

Developing Groundwater in a Changing Regulatory Environment

Presentation IGI Conference, Dublin Castle
4th October 2007.

The Past

- 1980's -1990's Major Groundwater Supply Schemes Developed at Fardystown Wexford, Derrygarran Portlaoise – No surface water alternatives.

Extensive Hydrogeological Investigations established the safe yield and the quality of the abstracted groundwater. On occasions the impact on neighbouring wells was assessed.

- At the same time high demand Agri-Business users identified groundwater as an option to develop high volume water supplies rapidly (independent of the local authority planning strategy)

Major savings in un-metered water was an additional benefit.

THE PAST – RED TAPE FREE

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Straightforward Site Acquisition.

No EIS.

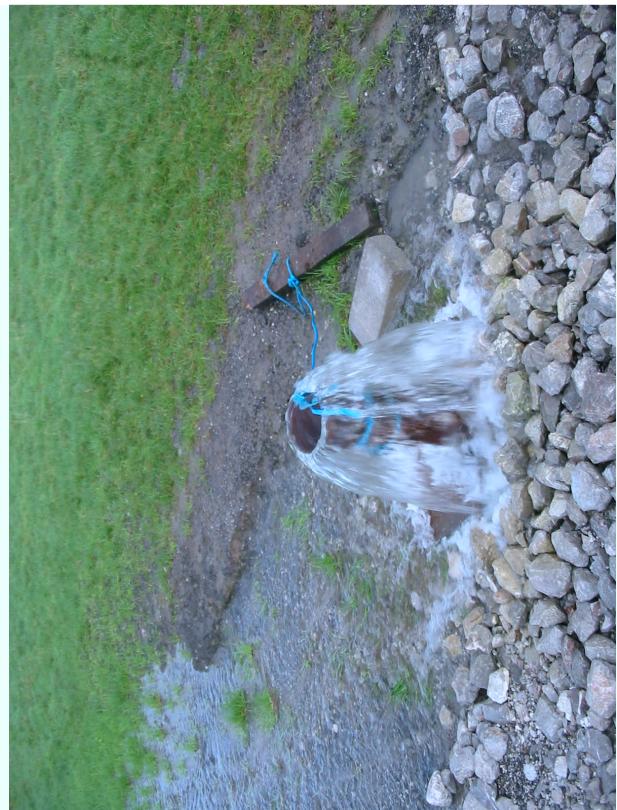
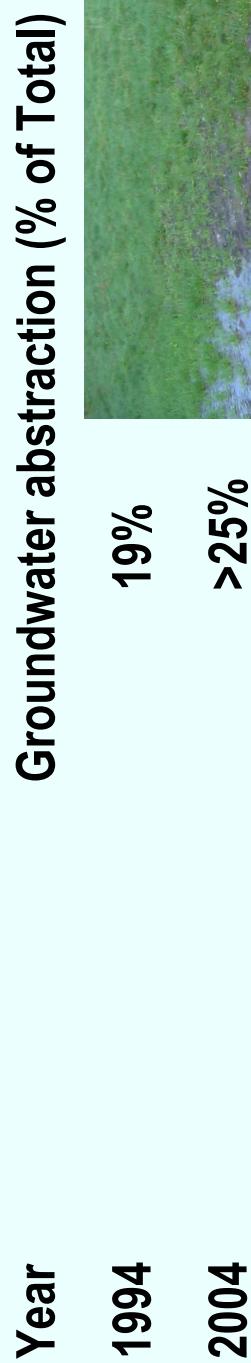
- Groundwater Quality was believed to be naturally excellent consequently there was no requirement for source protection plans.
- No need for private industry to notify authorities of well development unless part of a larger planning application.
- Control your own destiny – No need to wait for government funding to be provided to LA to upgrade capacity of existing water supplies to allow for increases in demand.
- The holistic approach to the water environment was not considered. The protection of wetlands and surface water was not prioritised.
- No Charges

THE ADVENT OF THE CELTIC TIGER

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The groundwater exploration programmes in the 1980's and early 1990's created an awareness of the advantages of developing groundwater supplies and private independent supplies in particular.

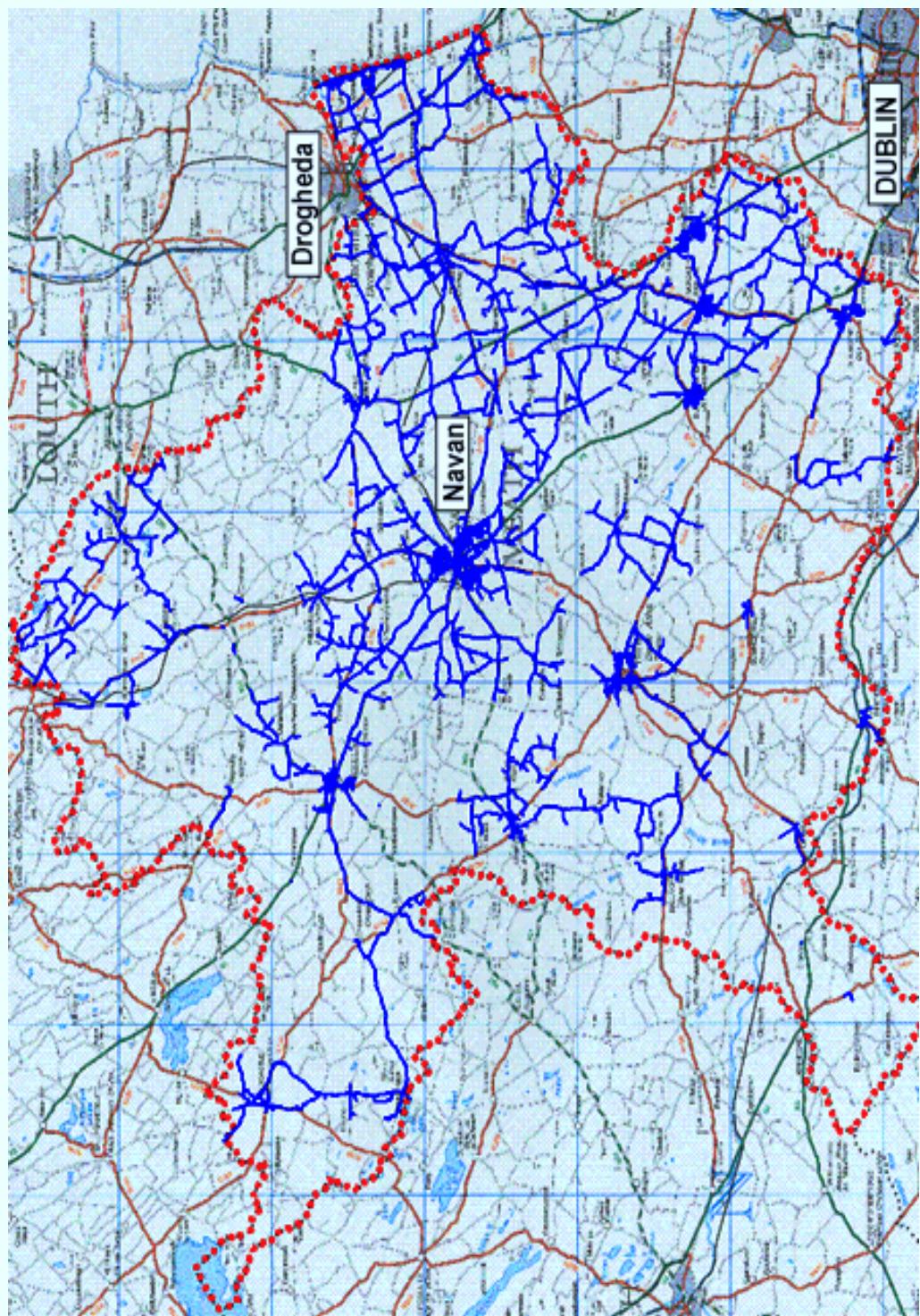
Ireland's dependence on groundwater has grown considerably.



No of new houses granted planning permission increased by 89% from 1998 to 2005

Water Infrastructure – Lagging Behind

Meath



Increase in Groundwater Abstraction

Water Infrastructure – Llagging Behind

MEATH WATER SUPPLY

- Meath Co. Co. currently distributes 50,000 m³/day.
- Pace of development is outstripping savings made in water conservation measures.
- Future demand +50%
- Proliferation of independent interim supplies

Increase in Groundwater Abstraction

Water Costs – Non domestic user

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- Schering Plough - 950M³/day €1,900/day if metered and charged

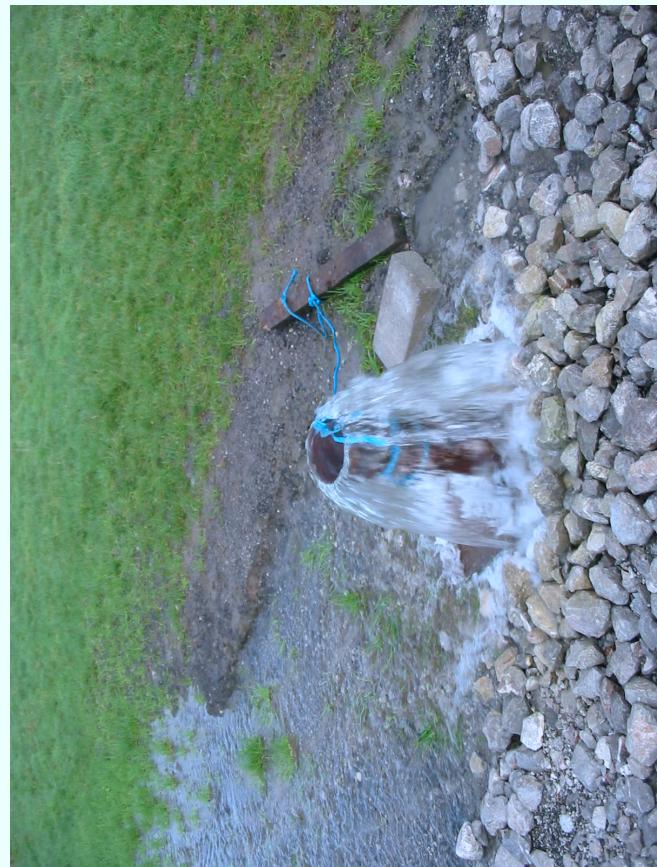


Increase in Groundwater Abstraction

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Advantages of Groundwater

- Convenient solution when no Mains Water Supply available (Interim Supply).
- Superior Quality
- Sound economic solution - No Water Charges - Mains water costs vary from ~ €0.90/m³ to €2.3/m³
- Quick pay back of capital investment
- Potential for Geothermal Use
- Sustainable Option

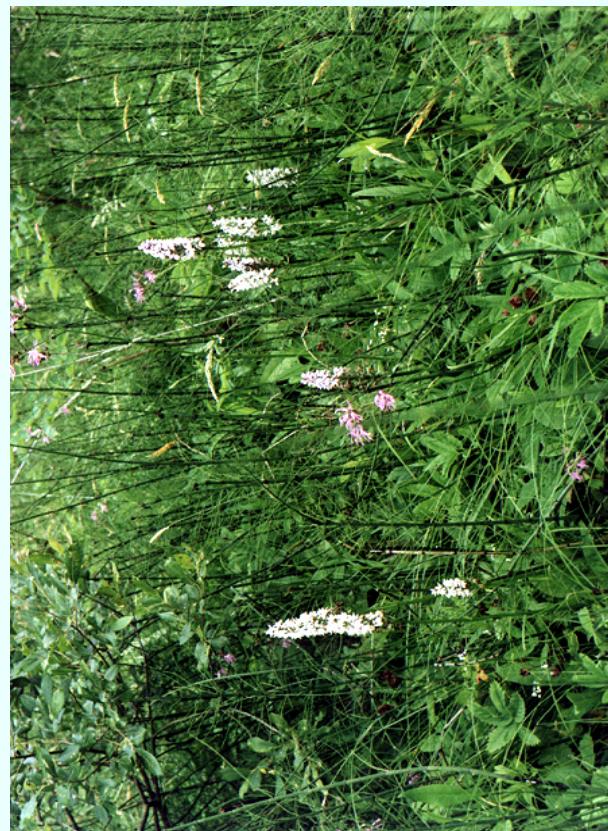


Groundwater - Controls

(a) Protecting Human Health

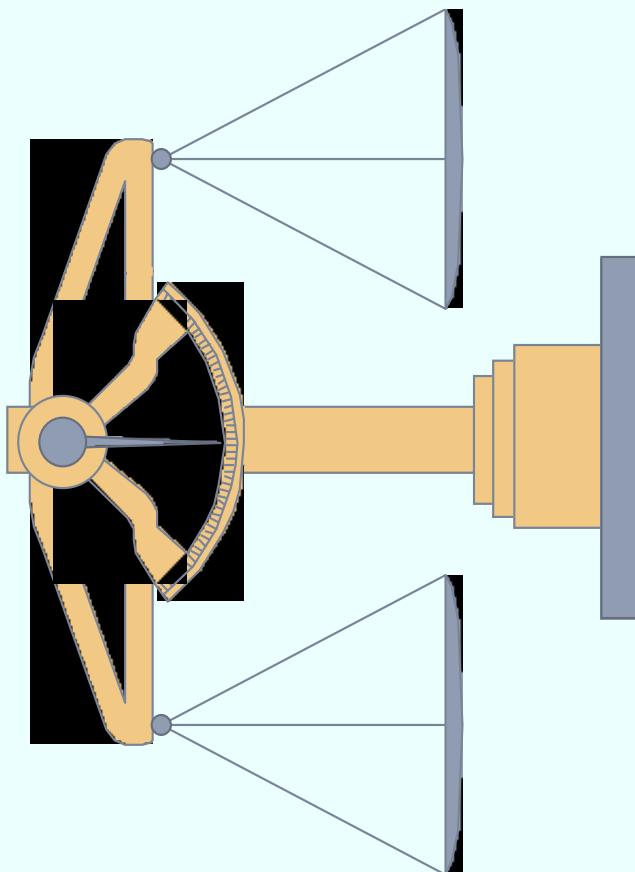


(b) Protecting the Environment (ecosystem)



Environmentally Compatible Abstraction

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Sustainable Development ?

Water Supply – Planning Requirements

EIS - Requirement for Impact Study

“Annual Abstraction exceeds 2 million cubic metres”

EPA Act 1992

IPC Industries with abstractions can be required to submit details of any impacts

“Additional Information” with Planning Applications

Source Protection Plans
Zones of Influence
Water management plans

Planning Permission Requirement

Local Government (Planning & development) regulations, 1994, S.I. No. 86 of 1994
Exempted developments include the following

Class 40 boreholes for domestic supplies, group water scheme in accordance with a plan approved by the Minister/Local Authority for the purpose of making a grant towards the cost of such works”

Class 41 “Any drilling or excavation for the purpose of surveying land or examining the Depth & nature of the subsoil, other than drilling or excavation for the purposes of mineral prospecting”

Part 10 required for GW Supplies Developed by Local Authority

Water Framework Directive

EU Water Framework Directive 2000/60/EC

Aims:

- prevent the deterioration water status
- restore polluted bodies of water
- reverse any upward trend in pollutants
- ensure a balance between abstraction & recharge of water

Groundwater Dependent Eco-systems

If protected eco-system (cSAC, NHA) close by, groundwater abstraction (or wastewater disposal) may not be permitted

Major and very specific studies required to demonstrate if impact will occur or not – an EIA may not be required for development but may need to adopt this approach due to sensitive receptor



Source Protection Plans

Increasingly, local authorities are requesting that a Source Protection Plan (SPP) is prepared and submitted at planning stage for developments with their own on-site water supply

Consequence of SPP

- Restrictions on Neighbouring Land Usage - Land Acquisition Expensive (CPO)
- ZOC land not in ownership of developer
- Limit development potential outside your own site
- Legislative restrictions.....Nitrates Directive!!!

Source Protection Plans

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S.I. No 378 of 2006 New Nitrate Directive



Restrictions!!!

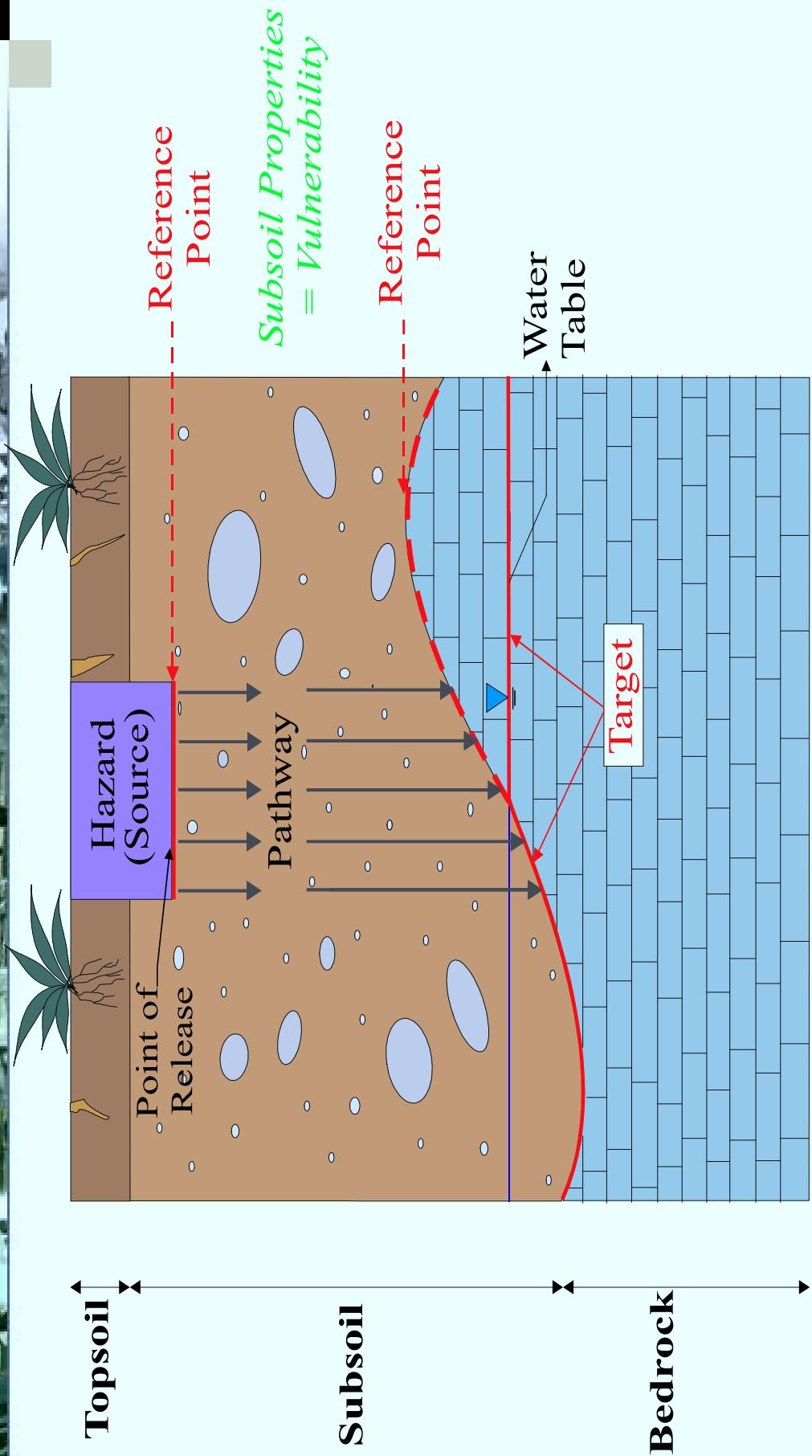
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S.I. No. 788 of 2005 – European Communities Good Agricultural Practice for Protection of Waters Regulations 2005

- Restricts landspreading of wastes within a 200m radius of any well serving more than 500 persons or abstracting over 100m³/d – equivalent to 35 acre area!!**
- Restricts landspreading of wastes within a 100m radius of any well serving more than 50 persons or abstracting over 10m³/d**
- Took no account of hydrogeological or geological conditions around the well in question
- Resulted in huge restrictions on people and agricultural due to the presence of a well
- Renders large areas of counties unsuitable for water supply development from LA perspective
- This S.I. was revoked and superseded by S.I. No. 378 of 2006
- Allows for alternative setback zones to be recommended based on site conditions

Scientific Risk Assessment

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Source - Pathway - Target and Vulnerability

A Better Alternative !

Revoke SI

Consult with the Scientists

A superior methodology is already in place



Groundwater
Protection
Schemes



Sustainable Development ?

The Future

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Licensing and charges??

- Licensing – Planning Permission to Track Users - Essential to Achieve Water Framework Objectives

To improve conservation of resources, the Chambers of Ireland “strongly urges the department (DoEHLG) to make provision for water meters to become an integral part of the planning permission in all future domestic houses” Chambers of Ireland March 2005, Water Service charges for Business 2005.



- In 2004-5 metered water consumption in the UK was c. 10% less than unmetered demand (OFWAT 2005).
- Limiting of abstraction – Conserve Communal Resource
- Charges? –Revenue to Local Government (will be resisted strongly)
 - Who owns the groundwater?
- EU directives – Green Machine will continue to produce legislation
 - Must be based on consultation with knowledgeable bodies.