



Supplement of

A review of the applicability of the motivations and abilities (MOTA) framework for assessing the implementation success of water resources management plans and policies

John Conallin et al.

Correspondence to: John Conallin (jconallin@csu.edu.au)

The copyright of individual parts of the supplement might differ from the article licence.

Supplement

Table S1. A summary of studies that have applied MOTA in various water resource management planning and policy contexts to date. ‘FITS’ refers to financial, institutional, technical and social within the context of abilities (‘FIT’ refers to the same but without the social aspect).

Authors	Trigger(s)	Motivation and ability elements	Application of MOTA	Institutional actor(s)	Societal actor(s)	Type of planning
Phi et al. (2015)	Flood management	Motivation, ability (FIT)	I- and A-MOTA: Governmental implementation and societal adoption	National government	Community	Top-down and bottom-up
Arora (2018)	Adapting to salinity and modernising the agricultural sector	Motivations identified by asking actors questions about perceptions on risks to livelihoods. Abilities identified by asking actors' questions about financial, technical and institutional abilities to change.	A-MOTA: Societal adoption	None	People’s Committee (Provincial government)	Bottom-up
Korbee et al. (2018)	Adapting to salinity and modernising the agricultural sector	Similar to those in Arora (2018)	A-MOTA: Societal adoption	Provincial and District-level government	Farmers	Bottom-up
Hoan et al. (2019)	Saline intrusion associated with rising sea levels and development	Motivation (farmers' intention to change cropping systems), Abilities (FIT abilities to change cropping systems). Financial (budgets, production resources), technical (infrastructure and technique, knowledge and skills), institutional (social organisation, market).	A-MOTA: Societal adoption	None	Farmers	Bottom-up
Korbee et al. (2019b)	Adapting to salinity and modernising the agricultural sector	Similar to those in Arora (2018)	I- and A-MOTA: Institutional implementation and societal adoption	Unspecified	Farmers	Top-down and bottom-up
Korbee et al. (2019a)	Adapting to salinity and modernising the agricultural sector	Motivations identified by asking actors questions about perceptions on risks, possible solutions and institutional mandates. Abilities identified by asking actors' questions about FIT abilities to change.	I-MOTA: Governmental implementation	Local and Regional government agencies	None	Top-down
Nguyen et al. (2019b)	Climate change, rising sea levels	Motivation (farmers' intention to change cropping systems). Abilities (FIT abilities to change cropping systems).	A-MOTA: Societal adoption	None	Farmers	Bottom-up

Authors	Trigger(s)	Motivation and ability elements	Application of MOTA	Institutional actor(s)	Societal actor(s)	Type of planning
Nguyen et al. (2019a)	Urban flood risk	Assessed the motivation of each actor pertaining to the application of several conventional and retrofitting flood control measures. Abilities determined by assessing the self-perceived FIT capabilities in implementing flood control measures.	A-MOTA: Societal adoption	District-level Municipality Offices (DMO) and City-level Sectoral Departments (CSD)	Social Mass Organisations (SMOs): Vietnam Fatherland Front Committee, Vietnam Women's Union, HCMC Communist Youth Union	Bottom-up
Pieffers (2019)	Diminishing groundwater and domestic water supplies	Motivations assessed in terms of threat (knowledge about groundwater extraction and land subsidence) and risk (familiarity with the use of rainwater, stormwater and wastewater treatment; and risk in terms of perceived water quality) perception. FIT (and geographic conditions) abilities.	I- and A-MOTA: Experts, government officials and water supply stations	Division of Mineral and Water Resources, Government officials responsible for water mandates	Local communities	Top-down and bottom-up
Kulsum (2020)	Community livelihood adaptation uncertainties associated with urbanisation and climate change (irrigation water, agricultural technology, market system).	Similar to those in Korbee et al. (2019a). Used MOTA to predict the future behaviour of farmers towards change and tried to interlink MOTA with adaptation pathways.	A-MOTA: Societal adoption	None	Farmers	Bottom-up
Nguyen et al. (2020)	Sustainability of mangrove shrimp farming in response to climate change-induced salinity intrusion along with economic and environmental constraints	Motivation (farmers' intention to change from shrimp farming to another form of livelihood). Abilities (FITS abilities to change farming systems).	A-MOTA: Societal adoption	None	Mangrove-shrimp farmers	Bottom-up
Sadik et al. (2020)	Announcement of new plans for participatory water management (PWM), increasing pressures from water management problems, and natural disasters	Motivation is assessed by recognizing opportunity or threat from the proposed PWM reforms. Abilities (FITS) to participate in water resources management.	A-MOTA: Societal adoption	None	Farmers, local civil society organisations, and NGOs	Bottom-up
Sadik et al. (2021)	Similar to those in Sadik et al. (2020)					

References

- Arora, G.: Bridging the gap between planning and implementation in strategic delta planning: Structuring implementation programming, M.S. thesis, Delft University of Technology, Delft, Netherlands, 134 pp., 2018.
- Hoan, N. X., Nguyen Khoi, D., and Trung, L. D.: Assessing the adaptive capacity of farmers under the impact of saltwater intrusion in the Vietnamese Mekong Delta, *J. Environ. Plan. Manag.*, 62, 1619-1635, 10.1080/09640568.2019.1631147, 2019.
- Korbee, D., Nguyen, H. Q., and Long, P. H.: Adding behavioural insights to improve the process of salinity adaptation in the Mekong Delta, Vietnam, EGU General Assembly Conference Abstracts, 15843.
- Korbee, D., Hong Quan, N., Hermans, L., and Ho Long, P.: Navigating the bureaucracy: An analysis of implementation feasibility for the Mekong Delta Plan, Vietnam, *J. Environ. Plan. Manag.*, 1545-1561, 10.1080/09640568.2019.1623014, 2019a.
- Korbee, D., Guerra, J. P., Nguyen, H. Q., Luan, P. D. M. H., and Hermans, L.: A tool to measure adoptability and implementability of plans: The Motivation and Ability (MOTA) framework, *Geophysical Research Abstracts*.
- Kulsum, U.: Supporting adaptive delta management: Systematic exploration of community livelihood adaptation as uncertainty, Ph.D. thesis, Delft University of Technology, Delft, Netherlands, 231 pp., 10.4233/uuid:3fea6d14-73a7-4d05-8d3e-36f8a03fd699, 2020.
- Nguyen, H. Q., Tran, D. D., Luan, P. D. M. H., Ho, L. H., Loan, V. T. K., Anh Ngoc, P. T., Quang, N. D., Wyatt, A., and Sea, W.: Socio-ecological resilience of mangrove-shrimp models under various threats exacerbated from salinity intrusion in coastal area of the Vietnamese Mekong Delta, *Int. J. Sustain. Dev. World Ecol.*, 27, 638-651, 10.1080/13504509.2020.1731859, 2020.
- Nguyen, H. Q., Radhakrishnan, M., Bui, T. K. N., Tran, D. D., Ho, L. P., Tong, V. T., Huynh, L. T. P., Chau, N. X. Q., Ngo, T. T. T., Pathirana, A., and Ho, H. L.: Evaluation of retrofitting responses to urban flood risk in Ho Chi Minh City using the Motivation and Ability (MOTA) framework, *Sustain. Cities Soc.*, 47, 101465, 10.1016/j.scs.2019.101465, 2019a.
- Nguyen, H. Q., Korbee, D., Ho, H. L., Weger, J., Phan, T. T. H., Nguyen, T. T. D., Pham, D. M. H. L., Luu, T. T., Dang, H. P. T., Ngo, T. T. T., Hermans, L., Evers, J., Wyatt, A., Chau, X. Q. N., and Ho, L. P.: Farmer adoptability for livelihood transformations in the Mekong Delta: A case in Ben Tre province, *J. Environ. Plan. Manag.*, 62, 1603–1618, 10.1080/09640568.2019.1568768, 2019b.
- Phi, H. L., Hermans, L. M., Douven, W. J. A. M., Van Halsema, G. E., and Khan, M. F.: A framework to assess plan implementation maturity with an application to flood management in Vietnam, *Water Int.*, 40, 984-1003, 10.1080/02508060.2015.1101528, 2015.
- Pieffers, T.: Small is beautiful, and feasible? Research into the feasibility of a decentralised domestic water provision in the Vietnamese Mekong Delta, M.S. thesis, Utrecht University, Utrecht, Netherlands, 2019.
- Sadik, M. S., Hermans, L. M., Evers, J., Nguyen, H. Q., Khan, M. F. A., and Ahmed, S.: Assessing the societal adoptability of participatory water management: an application of the Motivation and Ability (MOTA) framework, *Water Policy*, 00, 10.2166/wp.2021.255, 2021.
- Sadik, M. S., Hermans, L., Evers, J., Khan, M. F. A., Ahmed, S., Quan, N. H., and Rahaman, A. Z.: Exploring community adoptability of Participatory Water Management: An application of the MOTA framework, 6th International Symposium Knowledge and Capacity Development for Water Management, IHE Delft, May 27-29, 2020.