INTERVENTION RESEARCH FRAMEWORK DESIGN FOR POLICY CHANGE MANGEMENT

Facilitating community ownership in planning, design and implementation of long-term public policies with system dynamics is still vastly underexploited social development challenge. As many authors infer, capability traps are omni-present but solvable with long-term commitment of relevant actors. The framework presented is essentially based in system dynamics (group model building) in the middle three core phases, but such framework allows additional service scope to community members, as presented below:

1. Policy Formulation testing phase (conceptual models, CLDs are used) characterized by low impact on stakeholders capability and capacity to more effectively deal with complex policy.
2. Policy Adoption testing phase (large quantitative models and scenario developments are used) characterized by medium impact on stakeholders capability and capacity to more effectively deal with complex policy.
3. Policy Implementation testing phase (flight simulators used in wider community setting), characterized by high impact on stakeholders capability and capacity to more effectively deal with complex policy.

After these phases, the actual political adoption of the policy takes place.

Besides these three core phases, there are also phases required for conceptualizing the scope and the design of the intervention (inception phase) and promoting the research project idea among the relevant decision-makers who are most often completely unaware of the system dynamics approach (pitch phase). And, also, there are the phases after the successful implementation of a system dynamics project (closing phase) and storytelling phase where best practices are recognized.

The phase which indicates the scale of the impact of the intervention (low, medium, high) determines also the level of impact on stakeholder cohesion, influence and power, as well as on effective tools with embedded learning and system comprehension. As the project goes deeper into its implementation with third core phase over, it is assumed that the relevant decision-makers will have solid grounds for making a long-term policy that generates effective issue management.

In terms of the scope of the project as how it is presented in the stakeholder outreach, primary focus is put on:

- Stakeholders issue ownership, capability and capacity building
- Stakeholders analytical articulation of trends and leverage points for intervention
- Management of stakeholder cohesion, influence and power
- Effective outreach communication tools for behavior change in digital era
- Research and Development: Model as a Knowledge Management System

When observing these categories, system dynamics is again perceived as a methodology which is holistic, able to impact various organizational aspects with single employment in a structured process based on the proposed framework. Various supporting disciplines can be implemented within a research framed in such a way, contributing more effectively to integrated research impact and effective avoidance of capability traps, with long-term commitment to a system dynamics project structured in such a fashion.

Experimental System Dynamics Intervention Research Framework Design for Policy Change Management

INCEPTION PHASE	PITCH PHASE	POLICY OPTIONS FORMULATION TEST PHASE	POLICY ADOPTION TEST PHASE	POLICY IMPLEMENTATION TEST PHASE	CLOSING PHASE	STORY TELLING PHASE
Preliminary definition of research scope and **project service**	Project core concept promotion (start research preparation)	Project agreed and funding ensured. Start research implementation: model scope and problem definition.	Model testing and development / Research extension	model based policy implementation with stakeholders (SD research completed)	Lessons learned and observed outcomes – Building resilience in the community	Start Policy adoption and implementation Follow-up results Project closure/ maintenance
STAKEHOLDERS ISSUE OWNERSHIP, CAPABILITY & CAPACITY BUILDING	System dynamics as a tool to manage complexity	Low impact	Medium impact	High impact	Reflections on learning during the group model building process	Replicability and scalability
STAKEHOLDERS ANALYTICAL ARTICULATION OF TRENDS AND LEVERAGE POINTS FOR INTERVENTION	Potential findings with system dynamics	Facilitating group work to establish model issues and scope definition (ie. Scriptapedia use) Use of causal loop diagrams, small and conceptual models	Facilitating group work to develop a large quantitative model (ie. Use Scriptapedia) Quantitative model development Policy leverages and investment scenarios analysis	Development of management flight simulator Training games development on using flight simulators for wide community outreach (citizens) Community engagement with simulators	Overall findings from model building process and management flight simulations in wider community	Continuing observation of system dynamics impact on paradigm shift
MANAGING STAKEHOLDER COHESION, INFLUENCE AND POWER	System dynamics practices showcasing community impact and/or ownership	(see above)	(see above)	(see above)	Articulating specific target values to reach Establishing intersector accountability Empowering advocacy	Use of system dynamics for conflict management
EFFECTIVE OUTREACH COMMUNICATION TOOLS FOR BEHAVIOR CHANGE IN DIGITAL ERA	Conceptual models and causal loop diagrams showcasing relevant problem	Primary qualitative, quantitative and secondary data collection on observed behaviors for research purposes **Iterative and custom made computer facilitated analysis, with system comprehension and learning embedded in a cutting-edge modeling interface available for implementation at established variety of communal action planning gatherings (ie conferences, roundtables, meetings) or by individual actors.**			Innovative applications Specific key action messaging Establishing new organizational structures with agreed policies	Effective media and work materials production, distribution and impact generation
R&D: MODEL AS A KNOWLEDGE MANAGEMENT SYSTEM	Managing "messy" problems effectively towards resilience	Pre- and post-workshop(s) evaluation of mental model alignment and awareness	Pre- and post-workshop(s) evaluation on stakeholder cohesion and commitment	Pre- and post-workshop(s) evaluation on ownership and confidence in the model	Overall impact assessment on building wider community consensus	Development of examples of good practices and case studies.