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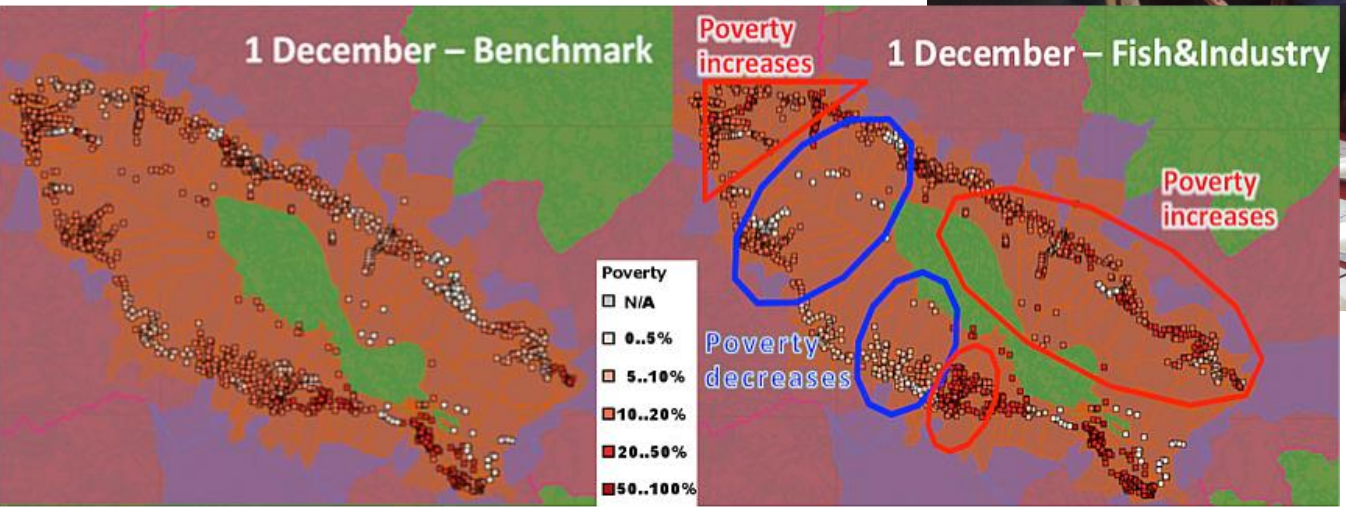
Basin-level assessments –

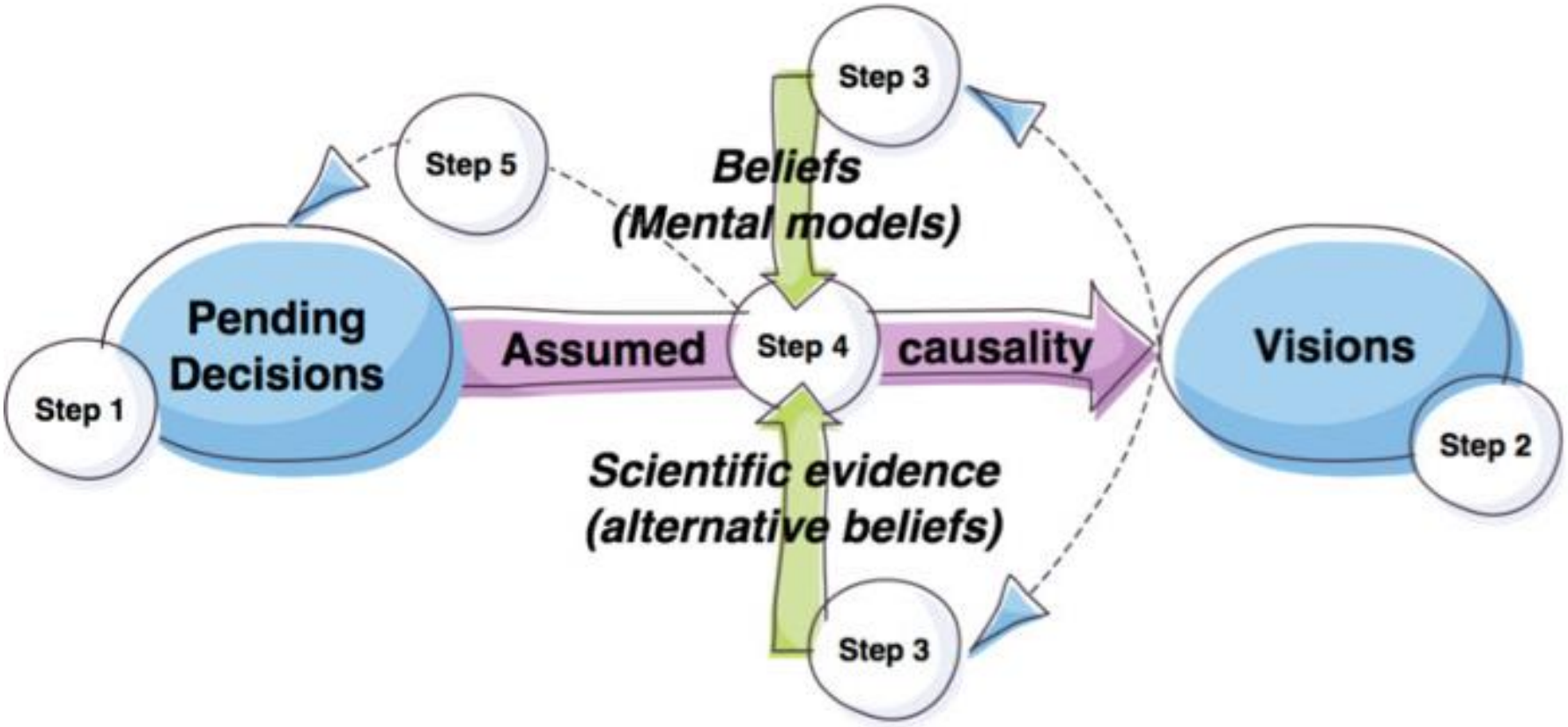


Tool & process design

Background

- Participatory process design improved over 15 years
- Applied to policy debates in 15 case studies in 7 countries
- Lao PDR – Nam Xong: Mining-tourism, water quality/quantity
- Lao PDR – Nam Ngum: Nexus, irrigation
- China – Xishuangbanna: PES for rubber
- Vietnam – Mekong Delta: SLR, upstream reservoirs, migration
- Cambodia – Tonle Sap: Fish stock collapse, Poverty
- Thailand – Isaan: Irrigation, energy vs food crops
- Indonesia – East Kalimantan: Deforestation, mining, poverty
- Indonesia – Central Java: Fishing, migration, poverty
- Australia – Great Barrier Reef: Water quality, agriculture, reef
- Australia – Outback: Water trading
- Australia – Outback: Institutional arrangements, Cattle

The ChaRL process
Challenge and Reconstruct Learning (ChaRL)



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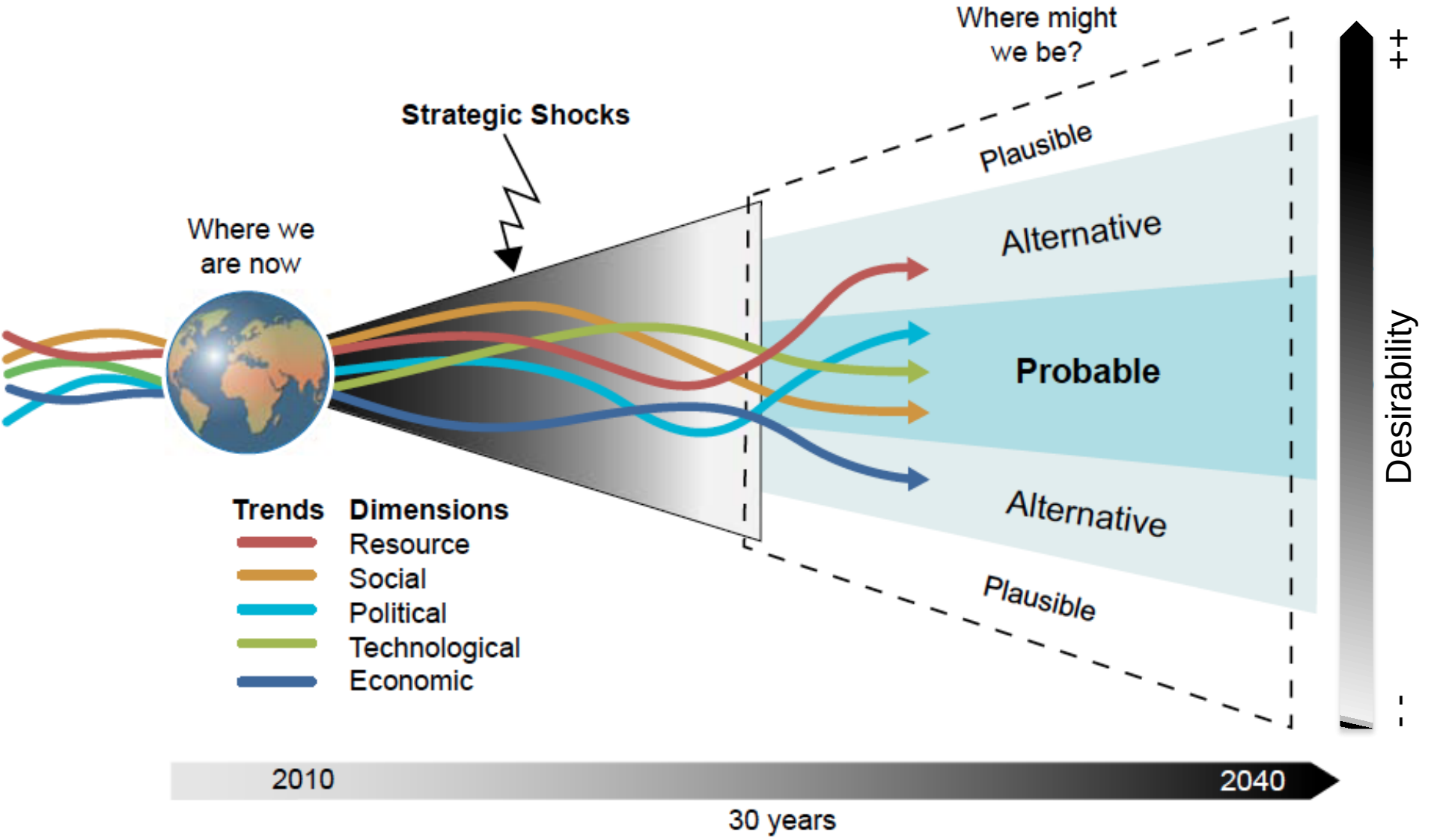
Mapping the space of future scenarios
Plausibility & desirability



The ChaRL process
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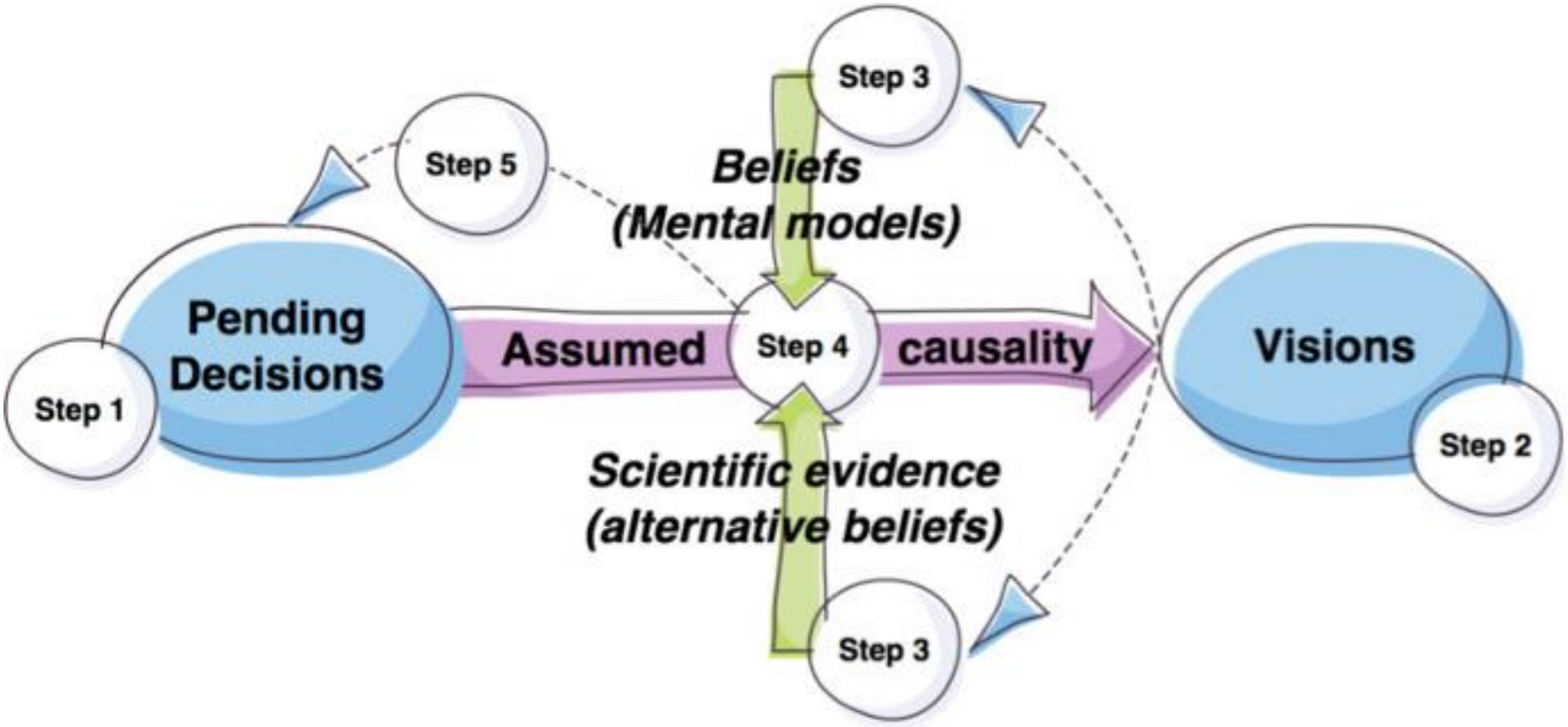

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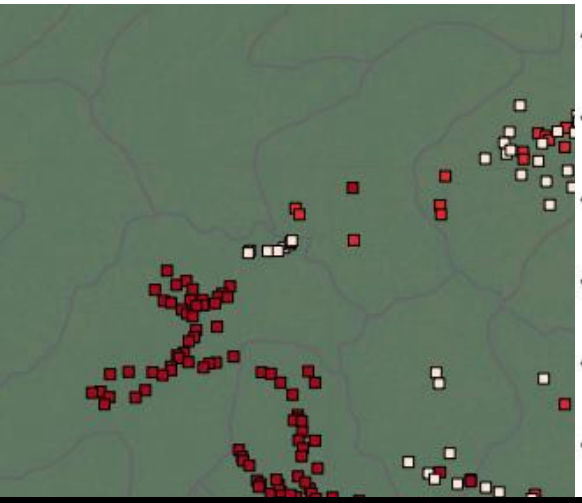
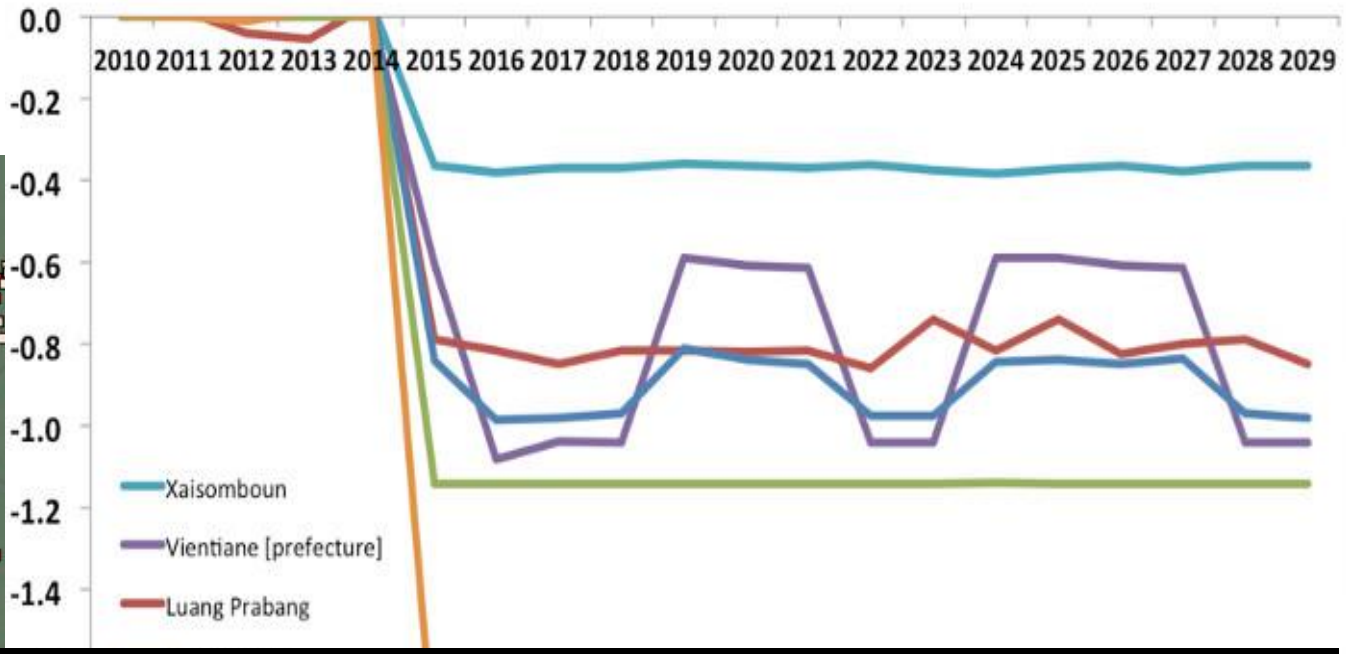
Results





Workshops 1 & 2	Workshops 3 & 4	Workshop 5
Irrigation reduces poverty	Well constructed irrigation reduces poverty	Irrigation might reduce poverty in low-lying areas with already low poverty but not in mountainous areas with high poverty
Irrigation increases agricultural production	Well constructed irrigation increases production/income	Irrigation increases farm income

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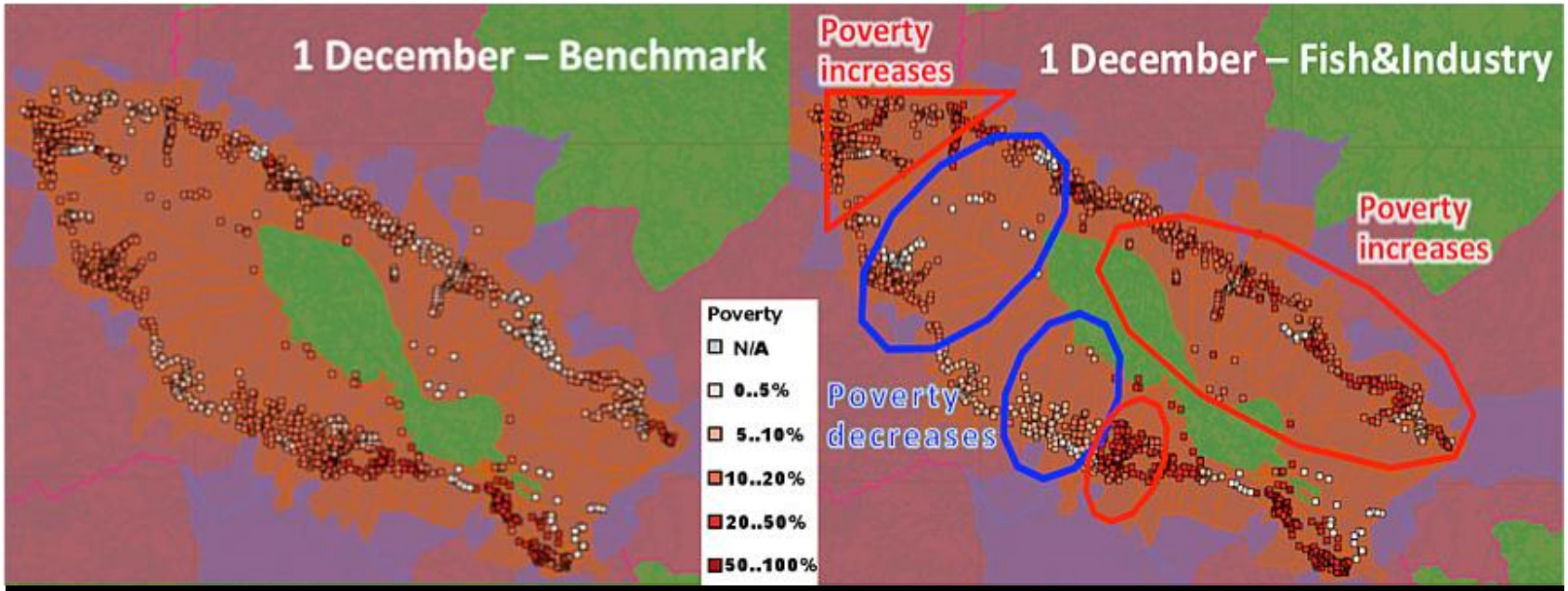
Results



Workshops 1 & 2	Workshops 3 & 4	Workshop 5
Collapsing fish stocks will cause emigration into urban areas	If fish stocks collapse people will emigrate to other countries	Migration potential in Tonle Sap rather low
Integrated mixed agriculture increases farm income	Farm consolidation will reduce household income and increase social conflict	Policies have to account for high diversity of communities in Tonle Sap

Lessons learnt

- Always combine development and climate change
- Stakeholders need to own the process
  - “High degree” participation essential for bridging the science policy gap
  - Maintain an honest engagement process
  - Stakeholders have to be actively involve in analytical work
- Psychological foundation seems very effective
  - Visioning essential for replacing sector normative benchmark
  - Most influence by contradicting unquestioned beliefs
  - Spatial representation (live maps) highly effective
- Mixes Methods
  - Considering complexity in analysis essential (i.e. ABM Simulation)
  - Household data for ground-truthing essential
  - Multiple validation techniques
  - Incorporate stakeholders’ available methods

Thank You | alex.smajgl@MERFI.org

- **Smajgl A, Ward J, 2013.** A framework to bridge science & policy… ***Futures*****,** 52(8), 52-58.
- **Foran T, Kemp-Benedikt E, Ward J, Smajgl A, 2013.** A technique…foresight... ***Ecology and Society*****,** 18(4).6.
- **Smajgl, A. & Ward, J. (2015).** A design … research impact evaluation… ***Journal of Environmental Management*****,** 157, 311-319.
- **Smajgl, A., Ward, J., Foran, T., Dore, J., & Larson, S. (2015).** Visions, beliefs… ***Ecology and Society,*** 20(2):15.
- **Smajgl A, Xu, J, Egan, S., YI, Z.-F., Su, Y.,Ward J, 2015.** …PES...China ***Environmental Modelling and Software*****,** 69, 187-195.
- **Smajgl, A., Toan, T.Q., Nhan, D.K., Ward, J., et al. (2015).** …rising sea-levels ... ***Nature Climate Change*****,** 5, 167-174.

Guidelines for conducting basin-level VAA

- Rationale for conducting a VAAs (why doing VAAs)
- Rationale for doing it basin-wide (CC manifests in water issues) (Basins capture scales. Relevant scales emerge from decision making.)
- What initiates a VAA?
- Why having guidelines? (Link to UNFCCC)
- For whom?
  - Main target: Researchers, practitioners/implementers,
  - Secondary: governments, planners, donors, local authorities -> multi-stakeholder
- (Best practice TORs, also drawn from these guidelines)
- Principles
- Process
- Tools
- Outputs: How does a good VAA look like? (Examples)
- Outcomes: What could/should be achieved? (Examples)

Towards a guideline: Principles

- Monitoring important (options, examples)
- Science often describes what hasn't been experienced yet
- Training is important
- Simple is good
- Deal with uncertainty effectively
- Understand dynamics of the system and not preserve status quo
- Has to inform national policy (and regional processes) and target changes in decision making and behavior
- Be mindful of (consistent with) national policies
- Approach should be holistic and pragmatic (consider vested interests)
- Multiple scales need to be considered
- Multiple, interacting sectors need to be considered
- Work has to be participatory, inclusive, transparent … (good governance)
- Climate change needs to be addressed in the proper context (future conditions, dynamic perspective…)
- Best available science should be used
- Climate change should not be analysed in isolation
- Stakeholders should confirm (groundtruth) the relevance of the science
- There have to be economic gains
- What are the key VAA variables (socio-economic, ecological, hydrological…) but context-dependent

Towards a guideline: Process

- Process has to be participatory to have impact
  - Considering where stakeholders want to go
- Scenario planning/visioning is a critical step
- Indicators need to be meaningful to stakeholders (communities) (i.e. onset of wet season, land use change, water balance…)
- Entry point not (only) climate change
- Overview: What processes/toolkits exist (examples)
- Context specific climate projections need to be utilised
- Integration of local knowledge and science
- Many interacting stakeholders
- Multiple scales need to be included
  - How: Approaches that allow engaging with multiple scales/sectors
  - Examples

Towards a guideline: Tools

- Issues are complex and complexity needs to be considered
- Combine mixed methods
- Localising (climate change) impact is critical
- Has to consider fail-safe dimension (maladaptation)
- Cost-effective
- Tools need to capture economic benefits
- Multiple scales need to be considered
- Modelling (give a menu of options & examples)
  - Climate modelling, downscaling
  - CBA
  - RDM Robust Decision making
  - Spatial planning tools
  - Hydrological modelling
  - Crops
  - Socio-economics and poverty
  - Gender
  - Power analysis
- Scenario building and visioning
- Stakeholder consultation
- Tools for assessing the feasibility of adaptation options