

Sustainable Assistive Technology Provision - Sharing Perspectives



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Purpose of the session

To provides the opportunity to reflect, share experiences, ideas and perspectives on your positionality, priorities and planning within the AT sector and work in developing sustainable assistive technology provision.

Reflective Consciousness	
"... which allows us to formulate values, beliefs, goals and changes"	
(Gardner, 2003, p.341)	
Why do I what I do?	
What motivates me?	
What frustrates me?	
What are my key interests?	
What changes or developments would I like to see?	
What makes me HAPPY?	



Assistive technology (AT) provision processes

- Face challenges to meet peoples' primary mobility, communication and daily living needs within context.
- Building sustainable infrastructures to support personnel to provide appropriate products requires policies that are owned and actionable within the resource setting.
- The Sustainable Community of Practice (SCOP) model provides a stakeholder-centred engagement framework, to generate such policies toward building sustainable infrastructure and development.

Assistive Technology

- **A Multitude of Definitions**
- **Types**
- **Context of use**
- **Be mindful of umbrella terms**
- **Consider technology clusters / assistive technology device classifications**
- **Consider technology expertise /specialism**



What is Sustainable Assistive Technology Provision?

- Assistive Technology and Sustainability means different things to different people; therefore there is no expectation that participants will have a working knowledge of either concepts.
- The purpose here is to introduce the concepts to assist you to develop sustainable assistive technology provision systems, so it becomes part of your thinking and decision making.
- This working definition of Sustainability has been chosen for the purpose of this seminar, as I feel it encompasses the partnership process to achieve long-term benefits for all involved.
- ‘Sustainability is seen as the ability of the system to produce benefits valued sufficiently by users and stakeholders (people) to ensure enough resources (place) to continue activities with long-term benefits (pace and policy)’ (UNCIEF 1992 in Olsen 1998, p.289)

Sustainability Community of Practice Model (Gowran 2012)

- This is a **conceptual universal framework** taking into account the ‘**nonlinear dynamics**’ which makes up the **complexity of health and social care provision**
- These **manifold dimensions** are seen as the **primary materials for building** a sustainable community of practice.
- **Valued Management of the Place** identifies the system and its infrastructures within context
- **Vital Meaning for the People** identifies the people involved, generating an opportunity for reflective consciousness
- **Viable Maintenance affecting the Pace** identifies the bottlenecks affecting the flow of the system as a community of practice.
- **Visible Mindfulness for effective Policy** generates a collective understanding among the community of practice, while accepting differences and creating a sustainable strategy to meet a common goal.

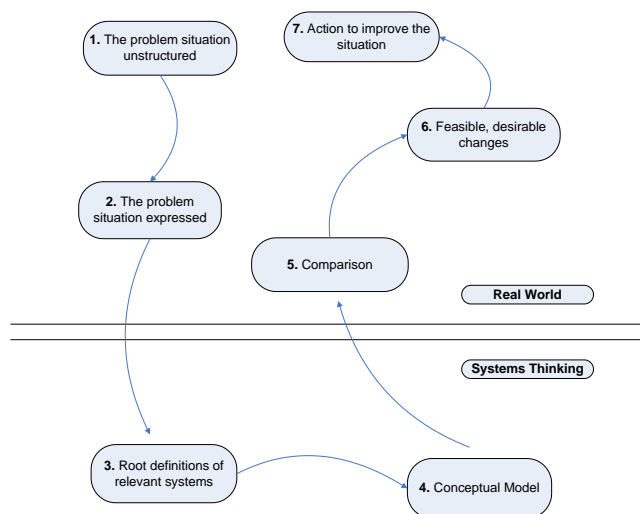
Sustainable Community of Practice Model

(Gowran 2012)

- **Framework to connect** consumers; providers and policy makers in partnerships within context
- **Underpinned by theories** within occupational therapy, occupational science, sustainability and systems thinking.
- **Emerged through qualitative research:** organisational ethnography and critical participatory action, soft systems approach, to understand human occupation and human relationships while grappling with contextual issues.
- **Identify, understand and involve** key stakeholders through participant observation, individual interviews and workshops.



Soft Systems Methodology was most frequently applied in seven stages to gain an in-depth understanding of issues of conflict and collaboration within service systems. (See figure 3-3)



Gowran 2012

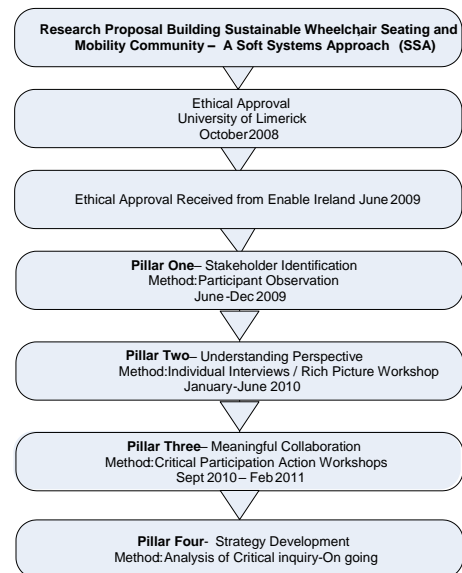


Figure 3-3 The conventional seven-stage model of SSM (adapted from Kalim *et al* 2006, p.174)

Building sustainable infrastructures

Sustainable Community of Practice Model

(Gowran 2012)



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Model for Building a Sustainable Wheelchair and Seating Provision Community of Practice (SCOP)

Valued Management of the Place identifies the system and it's infrastructures within context

- **International** – Global Agenda
- **National** – Government commitment
- **Local** - Infrastructure

Context

“...the dynamic interactive effects between parts of systems; the inherent connectivity that exists between people and events in time space; and the essential unpredictability of human interactions” (Whiteford, Klomp & Wright-St Clair 2005, p.14)

Context



“Refers to a variety of interrelated conditions within and surrounding the person [client] that influence performance”

Personal – age, gender, socio-economic status, organisational level, population level

Physical – the natural & built non human environment and objects in them.

Spiritual – personal quest for understanding answers to questions about life, about meaning, about relationships which may include religion or formation of community

Temporal- stages in life, time of day, duration, rhythm of activity, or history.

Virtual – Environment in which communication occurs by means of airways or computer and an absence of physical contact. Chat rooms, email, video conferencing, and radio transmission.

(AOTA 2008)

Grappling with Contextual issues

“The true measure of a man is how he treats someone who can do him absolutely no good” Samuel Jackson

- Matching context with individual needs
- Contextual influences
- Contextual Constraints

(Whiteford, Klomp & Wright-St Clair 2005)



Sustainable Development Goals 2016 -2030

People centred set of 17 universal and transformative goals with 169 targets to:

- combat poverty
- inequalities
- protect human rights of all people.



Goal 3: Ensure healthy lives and promote well-being for all at all ages



Global Cooperation on Assistive Technology



- **Policy:** National assistive technology policy framework (ATPF)
- **Products:** Priority Assistive Products List (APL)
- **Personnel:** Comprehensive assistive technology training programme (ATTP)
- **Provision:** Single-window service provision model (ATSP)



http://www.who.int/phi/implementation/assistive_technology/phi_gate/en/

Sample Priority AT Product Groupings, Smith et al 2018

Daily Living	Communication		Sensory		Personal Mobility		
Self-care / Domestic life/ Cognition	Augmentative and Alternative Communication	Access to ICT	Visual	Auditory	Ambulant Mobility	Prosthetic & Orthotic	Posture and wheeled mobility
Chairs for shower/ bath/ toilet	Communication boards/ books/ cards	Key board and mouse emulator software	Spectacles	Hearing aids	Canes/ sticks	Orthosis Spinal	Pressure relief cushion
Fall detectors	Communication software	Simplified mobile phones	White cane	Hearing loops	Club foot braces	Orthosis upper limb	Pressure relief mattress
Hand rails/ grab bars	Gestures voice technology		Braille display (note takers)		Crutches, axillary/elbow	Prosthesis, lower limb	Tricycle
Incontinence products, absorbent	Video communication devices		Braille writing equipment/ brailers	Deaf blind communicators	Rollators	Orthosis, lower limb	Wheelchair manual, active users
Personal emergency alarm			Magnifiers digital, hand-held	Alarm signalers with light, sound and vibration	Standing frames		Wheelchair manual, assistant controlled
Personal digital assistance (PDA)			Magnifiers, optical	Closed captioning displays	Therapeutic foot wear		Wheelchair manual postural support
Pill organisers			Screen readers		Walking frames, walkers		Wheelchair, electric powered
Ramps, portable			Audio players with DAISY capability				
Recorders							
GPS							

World Health Assembly

•26th May 2018 the 71st World Health Assembly passed the draft resolution [A71/21](#)

‘Improving Access to Assistive Technology’

Calling on member states to develop and implement national assistive technology policies

Resolution calling on member states

- Develop, implement, strengthen policy
- Adequate & Trained Human Resource
- Access to appropriate products
- Develop national Product lists
- Invest in research & innovation
- International & regional collaboration, manufacturing, procurement & supply, crossing borders
- Population database
- Built Environment
- Emergency preparedness
- World report on Assistive Technology
- Capacity building
- Minimum standards

Improving Access to Assistive Technology for ALL



- Processes affect suitability, mastery and ongoing use of assistive products.
- Each step of the process requires planning and prioritisation to allow for effective person-centred health and social care.

(Desmond *et al*; de Witte *et al*; Smith *et al*; MacLachlan *et al*; Hobbs *et al* 2018)



Valued Management of the *Place*

Gowran et al 2019

Ireland



Romania



Philippines



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MOTIVATION RESEARCH & COMMUNITIES



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Context Specific Analysis

- **Research** evaluating service delivery processes should provide in-country specific context analysis.
- **Stakeholder Centred** research is essential considering complexity, communications & collaborations.
- **Meaningful Engagement** gives ownership to strategy development & implementation.
- **Strengthens Case** with policy makers to build sustainable infrastructure for Assistive technology Provision, Accessible to All.

(Gowran *et al* 2014; Stenberg *et al* 2017; MacLachlan *et al* 2018)

Vital Meaning for the People identifies the people involved, generating an opportunity for reflective consciousness

- Who are the Stakeholders?
- Where are they?

Reflective Consciousness

"... which allow us to formulate values, beliefs, goals and strategies"

(Capra, 2003, p.34.)

Why do I what I do?

What motivates me?

What frustrates me?

What are my key interests?

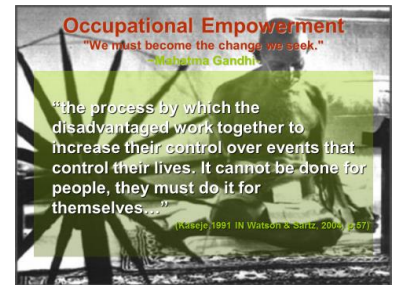
What changes or developments would I like to see?

What makes me HAPPY?



Occupational Empowerment

"We must become the change we seek."
~Mahatma Gandhi-



"the process by which the disadvantaged work together to increase their control over events that control their lives. It cannot be done for people, they must do it for themselves..."

(Kaseje, 1991 IN Watson & Sartz, 2004, p.57)

Positionality

Priorities

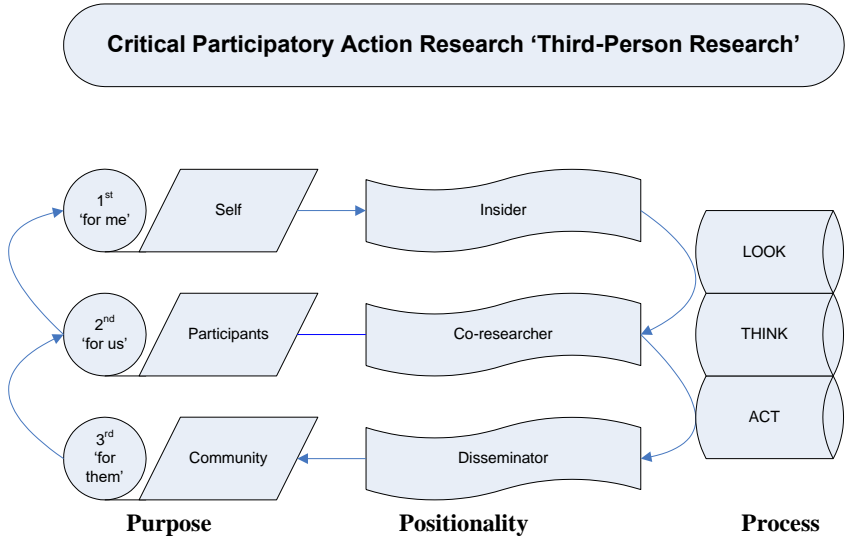
Planning



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- ✓ Our thinking
- ✓ Our systems
- ✓ Our responsibilities

'ought to be grateful for what is provided'



Gowran et al 2019

Figure 2. **Critical Participatory Action 'Third Person Research' Reflexive Tool [38,42,44,45]**

Vital Meaning for the *People*

Stakeholder Engagement				
Country	Wheelchair Service Users (individual, family, carers, represented agencies)	Providers (Government agencies, NGOs, Suppliers, Manufacturers)	Policy makers (Government officials, representatives, Universities)	Total stakeholders engaged in the process.
Ireland	8	25	2	35
Romania	10	17	36	63
Philippines	13	38	71	122 (117 actually attended)



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Middle Ground Approach

Move away from the hierarchy:

- 'thinkers at the top'
- 'doers at the bottom' ...
- '...linking people at all levels'



Dervitsiotis (2005, p.926)

Viable Maintenance affecting the Pace identifies the bottlenecks affecting the flow of the system as a community of practice.

- Pace / Flow /Bottlenecks
- Identifying the key issues



Viable Maintenance affects the *Pace*

Ireland	Romania	Philippines
<ul style="list-style-type: none"> • Waiting times • Funding process • Follow up & management • Breakdown / Repair • Emergency Services • Common language / Communication • Regulating Procurement • Education for all • Research & development • Who's responsible? 	<ul style="list-style-type: none"> • No clear statistics • Funding limited • Access to wheelchairs & services. • Education and training • Awareness among personnel and the public. • Empowering wheelchair users • Public space accessibility 	<ul style="list-style-type: none"> • Poor policy focus/ limited information • Limited standards & support mechanisms. • Service delivery is limited, lack of specialised service & capacity • Access to products /manufacturing /supply • Education & training /rights based approach.



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MOTIVATION RETHINKING



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Visible Mindfulness for effective Policy generates a collective understanding among the community of practice, while accepting differences and creating a sustainable strategy to meet a common goal.



Community of Practice Governance Model, adapted from Probst and Borzillo [41, p.344]

Visible Mindfulness for effective *Policy*

Ireland

Romania

Philippines

Graded Supports within Contexts

- Advocacy
- Wheelchair service infrastructure
 - Capacity Building
- Education, Training & Research

Ireland

Call on government to advocate and mandate a national review of wheelchair services

Romania

Create a new entity with specific focus

Philippines

Philippine Society of Wheelchair Professionals (PSWP) with specific focus



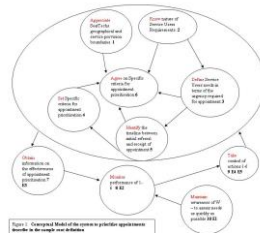
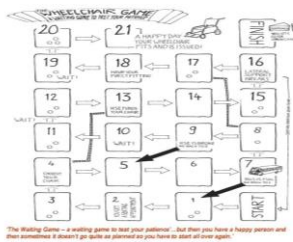
Strengths & Limitations

- **Utilising the SCOP model as a framework** provides a whole-systems approach thinking, with a soft systems approach.
- **The process demonstrates the complexity** of facilitating such stakeholder-centred engagement.
- **Application requires continual planning and adaptation** to provide safe spaces for communication, mutual respect and shared understanding.
- **Skilled research personnel** with a knowledge of the AT sector and specific contexts is essential to success.
- **Outputs will strengthen** in-country negotiation with government towards policy development.

Where do we start?

• Soft systems Approach

The utilisation of soft systems thinking is chosen as it creates a structured pathway to review this complex 'messy' system that is not well defined and needs to accommodate multiple perspectives



Sustainability Indicators DPSIR framework



In groups (nominate spokesperson to feedback)

- What does the AT system (1. Prosthetics; 2.Hearing Aids; 3.Glasses; 4. AAC) look like?
- Where are the key stakeholders' placed within context (what context)?
- When issues inhibit the flow of processes and plans?
- How do you feel about the AT provision system? Does it make you happy?
- Create a pictorial representation of the AT provision process - Rich Picture
- Identify 3 key priorities



Creating A Rich Picture



- To create a pictorial representation of what assistive technology provision looks like, known as a 'Rich Picture'
- This 'Rich Picture' is based around assistive technology provision and includes key stakeholder perspectives of provision, identifying issues, interactions and connections between them.
- The purpose of the 'Rich Picture' is to provide an opportunity for open discussion and come to a broad, shared understanding of the assistive technology provision.
- To identify and prioritise issues that inhibit the smooth flow of overall assistive technology provision.



Priorities – identify key priorities

Desirable:

Feasible:

