

# **INNOVATION 'MUST CONSIDER WATER, ENERGY AND LAND JOINTLY'**

More technological innovation is needed to fight growing resource scarcity, but it will only be successful in achieving sustainable development if it considers the use of water, energy and land as interdependent issues, according to a European report.

Investment in innovation is required for sustainable agriculture, for achieving more efficient use of water and energy, and for rolling out renewable energy technologies, says the 'European Report on Development 20112012', funded by the European Commission and seven European states.

But failure to consider the three basic resources of water, energy and land as a 'nexus' in which the use of one affects the availability of the other two is leading to poor decisions that ultimately work against sustainable development, it says.

We can no longer think about solving [resource] issues by tackling one problem at a time, said James Mackie, of the European Centre for Development Policy Management, which produced the report along with the UK's Overseas Development Institute (ODI) and the German Development Institute.

This article is part of our coverage of preparations for Rio+20 the UN Conference on Sustainable Development which takes place on 20-22 June 2012. For other articles, go to Science at Rio+20

The third in an annual series, the report, subtitled 'Confronting Scarcity', combines two strands of emerging thought.

The first is that of absolute resource scarcity. Demand for energy and water is set to increase by 40 per cent in the next two decades, and demand for food which will in turn be one of the factors increasing land demand by 50 per cent. But there is not enough of these resources to meet the demand unless their management is transformed.

The second is that of the interconnectedness of resources, a phenomenon the authors believe is largely ignored in setting policy.

This issue is becoming more acute because of the absolute shortages coming into play, Mackie told *SciDev.Net*.

While much has been written about managing water, energy and land (WEL), few initiatives focus directly on the resource nexus, said the authors, who have been promoting the idea to national delegations to the UN Conference on Sustainable Development (Rio+20) taking place in Brazil next month (2012 June).

The report cites an example in Bangladesh where open pit coal mining is cheap, but harms the environment and uses up land, whilst closed pit mining is more expensive, but requires less land and is environmentally friendly.

A WEL nexus approach is more likely to choose the latter option, lead author Dirk Willem te Velde, of the ODI, told *SciDev.Net*.

Decisions about renewable energy technologies could also be influenced by this approach, the authors said, pointing out that the average biomass energy source requires 70 times the water footprint of oil.

Such thinking should also be invoked in rolling out the UN Secretary-General Ban Ki Moon's initiative, Sustainable Energy for All, which aims to improve access to energy and the use of renewables.

The report's authors also call for institutions that govern access to land, water or energy, at local, national and regional levels, to be established, or radically reformed, to take into account the WEL nexus.

They say that the European Union needs to improve the coherence of its policies for the developing world so that it considers scarcity on all three fronts.

Source: <http://www.scidev.net/global/policy/news/innovation-must-consider-water-energy-and-land-jointly-.html>