



SOUTHEAST ASIA-EUROPE
JOINT FUNDING SCHEME FOR
RESEARCH AND INNOVATION

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**FROM SOIL TO GRAIN: ASSESSING
IRRIGATION PRACTICES AND TOXIC
ELEMENT LEACHING IN MEKONG DELTA
PADDY FIELDS, VIETNAM**

TOPIC 3

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Brokerage Event – 9th Call

03 October 2024



My and my institution's area of expertise

Name: Tran Dung

Position: Lecturer

Unit: Faculty of Environment
Organisation: University of Science-
Vietnam National University (US-
VNUHCM)

City: Ho Chi Minh City

Country: Vietnam

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Expertise: Soil Science, Environmental
Chemistry

Understanding soil properties, processes,
and health indicators.

Knowledge of chemical behavior of
potentially toxic elements (PTEs) in soils
and their bioavailability.



My proposed Research Idea for the 9th JFS Call

Research Question:

What are the **current levels** of potentially toxic elements (PTEs) in the soils and rice grains of Mekong Delta paddy fields, and how do different **irrigation practices** affect their **leaching behaviors**?

What is the **impact** of PTE contamination on **soil health** indicators and what are the potential **human health risks** from consuming rice grown in these contaminated soils?

What **context-specific remediation practices** can local farmers apply to reduce PTE levels in contaminated paddy soils, and how can education and communication improve their practices in improving soil management and remediation?

My proposed Research Idea for the 9th JFS Call

Proposed Research Activity:

Soil and Rice Grain Sampling

Laboratory Analysis

Irrigation Practice Assessment

Soil Health Evaluation

Human Health Risk Assessment

Development of Remediation
Strategies

Proposed Research Activity:

Field Trials of Remediation Techniques

Community Workshops and Training

Monitoring and Evaluation

Dissemination

Project Consortium

My organisation:

Role:

Conduct soil sampling, analysis, and assessments.

Analyze PTE levels and understand their leaching behaviors.

Cooperate in developing context-specific remediation strategies and assess their impact on rice cultivation.

Facilitate workshops, training sessions, and community involvement in remediation efforts.



Further existing partners (if any):

Partner 1: Department of Earth and Environmental Science, KU Leuven, University of Leuven, Belgium

Expertise: Ecotoxicology and Policy and Environmental Management

Role: Conduct risk assessments related to PTE exposure through rice consumption and collaborate to promote effective remediation strategies

Partners that we are seeking for our project consortium:

Region: Europe

Expertise: Environmental Chemistry and Hydrology

Role:

- Analyzing inorganic arsenic in soils and rice grains
- Study water movement in soils and its impact on contaminant transport focusing on how irrigation practices and their effects on soil and water quality.