

Peri-urban Farmers' Vulnerabilities under Water Uncertainty in the Upper North Thailand

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ABSTRACT

Peri-urban agriculture is known to decline but still linger while farmers anticipate land conversion process to proceed and complete. Constrained by urbanisation, labor mobility, household dynamics, agri-food production relations and water resource management, farming households operate in hybrid and translocal spaces adopting crops and livestock combination that continue to yield effective though declining economic returns. Innovation in freshwater aquaculture in the forms of earthen-pond and river-cage aquaculture, offers high-risk and high-return investment to farmers. Intensifying competition for water among farm and non-farm stakeholders is exacerbated by natural and anthropogenic climate variability and extremes such as higher surface temperature, 100-year trend of declining low river flows, floods, and anomalies in monsoonal rainfall and tropical storms. This paper investigates how different farmers become vulnerable to such changes using the concept of vulnerability in social-ecological system as defined by place, entitlements failure, and marginality. The research is conducted in four peri-urban communities in Chiang Mai, Chiang Rai and Kamphaengphet provinces. All of them are in located the irrigated floodplains of the Ping and Ing river basins. Case studies are selected to include such production systems as pond and cage fish farming, crop-livestock farming, mixed farming and non-farm activities as well as scale of operation. Data is collected during 2013 dry and rainy seasons by survey, observation, in-depth interview and oral history. Results show that although climate variability poses risks to farmers, water management in terms of quantity and quality intensifies such risks. There are multiple trajectories of vulnerability. Physical location, water management policies, access to resources, labor availability, contractual production relations, livelihoods diversity, mobility, and social networks play important roles in determining vulnerability.