

Repository of systems thinking approaches & tools that can be used to achieve Early Childhood Development (ECD) outcomes at scale

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Background



- We need new ways of thinking to accommodate the complexity of the challenges in a system (Herbert and Best 2011).
- Systems thinking is primarily a way of thinking in approaching problems and in designing solutions (Checkland 1985; Cabrera et al. 2008).
- Systems thinking has over time evolved to address structural/ systemic challenges in many disciplines.
- Globally, ECD systems are currently faced by challenges, particularly in providing equitable access for marginalized children.
- Investing in Early Childhood Development (ECD) has the potential to yield significant economic and social benefits (Kapur, 2023).
- Unfortunately, there still exists fragmented governance and limited understanding of the key elements and the applicability of systems thinking approaches in ECD.
- Effective strategies are essential to ensuring the sustainability and scale ECD interventions.

Operational Definitions: Systems Thinking



System: A group of interacting, interrelated and interdependent elements forming a complex and unified whole.



Complex systems: A densely connected web of interacting parts, each acting in unpredictable ways as the action of one part changes the context of the other (Ackoff & Rovin, 2003).



Systems Thinking: A discipline for addressing complex issues that emphasises looking at the whole rather than isolated parts and highlights the role of interconnection, relationships, feedback loops and interaction among system parts (Hawe, Shiell & Riley, 2009).



Applied Systems Thinking: Using a range of methods and tools from multiple disciplines to better understand and intervene in complex systems (McGill et al., 2021).

Objectives of the Project



Specific Objectives:

- To review systems thinking approaches and tools that can be applicable in the field of ECD.
- Establish a compendium of systems thinking approaches and tools to serve as reference for ECD practitioners and policy makers.

Research Question:

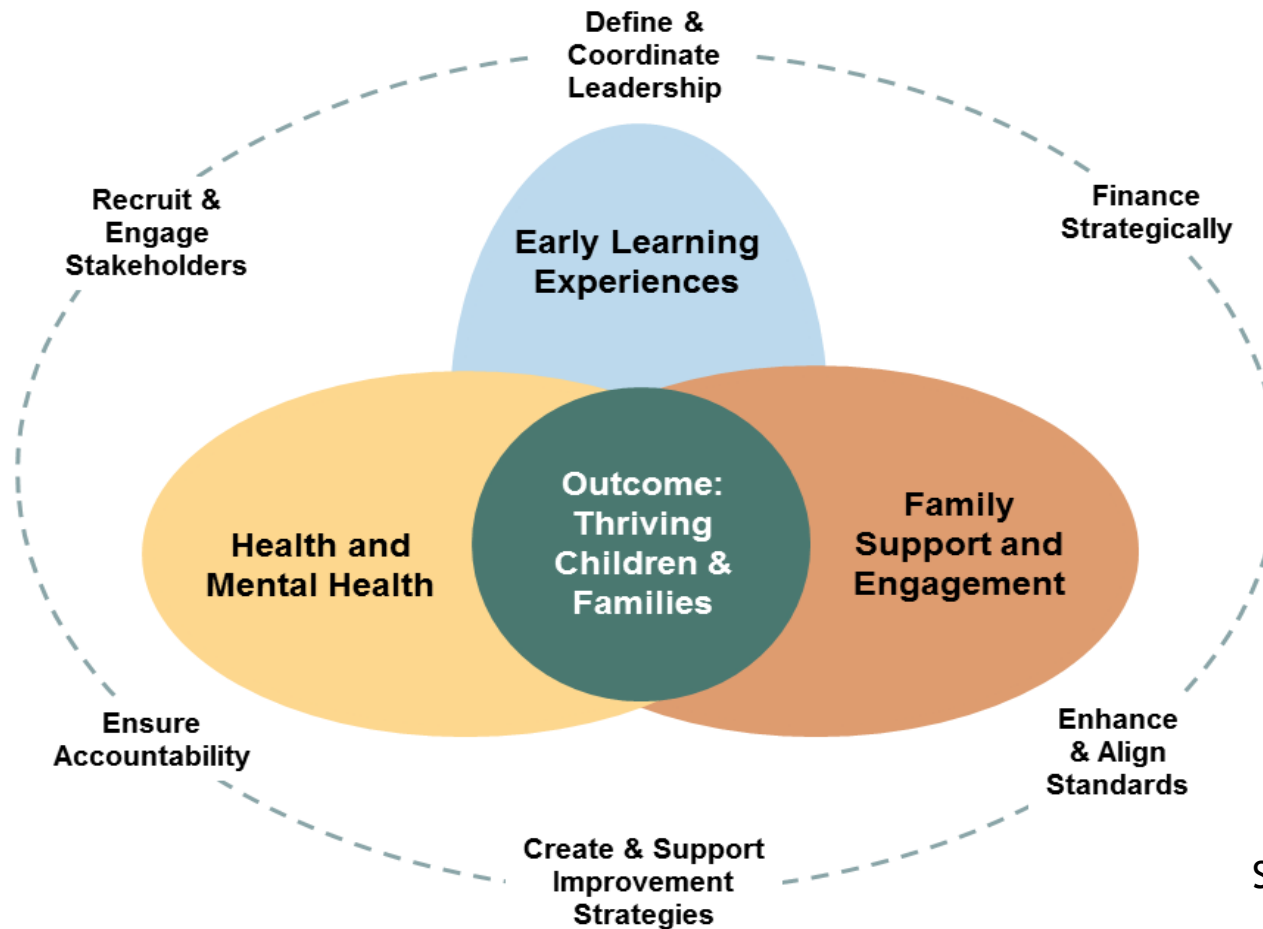
- What systems thinking tools/approaches exist and could be replicated in the field of ECD?

Brief overview of methodology



- Review conducted in two stages:
 - Desk review
 - Exploratory expert interviews
- Use electronic databases (PubMed, Google scholar, ERIC, Scopus, etc.) to review grey and published literature.
- Approaches categorized under five themes:
 - Systems & Complexity Informed Evaluation,
 - Describing Systems,
 - Facilitating Complex Systems Change,
 - Measuring Systems Change
 - Adaptive learning
- The study reviewed 55 systems thinking approaches in the field of economics, health, climate change, etc.
- Adopted MS Excel tool to create repository and describe the tools, approaches, the applicability of the approaches in the field of ECD including innovators & references.

Framework for the application of systems thinking in ECD



Source: Kapur 2023

Reviewed Approaches & Tools



Category 1 Systems & Complexity Informed Evaluation	Category 2 Describing Systems	Category 3 Facilitating Complex Systems Change	Category 4 Measuring Systems Change	Category 5 Adaptive Learning
- Utilization Focused Evaluation - Developmental Evaluation - Principles Based Evaluation - Blue Marble Evaluation - Systems Evaluation Protocol - Systems Thinking in Practice - Systems Change Evaluation Planning Worksheet	- Cynefin Framework - CDE Model - Soft Systems Methodology - Critical System Heuristics - Stock and flow diagrams - System archetypes - Feedback loops and causal loop diagrams - System leverage points - Mapping system outcomes - Limiting Factor Analysis	- Complicated and complex systems change - theories of change - Theory of transformational systems change - Multiple-level Perspective of Socio-Technical Change - Three Horizons of Innovation and Culture Change - Multiple Scenario Planning - Systemic racism multiple levels - ABLE Systems Change Framework	- Shifting power to shift systems - Building social networks and community capacity - Measuring incremental vs. emergent change - Retrospective modelling of change trajectories - Positive Deviance - Outcome harvesting - Ripple-effect mapping - Appreciative Inquiry - Contribution analysis - Process tracing - Complex realist evaluation	- Emergent learning - Iterative learning - After action reviews - Rapid evaluation cycles for different system dynamics - Collaborative outcomes reporting - Systems change storytelling - Performance story reporting

Limitations of project



- Limited information/resources on applicability of systems thinking tools in the field of ECD
- Quite challenging to identify systems thinking experts for expert interviews
- Lack of control over data quality
- Potential bias in sources
- Outdated information
- Influx of terminologies and concepts
- Difficulty in categorizing systems thinking approaches/tools

Conclusion



- A repository on systems thinking tools has been developed that could serve as a resource for policy makers & ECD practitioners to advance policy integration and scale of ECD interventions.
- Application of the approaches/tools is context-dependant.
- Reviewed systems tools & approaches could be replicated in the field of ECD to transform the global ECD agenda.

Recommendations / Next Steps

Recommendations

- More research to explore more concepts & terminologies associated with systems thinking
- Encourage the replication of systems thinking approaches across different domains
- Policy makers and practitioners apply systems thinking approaches in the design and implementation of ECD programmes

Next Steps

- Disseminate findings to wider ECD stakeholder community through webinars, symposia etc.
- The spreadsheet will be refined if necessary and uploaded on ECDAN website.



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