

# MSc International Land and Water Management



**Alumnus Stef Smits.** After graduation Stef Smits joined the IRC International Water and Sanitation Centre in Delft, the Netherlands. IRC is a knowledge institute in the field of drinking water supply and sanitation for developing countries. Stef works on applied research and learning projects in the field of small-scale domestic water supplies and integrated water resources management in various developing countries. During short visits, he supports partner organisations and their research through, for example, training courses and dissemination activities. *“The nicest thing is that one day you may be on a field visit at meetings with communities and the next day you do a presentation for Ministers or donors or may be at a conference or workshop.”*

## Programme summary

The MSc International Land and Water Management focuses on the scientific analysis of the physical, environmental, technical and socio-economic aspects of land and water management and their mutual interactions. Students develop comparative insights into the development of land and water management, take a scientific approach to various research paradigms and acquire a problem-oriented, interdisciplinary attitude towards land and water management and rural development issues. Graduates will not only be able to study these issues but also design sustainable and efficient solutions to land and water management problems.

### Admission Requirements

For general admission requirements, see page 40. More information about specific admission requirements can be found on the website.

### Other interesting programmes

MSc Earth and Environment, MSc International Development Studies, MSc Development and Rural Innovation, MSc Geo-information Science, MSc Landscape Architecture and Planning, MSc Forest and Nature Conservation.



## Your future career

Graduates find jobs in a wide range of fields, including design and implementation, policy-making, project management and research and education. They are employed by international organisations such as the Food and Agricultural Organisation of the UN (FAO), the International Water Management Institute (IWMI), or NGOs involved in international or national development such as the Netherlands Development Organisation (SNV) or Oxfam International. Some graduates also work

for ministries and other governmental organisations in the field of international cooperation, such as the Dutch DGIS and the German GTZ, while others find jobs in private or public institutes in their home countries. For graduates interested in design and implementation, there are also job opportunities at international consultancies. In the Netherlands this includes firms such as Arcadis, Grontmij, Oranjewoud and DHV Consultants.

## Specialisations

### LAND DEGRADATION AND DEVELOPMENT

Although soil and water are our most important natural resources, they are often not used in a sustainable manner, resulting in land degradation and waste of water. This specialisation deals with land and water management interventions in farming systems - at both field and watershed scale - aimed at preventing, reducing or reversing losses of soil, water and plant nutrients. These losses occur in all climate zones and in nearly all farming systems. The focus in education and research is on rain-fed agriculture and natural resources management. Topics covered include erosion processes as well as the planning, design and socio-economic evaluation of soil and water conservation measures.

### IRRIGATION AND WATER MANAGEMENT

Students in this specialisation concentrate extensively on water use in agriculture, with irrigation - from farm to watershed level - as the main focus. Topics include irrigation processes, irrigation systems design, and improvement of existing systems and practices. Irrigation and Water Management emphasises the complete integration of engineering and agronomic issues with the socio-economic and institutional aspects of irrigation development. Topics therefore include not only the design and operation of irrigation systems, but also the social frameworks that define water management, such as gender issues and institutional and legal constraints to land and water development.

### INTEGRATED WATER MANAGEMENT

This specialisation focuses on the integrated management of hydrological systems such as catchments and river basins. Integrated water management involves a process of participatory planning, decision making and implementation to achieve sustainable use of land and water resource systems. Competition for water - in terms of both quantity and quality - between various uses and users has turned water management into a political issue that must be managed according to the needs of various stakeholders at all policy levels. Graduates must be capable of analysing different forms of water use by various stakeholders within a given context, and have to understand the strategies and viewpoints of decision-makers and assess alternative water management systems.