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Title of Paper: ***TransitionScope – Oamaru: A Case Study in Community-Based Sustainable Development***

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### **Abstract:**

This paper outlines a participatory community planning methodology with the aims of (1) providing the facts about Peak Oil, Global Climate Change, Electric Power System, (2) help community members explore their individual and group responses (3) provide a forum to generate projects in the community for sustainable value, resilience and adaptation and (4) stimulate increased community connectivity and the creation of organisational structures appropriate to these challenges This method was trialled at the “Climate Disruption. Transition Towns. One Response” weekend forum organised by the Natural Heritage Society Oamaru for a number of participants from the town of Oamaru, New Zealand and surrounding communities.

### **Introduction:**

The *TransitionScope* methodology is being developed to aid communities in their progress through the ‘Transition journey’. For a full discussion and characterisation of the Transition project see Dale (2008) and the Transition Towns Handbook (Hopkins 2008) and accompanying literature. The tool under discussion in the present paper fits within the “Community Organisation” stage of the Transition project, as a community forum, with a number of aims and objectives identified:

#### **1. Problem Identification:**

- Raise awareness of upcoming socio-economic and environmental challenges facing the community and the ramifications of these challenges (ensuring that all participants are ‘up to speed’ with the relevant information)
- Map out the landscape to which they must adapt evolve
- Offer support and assistance in response to potential disturbing effects of the information – “post-petroleum stress disorder” (Hopkins 2008)
- Engender a positive attitude that the appropriate action can be undertaken

#### **2. Assessing the Current Situation:**

- Generate an understanding of the community structures that need changing (either by being created, modified or removed) in response to the upcoming challenges
- Raise awareness of current activities within the town or wider community being undertaken directed towards the same ends (i.e. building a sustainable and resilient community)
- Enable a recognition of the wealth of local resources

### **3. Visioning Solutions:**

- Facilitate creative thinking directed toward adaptive responses to the challenges of the new environment
- Focus thinking from general esoteric matters onto specific tasks

### **4. Planning Solutions:**

- Engender a sense of belief that the necessary changes can be made
- Facilitate formation of the new organisational structures
- Enable learning of problem-solving skills necessary for completion of the specified tasks
- Foster a sense within the township of support from the wider community

## **Method Design:**

Given the aims and objectives outlined in the introduction the design for the community forum was based around the same main tasks:

- problem identification,
- assessing the current situation,
- visioning solutions; and
- planning solutions.

This section intersperses design discussion with excerpts of implementing the design at the Oamaru forum, which are set into the text in a different font.

### **Problem Identification:**

#### **Laying out the facts:**

In order to deliver the large amount of information required to raise awareness of the specific facts concerning the future adaptation environment (such as Climate Change and Peak Oil) a conventional lecture format was thought most suitable. This lecture would consist of an analysis of the future availability of energy resources including the inability of renewable energy sources to meet the shortfall in demand capacity in light of decreasing fossil fuel supplies. The information needs to be delivered in such a way as to ensure that all participants are conversant (up to speed) with the current situation (facts of the matter) coupled with a description of best estimate projections of environmental disruption due to a changing climate. This further ensures an understanding amongst participants that even disregarding resource constraints there are other compelling reasons for behaviour change.

**For the first day the venue was arranged in conventional lecture theatre style with rows of seating facing the presentation equipment. Prof. Krumdieck delivered the lecture of the first session entitled "Setting the Scene". Attention was paid to the challenges of Peak Oil and Climate Change with particular emphasis on oil consumption levels in the 1950's as a comparative benchmark. The idea was presented that the paradigm of economic growth without social or environmental responsibility produces a 'boom and bust' pattern to development, which while enriching a few elite members of society, exhausts valuable resources and degrades the wellbeing of future societies. The main focus of the problem identification was of the dominant paradigm of undirected and unquestioned economic growth. There is certainly evidence in the literature to support the view that "growth cannot be sustainable indefinitely on a finite planet."(Costanza and Daly 1992)**

#### **Pop mythology to move thinking:**

The lecture content can also incorporate a sense of empowerment (that the transition task can be achieved) and support from a wider network of willing allies. This could be well achieved via the use of metaphor as consistent with management strategy

wherein, according to Morgan (1998), “the medium of organisation and management is metaphor. Management theory and practice is shaped by a metaphorical process that influences virtually everything we do.” This metaphor can utilise a well known mythology (pop-mythology) as an analogy for the community’s current situation.

**A modern ‘pop mythology’ was presented, based on the ‘Lord of the Rings’, which explores the struggle of a fellowship and a few brave, though basically powerless, individuals to overcome a great but corrupting power. This corrupt power was compared to uncontrolled consumption growth. The mythology further explained how powerful leaders, warriors, and wise ones may hold off the destruction for a while, but the struggle of the local people is needed to make a paradigm shift. Hope is possible if ordinary people can help each other and make the decision to seek sustained value rather than un-restrained consumption growth.**

#### **Prepare to move on:**

Further support and encouragement can be provided by generating awareness that the current (and upcoming) challenges, whilst seeming unmanageable are part of a wider process of change and growth/development with reference to psychological theory and precedents prevailing.

**Comparison was made between our perspective of the current situation and the Kübler-Ross model of the Stages of Grief experienced by the terminally ill or recently bereaved (Kübler-Ross 1973). Focus was placed on the need to move through the entire process in order to deal more effectively with the current situation**

For more details of the slide show presentation see <http://www.aemslab.org.nz>

#### **Assessing the Current Situation – Resource mapping:**

In keeping with Tippet (2007) effort is made to increase participants’ appreciation of the positive attributes and assets within their community. This is achieved by asking participants to identify natural resources within the region. Participants are then asked to identify positive aspects of their current community, ‘things that they feel must remain whatever other changes may occur’; things that should definitely be changed and then list three existing *critical* infrastructural assets.

Following Tippet, in order to maximise creativity and variety of suggestions (‘blue sky thinking’) and to focus thinking, participants’ responses are made and kept individually on different coloured cards for each of the natural, positive, negative and critical assets. These are then collected and collated into a ‘resource map’ for Oamaru.

**The fourth session was given over to asset recognition and identifying barriers to projects. Participants were asked to make note of natural resources within the region, features of the local community that they felt should be kept ‘at all costs’ negative features that effort should be made to change and to list three critical infrastructural assets. These were then collated into a resource ‘map’ of Oamaru.**

In order to raise awareness of possible barriers to transition projects participants are guided through the virtual landscape of another scenario wherein all adaptation measures have been carried out successfully and transition to a post-carbon society has been as smooth as possible. Participants are then asked to identify any existing barriers to these actions being undertaken at present. Again to maximise variety of responses these are made individually.

**Participants were then taken through the fifth scenario (describing a community that successfully progressed through the Transition journey) in order to identify current barriers to transition projects being carried out.**

#### **Support and Empowerment:**

Awareness of current activities either within the participating or other communities engenders hope within participants and a sense that the transition undertaking is a genuine possibility and that future work will not be taken in isolation. This fortifies participants resolve and strengthens connections to a wider community. This also gives a context for the efforts the participants will undertake as well as supplying a source of future support and guidance.

**Members of the Hampden Energy Group spoke during the third session on a variety of topics including community networks and information systems, solid waste management, public transport and distributed electricity generation.**

#### **Visioning Solutions:**

##### **Move mindset via scenarios:**

To further establish consciousness within the participants of the imminent adaptation environment (i.e. to really bring home the effects of upcoming challenges and to ground these challenges in the context of the participants' everyday experience) and to facilitate creative adaptation a series of 'collapse' scenarios relating to disruption and decline of vital infrastructures (oil and electricity supply, environmental and social degradation) is developed. The participants are guided through these virtual landscapes and invited to envision the structural re-organisation or action projects necessary. Again to maximise variety of responses these are noted individually on different coloured cards (one colour for each scenario)

**The second session comprised the 'collapse' scenarios. Four virtual landscapes were generated dealing with disruption to the oil supply, irregular but frequent electrical grid failure, environmental degradation and social dilapidation and participants noted their adaptation behaviour in response to these situations.**

##### **Responses organised via dimension and scale – Transition Space**

At the end of the four scenarios participants are invited to place their responses, in the position they feel is most appropriate within a three dimensional space (the 'transition space') comprising dimensions representative of the social, land-scale and time-scale dimensions of the various adaptation projects. These are:

- **People**, ranging in scale from the **individual** level up to the **international community**;
- **Place**, ranging in scale from **backyard** to the level of the **whole planet** and
- **Time** ranging from the **present** to the **distant future**.

The purpose of the exercise is twofold: firstly, to generate in participants an appreciation of the effects of scale and dimension on the specific project they have conceptualized, for instance a realisation the some actions may only be carried out at a certain level within the three-dimensional space, such as 'vegetable patch in garden' or 'create a community garden' whereas others may be applicable across a wide range of scales and dimensions, such as 'grow my own food' and 'compost kitchen scraps'. The exercise can also uncover means by which the project may be undertaken, for instance placing the project within the appropriate scale and dimension may enable a recognition that the support of others is necessary for the realisation of certain tasks

and a reflection on the existence (or not) of structures currently obstructing the realisation of that project. The second purpose of the exercise is to generate participation and interaction of the participants focusing on specific tasks. As the participants gather to carry out the exercise, discussion and evaluation of ideas and network communication occurs naturally and spontaneously.

In this manner many controversial or unconventional ideas, sometimes suppressed in open discussion and brainstorming may be brought out allowing full creativity to flourish. The structured format also enables a greater generation of ideas in a short space of time than open discussion would allow.

**At the end of the session participants were invited to step out into the alleyway (near where the food was served at tea breaks) to place their responses within the three dimensional 'transition space'. The structure was placed to allow 360° access with space for participants to gather and discuss observations. The results of the exercise were documented using a digital camera.**

### **Planning Solutions – Transition Space (a reprise):**

The adaptation responses to the 'collapse' scenarios are collated and classified under various topics dependent on the themes or recurring patterns occurring within the content. It is fully accepted that this process, undertaken by the researcher, is liable to influence by the biases of the researcher, however the topics discovered are 'grounded' in the participants responses. These topics are then laid out with their various associated projects in an appropriate position within the now transformed 'transition space', two of the dimensions (time and space) of which are mapped out within the venue using the floor area, the participants themselves now representing the social dimension.

Participants start outside the space and are then invited to enter and move within the space until they find topic (and associated project) with which they feel their interests and abilities are most resonant and introduce themselves to other participants who have also chosen to work on the same topic.

The process of participants starting outside the 'transition space' and then stepping over the threshold symbolically reinforces the sense that this is a different paradigm into which the participants are moving and that they are choosing to do so with deliberate and wilful purpose, thus strengthening resolution and commitment to the transition intention. Within the space participants meet like-minded members of their community, some of whom may have been unknown to them before the event. This increases the overall network connectivity of the community but particularly focuses the creation of organisational links enabling resilience and adaptation to the challenges of the future.

**After the first day's activities the members of the research group collated the responses to the 'collapse' scenarios into various topics. These were found to be:**

- **Demand Management**
- **Restoration and Reclamation**
- **Knowledge, Skills and Education**
- **Community Networks**
- **Infrastructure and Technology**
- **Local Produce and Markets**
- **Re-localising Economy**
- **Governance and Regulation**

These topics were felt to be both trans-disciplinary and interconnected as well as transcending conventional community organisational structures. The topics were then written onto A4 sheets (one per heading).

Prior to the second day's proceedings we rearranged the venue such that the seating was placed around the sides and back of the room leaving an open space within the middle. This 'transition space' was marked out on the floor using masking tape. The day started with a brief explanation of the work that had been done collating the participants' responses and the method of the session. The topics were then laid out in the space, after a brief description of each, and the participants were invited to step into the 'transition space', choose a topic and meet others who had chosen the same.

The participants are then asked to choose one (or more) project falling under the topic heading they have chosen and collectively work through a planning exercise detailing ways and means by which the project could be undertaken. The planning exercise should enable the participants to identify any resources (skills, information, tools, funds etc) that will be necessary in the realisation of the project and the means by which they may be secured. The exercise should also facilitate recognition of any barriers to the project's completion and means by which they can be remedied or overcome.

**Participants were then asked to discuss possible projects within the groups they had formed (under their various topics) and work through the exercises on worksheets that were provided.**

### **The Oamaru Experience:**

#### **Preparation:**

As discussed previously the *TransitionScape* methodology was trialled at the Transition – One Response weekend forum hosted by the Natural Heritage Society Oamaru (website - [www.oamaru.co.nz/nhs](http://www.oamaru.co.nz/nhs)) on Saturday 15<sup>th</sup> and Sunday 16<sup>th</sup> March 2008. The event was held at the Penguin Club in Oamaru, a venue capable of accommodating approximately sixty participants comfortably. The schedule of the forum was split into five sessions over the two days by the organisers with all but one of the sessions (following the lunch break on the first day) to be facilitated by our group.

All of the necessary materials were gathered:

- Laptop (for lecture presentation – all other presentation apparatus was supplied by the organisers,
- Pens (enough for sixty plus participants),
- Coloured card (8 different colours and enough for all of the responses of sixty plus participants),
- Representation of the three dimensional 'transition space',
- Paper for topic headings and projects,
- Worksheets,
- Feedback forms,
- Documentation equipment – video recorder and digital camera,
- Masking tape,
- Blue tack.

For the three dimensional space onto which the 'collapse' scenario responses would be placed it was decided that a free standing structure would offer the best

participatory interaction possible. This was achieved by arranging three posters (one for each dimension) on display boards to form a triangular stand; the participants could then stick the pieces of card with their responses onto the posters.

## Participants Responses:

### Governance and Regulation:

Work from home  
 Prioritise/Restrict fuel use  
 Growth limited to region's carrying capacity  
 Protect water sources  
 Regulations to allow rain water collection,  
 Prioritize water use  
 Rationing of water, provide water tanks for potable water  
 Banning Flush Toilets  
 Reduce tax collection and close unnecessary buildings  
 Form our own local governance  
 Self-governance  
 Self-organization  
 Use local resources locally  
 Don't export local resources  
 Local justice systems

### Infrastructure and Technology:

Build up rail network  
 Prospect for more oil  
 Bio-fuels  
 Wood burners  
 Solar heating  
 Housing insulation  
 Diesel generator  
 Low energy food preservation  
 Community owned energy generation  
 Wind power  
 Hydro power  
 Collect rainwater  
 Grey water recycling  
 Composting toilets  
 Water desalination plant  
 Solar desalination plant  
 Grow our own medicines  
 Security – build fences, build walls

### Restoration and Reclamation:

Environmental conservation  
 Permaculture techniques  
 Drought resistant plants  
 Biodiversity

### Demand Management:

Transport mode change – bike, walk, etc.  
 Ride sharing  
 Waste reduction  
 Cars only for essential trips  
 Work from home  
 Reduce electricity demand – sleep longer in winter, cook every 3 days, night store  
 Collect rainwater  
 Grey water recycling  
 Reduce water usage  
 Low water crops

### Re-localising Economy:

Work from home  
 Reduce debt, eliminate debt  
 Barter, local currency  
 Share trading  
 Foster traditional crafts  
 Reduce tax collection and close unnecessary buildings  
 Self-organization  
 Use local resources locally  
 Don't export local resources  
 Local justice systems

### Knowledge, Skills and Education:

Food preservation  
 Conservation education:
 

- Water
- Electricity
- Energy
- Environmental

 Get experts in for help with planning  
 Foster traditional crafts  
 Cooperative skills  
 Re-skill – teach carpentry, other useful skills  
 Teaching horticulture  
 Community connection to reach out to youth and apprentice them  
 Develop a community knowledge bank and information bank about local and historical knowledge

### Community Networks:

Ride sharing  
 Shared use of community resources  
 Communal shopping  
 Community meals  
 Care of vulnerable  
 Community food storage  
 Community owned shop  
 Family and Friend Networks (to reduce power demand)
 

- Watch movies together
- Children play board games
- Share evenings with neighbours
- Counsel others to not panic
- Shared Meals

 Fellowship in community  
 Barter, local currency  
 Share trading  
 Foster traditional crafts  
 Creating new networks  
 Community groups  
 Cooperative skills  
 Neighbourhood collectives  
 Form local neighbourhood groups for security – community watch  
 Look after unfortunate people  
 Form militias, security cooperatives  
 Community gardens  
 Community connection to reach out to youth and apprentice them  
 Self-organization  
 Multi-generation living arrangements

### Local Produce and Markets:

Market gardens  
 Farmers market  
 Community garden  
 Home grown food  
 Permaculture  
 Use local resources locally  
 Don't export local resources

## Assessment:

At the end of the two day's activities feedback forms were handed out to obtain participants immediate reaction to the *TransitionScape* methodology.

### Assessment of the TransitionScape Methodology:

Assessment of the *TransitionScape* methodology will be made following Tippet's criteria for sustainable development. Attention will be paid to specific features that fulfil (or fail to fulfil) assessment criteria backed up by participants comments where appropriate. These marks will be compiled into a table (or 'scoreboard') to assist communication.

### **Assessment of the TransitionScape Methodology:**

Assessment of the *TransitionScape* methodology will be made following Dale's criteria for sustainable development. Attention will be paid to specific features that fulfil (or fail to fulfil) assessment criteria backed up by participants comments where appropriate. These marks will be compiled into a table (or 'scoreboard') to assist communication.

#### **Engage Participation:**

Participants are engaged within the *TransitionScape* by the processes of:

- visioning adaptation responses,
- placing these within the 'transition space',
- resource mapping,
- barrier identification,
- stepping into the revisited 'transition space',
- forming new alliances with other members of their community
- and by the planning group exercises.

All of the transition projects originate from the participants themselves, they are not merely deciding on pre-arranged plans.

Generally, participants liked the engagement aspects of the methodology with most feeling that the structure of the forum allowed a good amount of participation enabling the "enthusiasm and enjoyment [that] comes from participation and eye contact". Some felt, however, that "more open discussion" or "more participation would be better" but understood that time constraints were a factor. The suggestion of "group sharing, name tags, shared lunch" was made as a means to increase participation.

Although the methodology does have some 'hands on' activity, in the form of writing responses and placing them within the 'transition space' I feel this is not enough to fulfil this criterion. Visual learning tools were engaged by use of the slide presentation, the three dimensional structure and then two dimensional floor arrangement of the 'transition space'. Creative thinking was enabled via the use of the adaptation scenarios. Participants thought that "the scenarios were very effective" and enjoyed "both information and presentation style". Attention to the decision making process was made through the use of cards to record participants responses and by the planning exercises.

#### **Synergies across Scales:**

Although the exercise of asking participants to place their adaptation responses into the 'transition space' was a means of generating recognition and understanding of cross scale principles and utilised transferable tools and materials, this was not supported by a meta data structure or the linking of multiple geographical scales. Participants also felt "confused where to attach the coloured pieces of paper onto the structure".

#### **Integrated and Sustainable Outcomes:**

The focus on sustainability was made explicit throughout the forum, however no explicit criteria for sustainable development was expounded. The resource mapping and scenarios gave a focus on both social capital and environmental integrity. No alternative perspectives were offered on the current situation, however an holistic,

systems approach was advocated and encouraged. Many participants were familiar with the facts of the situation with one saying, “I learned nothing new about the problems facing us but plenty about strategies for dealing with the problems.”

### Eco-systemic Solutions:

The *TransitionScope* methodology fared badly in this challenge. The only criterion fulfilled being a focus on ecological/human interaction encouraged during the adaptation scenarios.

### Develop Stakeholder Capacity:

Whilst not explicitly developing skills within the participants, the methodology does enable the acquisition of planning skills (via the planning exercises and session plan) and systems thinking, albeit implicitly. Education is provided via the presentation of the current situation which one participant thought was “brilliant and inspiring”. Use of ‘multiple intelligences’ and attention to programme development are engaged during the planning exercises.

1.	Engage participation	a) Active engagement	✓
		b) Hands on process	✗
		c) Visual knowledge	✓
		d) Creative thinking tools	✓
		e) Attention to decision-making	✓
2.	Beneficial synergies across scale	a) Cross scale principles	✓
		b) Transferable tools	✓
		c) Meta data structure	✗
		d) Link multiple geographical scales	✗
3.	Integrated and sustainable outcomes	a) Sustainability focus	✓
		b) Explicit sustainability criteria	✗
		c) Focus on social capital	✓
		d) Focus on environmental integrity	✓
		e) Combines different perspectives	✗
		f) Holistic approach	✓
4.	Eco-systemic solutions	a) Spatial design and analysis	✗
		b) Ecological design principles	✗
		c) Ecological/Human interaction	✓
		d) Focus on underlying process	✗
		e) Structured design process	✗
		f) Life cycle design	✗
5.	Develop stakeholder capacity	a) Explicit skills development	✗
		b) Incorporated education	✓
		c) Use of ‘multiple intelligences’	✓
		d) Attention to programme development	✓

Table 1. Assessment of the *TransitionScope* methodology using Tippet's criteria

### Conclusion:

Generally the *TransitionScope* methodology was a success. On the whole participants seemed to enjoy the experience, feeling more empowered and positive about the future, and many of the design objectives were met successfully, with those not met providing valuable learning experience. Many failures to meet objectives were due to time constraints, both within the design process and the time available during the

forum – there is a limit to how much can be fitted into one weekend. A solution is to increase the time allotment; however this may lead to problems of engaging participants for the full duration.

More work is needed in developing the methodology to meet a greater number of Tippet's criteria for sustainable development. A specific area of work would be within the Eco-systemic solutions challenge and also the addition of some planning learning exercises. Inclusion or reference to an existing sustainable development framework (such as the Natural Step) would also be beneficial, time constraints permitting.

Many participants felt the need for “more open discussion” and “question and answer sessions” which again could be included, time constraints permitting. One means by which this could be achieved would be the inclusion of an ‘unofficial’ open discussion during one of the lunch breaks thereby increasing participant interaction and connectivity whilst not detracting from the structure of the forum as a whole.

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