

## **Nutritional and Health-Related Environmental Studies (NAHRES)**

### **Total Energy Expenditure Across the Life Course in Low and Middle-Income Countries**

#### **Brief summary**

Low- and middle-income countries (LMICs) are experiencing rapidly rising rates of overweight and obesity, alongside high levels of stunting and wasting. It is important to understand energy balance to define appropriate implementation strategies to manage the double burden of malnutrition. The gold standard of measuring total energy expenditure in a free-living situation is the stable isotope method of doubly labelled water (DLW) technique. In 2018, the IAEA DLW database was launched to combine data from different DLW studies carried out worldwide and enable more in-depth analyses and understanding of energy balance. Multiple papers have already been published from this database and it continues to change the assumed knowledge on energy balance, metabolism and body composition. However, there is limited data from LMICs and key age ranges available in the database. This CRP will contribute new evidence on energy expenditure data from LMICs and aim to close the knowledge gap in the global understanding of energy balance. The information will enhance the Member State capabilities to combat malnutrition for better health throughout the life course by providing new data on total energy expenditure and its determinants in significant life stages.