

ROYAL AGRICULTURAL COLLEGE MODULAR SCHEME

Sheet updated: September 2010

Module Code 4040	Module Title Sustainable Management of Soil and Water	Module leader Dr John Conway
School which owns module	School of Agriculture	
Programme(s) to which module belongs	MSc International Rural Development (elective)	
Module Level 7	Module Credits 15	Pre-Requisites None
Minimum Study Time 150 hours	Contact Hours within Study Time 30	Teaching Period October – May Thursday 9-11am
<p>Module content: Recognising soil types; managing structure and organic content; erosion control and prevention; managing nutrient supply; controlling pollution (PTEs, sewage sludge and industrial amendments). Soil-water interactions; crop requirements, irrigation and drainage. Water supply, collection techniques, water conservation measures (mulches, etc.); risk of salinity. Sustainability of soil resource use. Protection policies and strategies.</p>		
<p>Module outcomes: To achieve credit for this module, students must be able to:</p> <ol style="list-style-type: none"> 1. Understand the fundamentals of pedology and hydrology as applied to sustainable resource management. 2. Evaluate the implications of managing the soil resource. 3. Evaluate water resource use within the environment. 		
Assessment	Description	Weighting
Coursework	Soil exercise	30%
	Water exercise	30%
Examination	2 hours	40%
<p>Key Texts Students should be familiar with the content of at least one of the following: Cook, H.F. and Lee, H.C. (1995). (Eds). <i>Soil Management in Sustainable Agriculture</i>. Wye College Press. European Environment Agency (2000). <i>Down to Earth: Soil Degradation and Sustainable Development in Europe: A Challenge for the 21st Century</i>. (Environmental Issue Report 16). European Environment Agency. Gleick, P.H. (2009). <i>The World's Water 2008-2009: The Biennial Report on Freshwater Resources</i>. Island Press. Houghton, J. Royal Commission on Environmental Pollution. Parliament (1996). <i>Sustainable Use of Soil: Nineteenth Report</i>. HMSO. Lal, R. (1995). <i>Sustainable Management of Soil Resources in the Humid Tropics</i>. United Nations University. Magdoff, F.R. and Weil, R.R. (2004). <i>Soil Organic Matter in Sustainable Agriculture</i>. CRC Press. Molden, D. (2007). <i>Water for Food, Water for Life: A Comprehensive Assessment</i></p>		

of Water Management in Agriculture. Earthscan.

Newson, M. (2009). *Land, Water and Development*. (3rd edition). Routledge.

Pascual, U., Shah, A. and Bandyopadhyay, J. (2009). *Water, Agriculture and Sustainable Well-Being*. Oxford University Press.

Journals

Journal of Sustainable Agriculture.

Soil Use and Management.