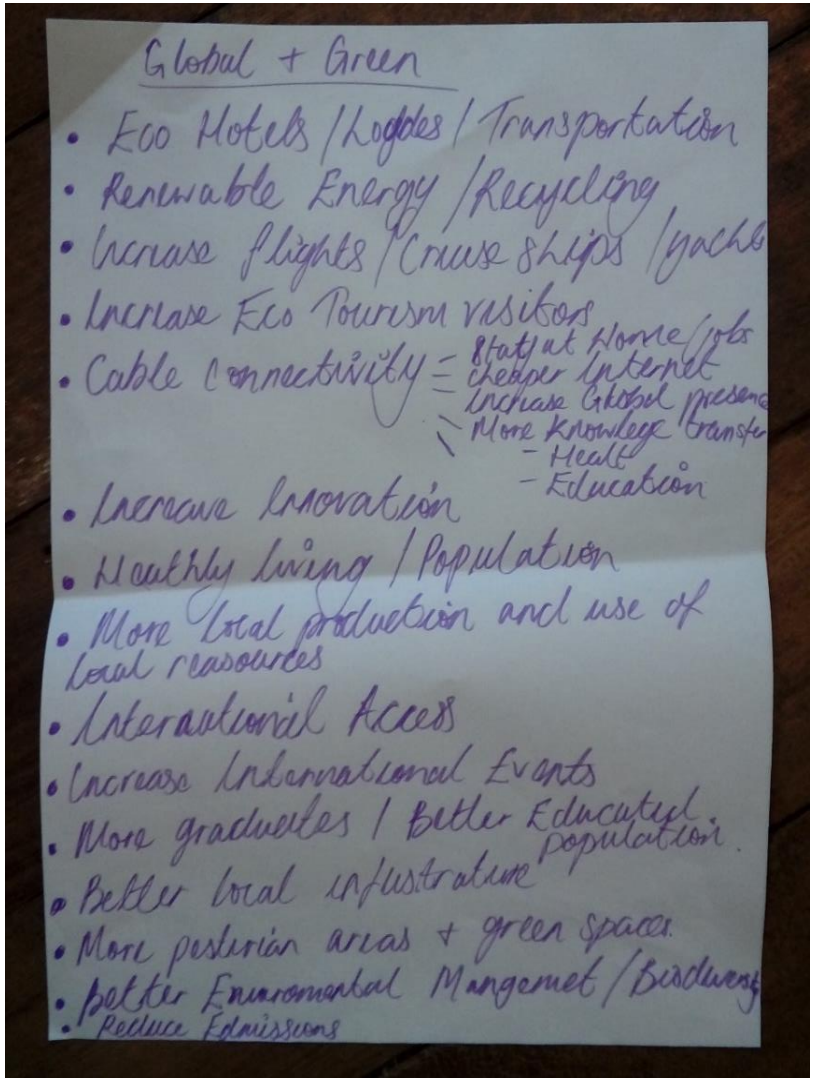

WORSE CASE
BEST CASE
FAMINE
DRIVER
FEAST
7. 2020 CABLE
8. Increased visitors
8. Increased population
9. Education

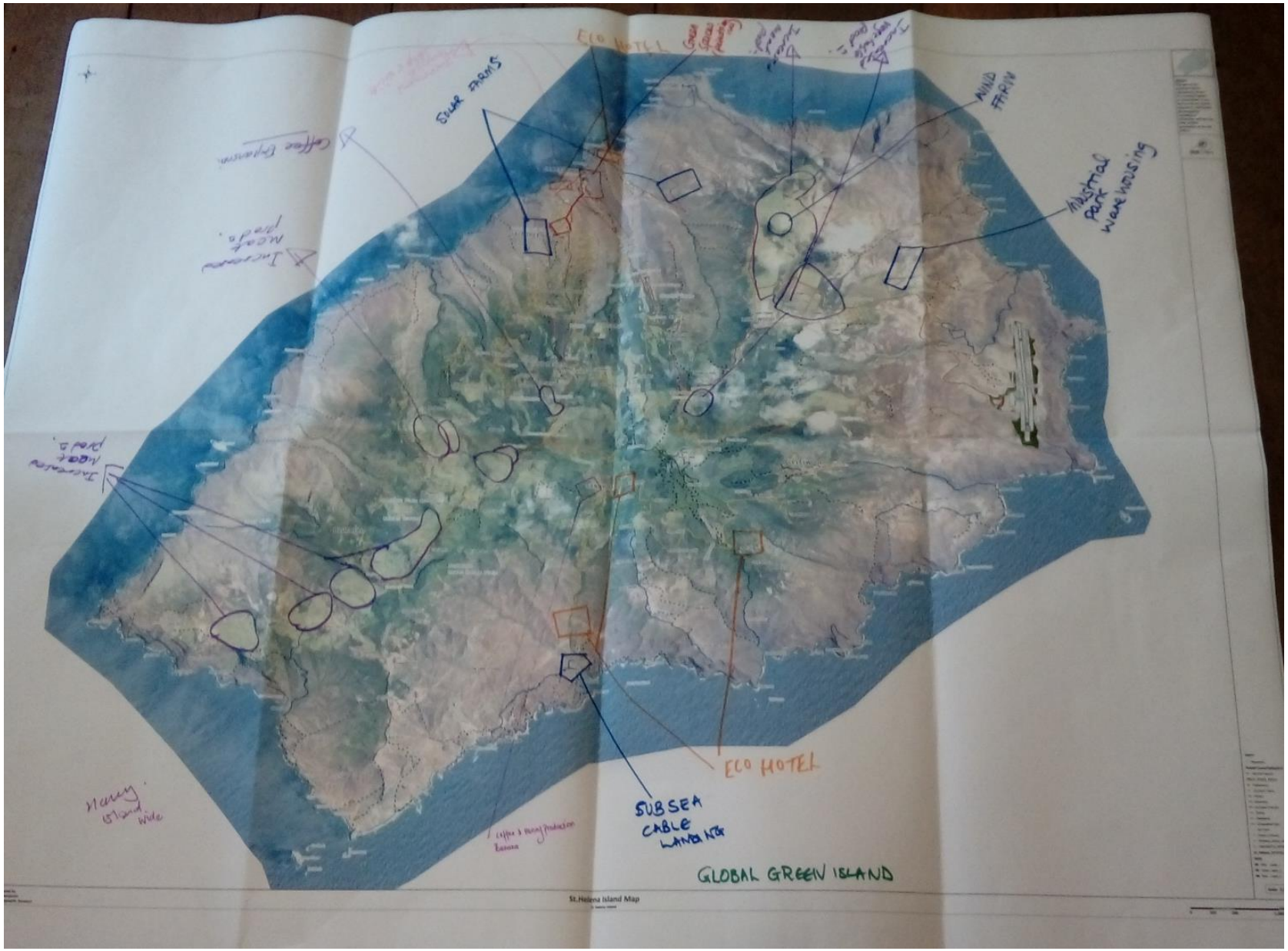

FAMINE
DRIVER
FEAST
Short term impact - operating costs
long term - ... impact
Loss funding available to St Helena
(less environmental & infra structure
Loss movement of People
Reduced business diversity
(less business - less economic growth.
Reduced employment.
Less Reduced range of products and services
Dilution of services. (tourism) & reduced standards
10.
100% renewables Energy
- lower energy rates overtime
- Reduction in CO2 emissions
- non reliance on world fuel prices
12.
Brexit
More funding could be invested into St Helena. (More env & infrastructure projects.
13.
Diversity. Business Diversity
more businesses developed =
more economic development/
increased employment
Increased range of products and services.
Improved standards for tourists

Annex 6: Scenario flip charts and maps

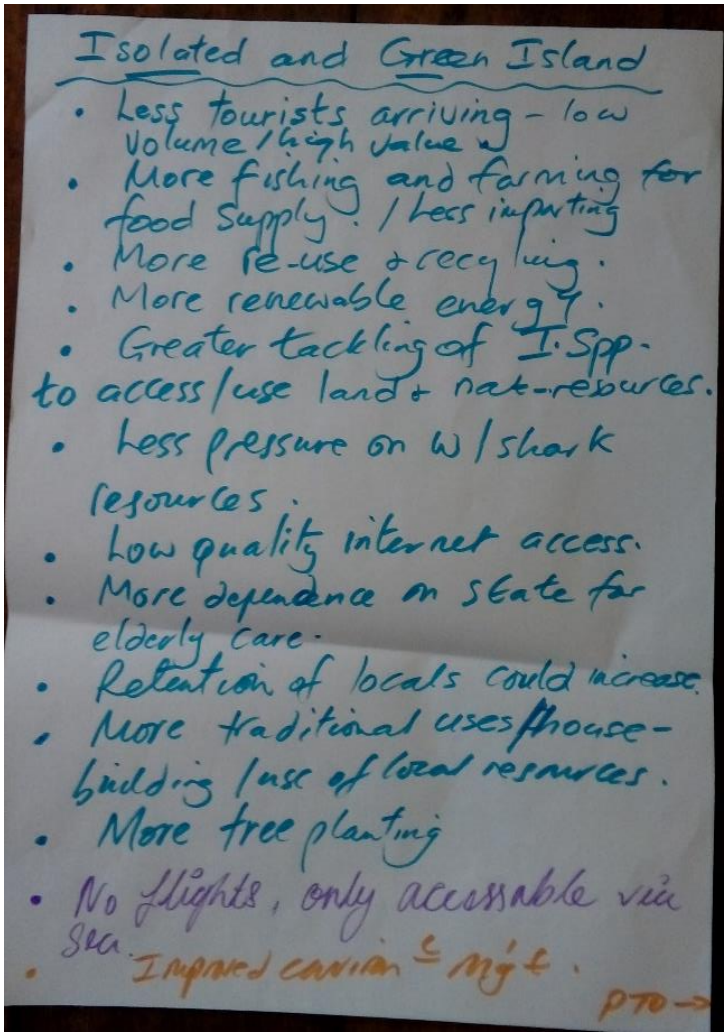
Scenario 1: Global Green Island – flip charts and maps

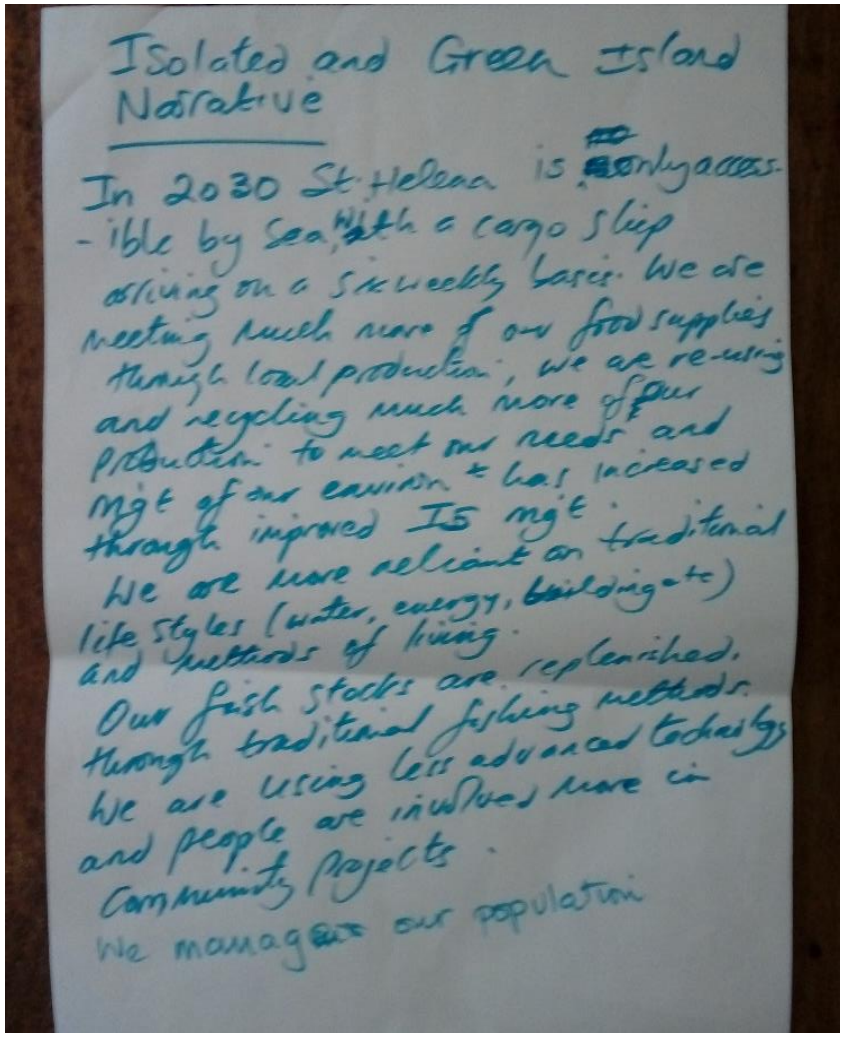


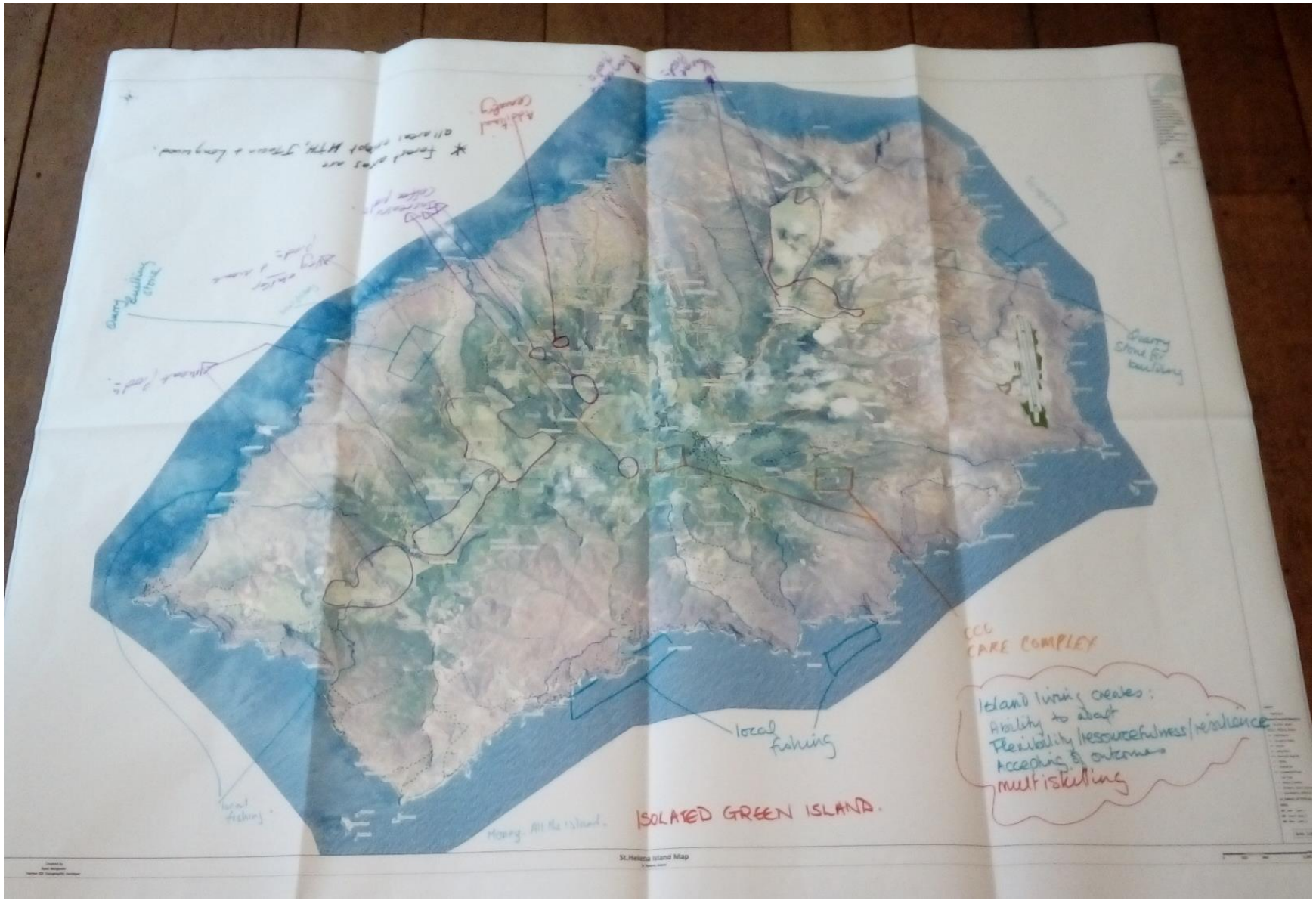



ECO HOTEL
SOLAR FARMS
WIND FARM
INDUSTRIAL PARK WHERE WE'RE USING
ECO HOTEL
SUBSEA CABLE
GLOBAL GREEN ISLAND
St.Helena Island Map

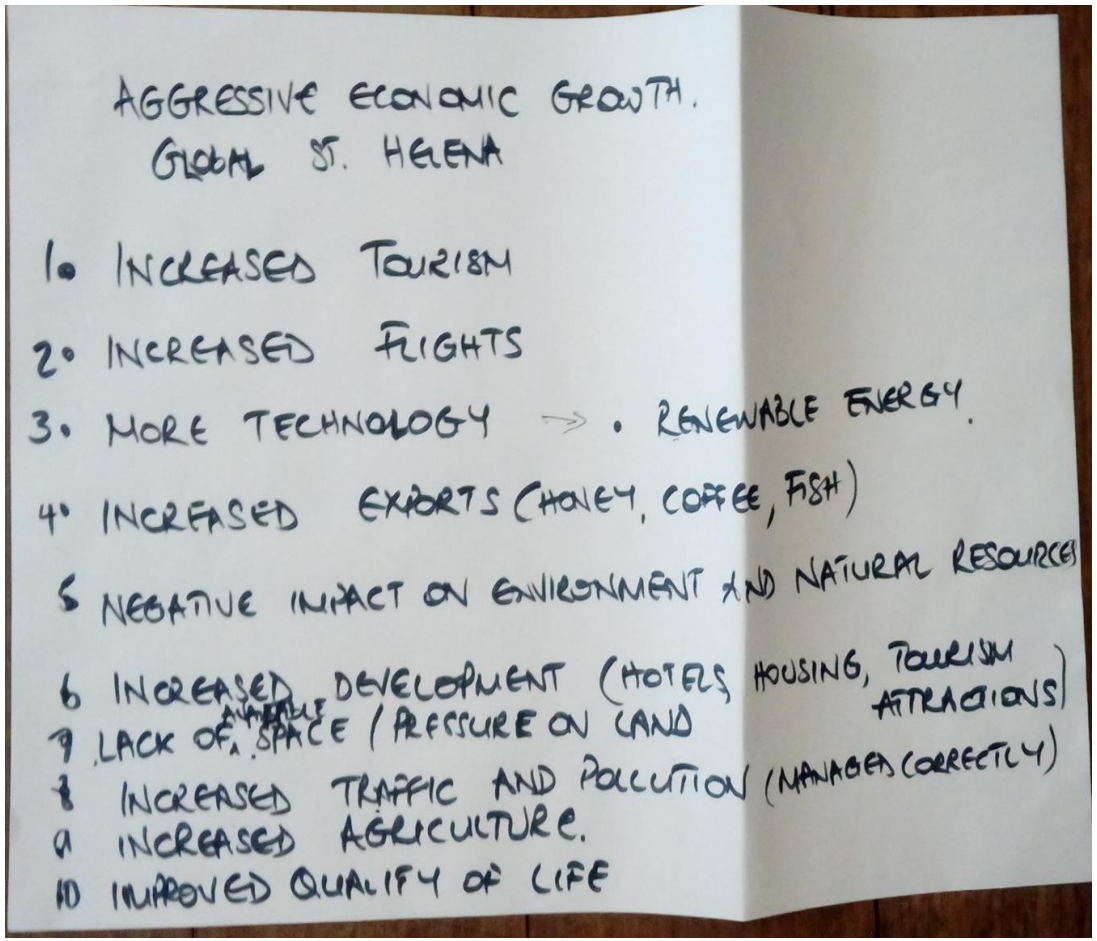
Scenario 2: Isolated Green – flip charts and maps

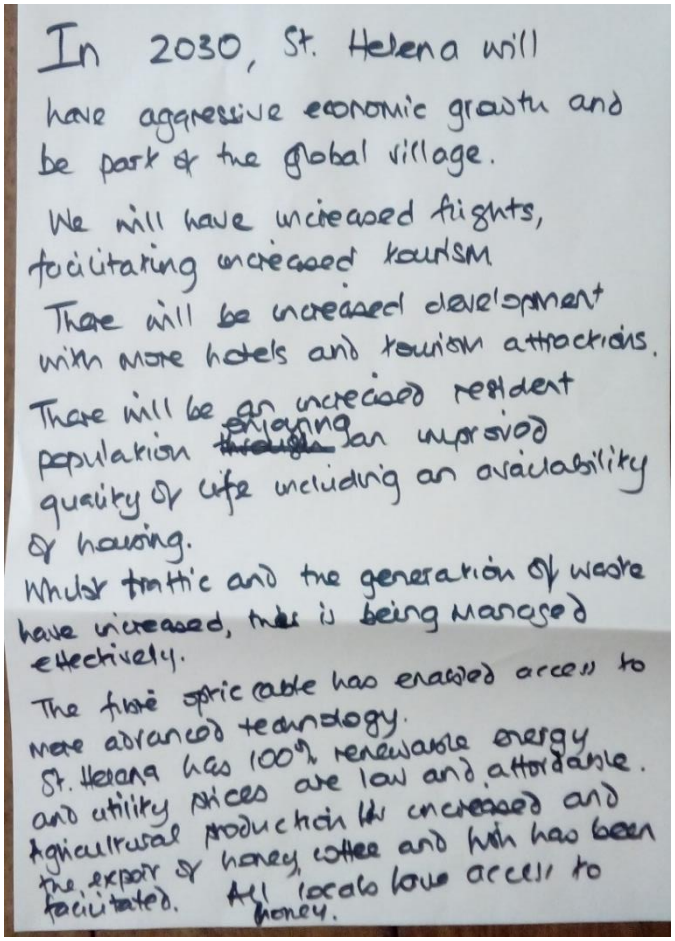





Quarry Crushing Stone
Quarry Stone for building
local fishing
local fishing
ISOLATED GREEN ISLAND.
CCC
CARE COMPLEX
Island living creates:
Ability to adapt
Flexibility/resourcefulness/resilience
Accepting of outcomes
multiskilling
St.Helena Island Map

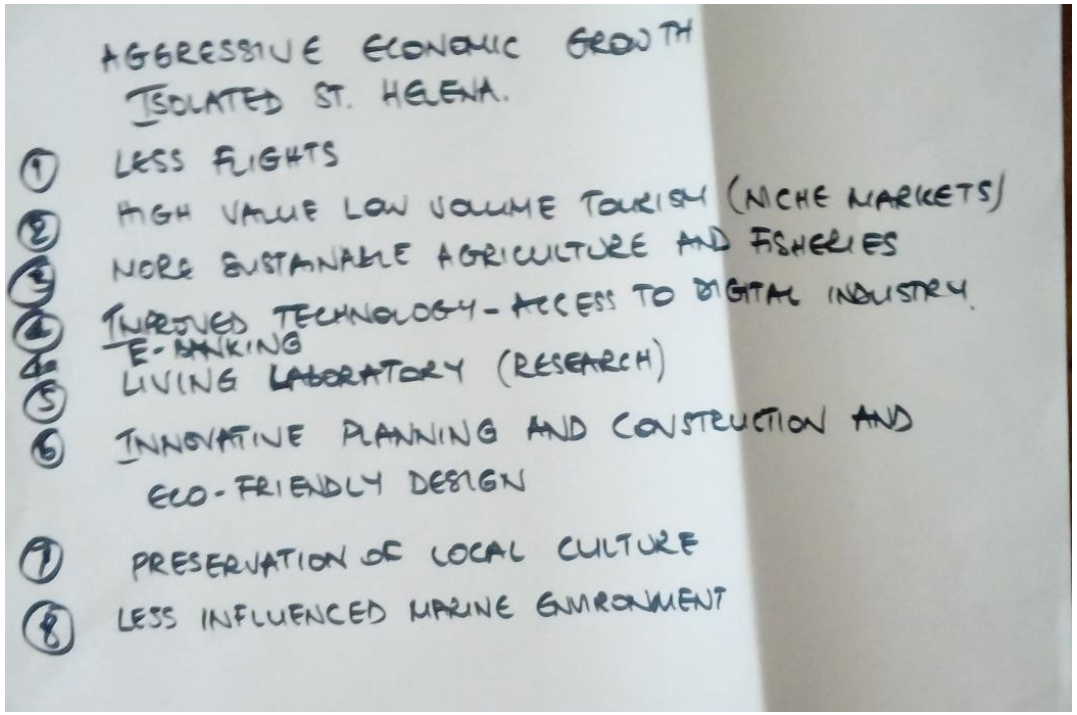
Scenario 3: Aggressive global – flip charts and maps

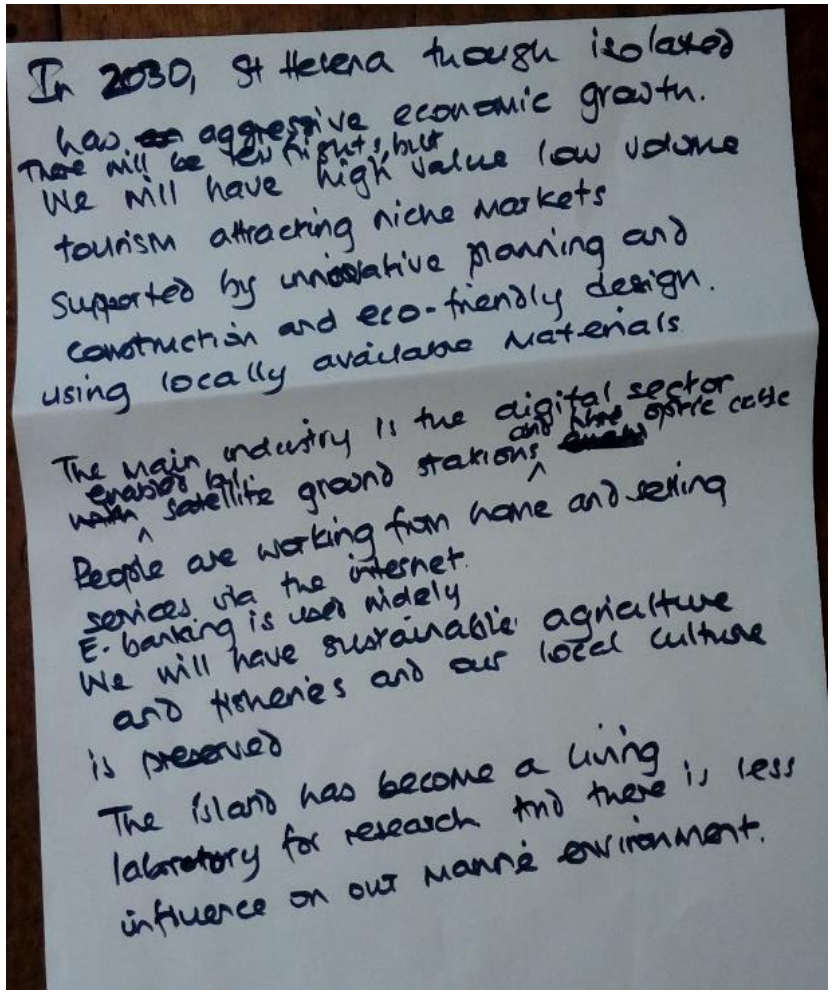


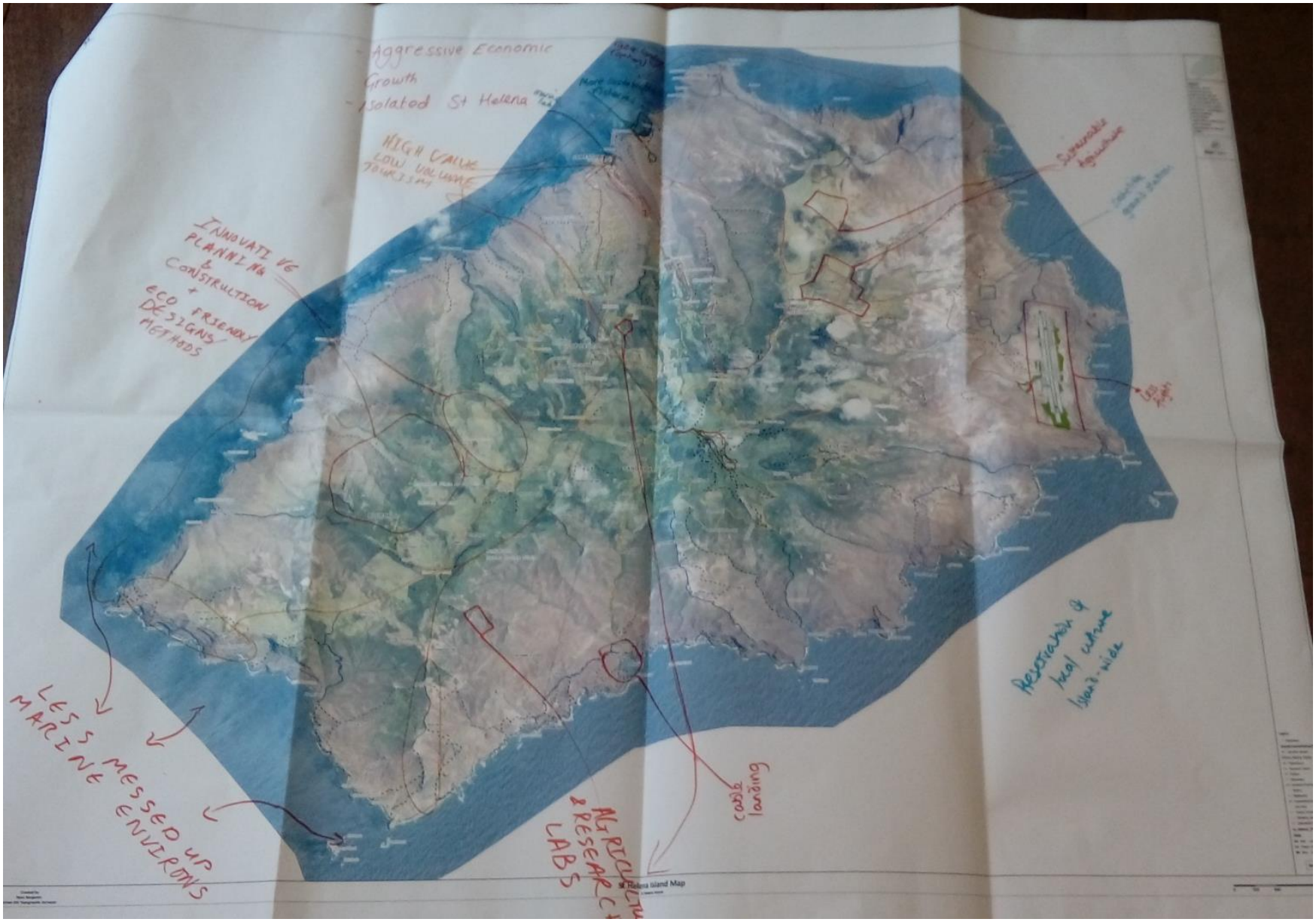


FISHING
EX PORTS
FISH
COFFEE
TIMBER
EX PORTS

Scenario 4: Aggressive isolated growth – flip charts and maps






- Aggressive Economic Growth
- Isolated St Helena
HIGH VALUE LOW VOLUME TOURISM
INNOVATIVE PLANNING & CONSTRUCTION + ECO FRIENDLY DESIGNS METHODS
LESS MESSED UP MARINE ENVIRONS
AGRICULTURE & RESEARCH LABS
General cargo
Restoration of local culture island-wide
St Helena Island Map