

# EcoTerra Model

EcoTerra Model – application of environmental fiscal reform in local government financing in Portugal



# Problem definition

## Problems

- Little tradition in land use planning and management
- Weak first generation of land use plans
- Strong economic interests
- Rapid urban growth
- Local government funding based on urban growth



Unsustainable land use

## Goals

- To create economic incentives to good environmental behaviour: landowners and local government
- To show that environmental protection is valued
- To create new funding for Nature conservation

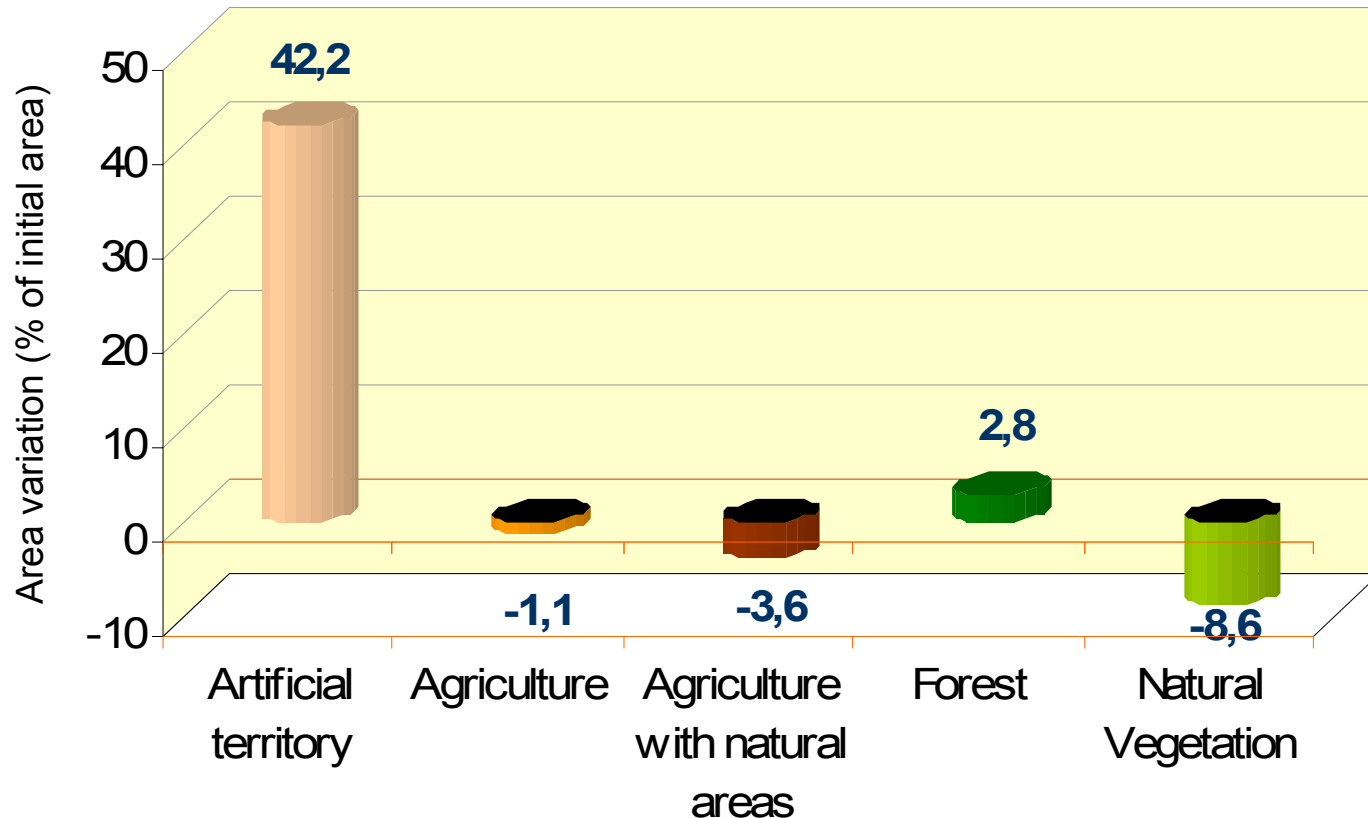








# Land use change in Portugal



Relative variation of each land use class in Portugal between 1985 and 2000  
Source: Corine Land Cover (Caetano *et al*, 2005)



# Local government financing

In Portugal, about 23% of local government revenue is land-related

Environmental criteria account for 0.5%

Two items are relatively easy to change to improve environmental criteria:

- FGM (general municipal fund), representing 12% of municipality revenue
- IMI (real estate tax), representing 6% of municipality revenue



# IMI – the municipal real estate tax

Real estate tax IMI is a local government revenue

- Rustic property IMI revenue < 1% urban property revenue
- Update of urban property registries
  - IMI revenues expected to grow 70% in the next 10 years (463 M€, 2003 prices)
- No planning for updating rustic property registries





# FGM – transfers from State Budget

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## Present criteria of FGM distribution:

- 5% equally distributed by all municipalities
- 65% in proportion to population
- 25% in proportion to total area, weighed according to altimetry
- 5% in proportion to the area within Natura 2000 sites, natural parks and preserves



# EcoTerra model – principles

Good environmental behaviour should be encouraged by economic benefits

- Positive and negative discrimination based on individual behaviour of landowners and local authorities
- Changes in tax and local finance scheme globally neutral to families, companies, State and local government

Areas earmarked for Nature conservation should be regarded as a public service, and valued accordingly

Financing Nature conservation through funds related to permanent damage to Nature

- Nature conservation should not depend on arbitrary budget drafting

Changing existing instruments rather than creating new ones



# EcoTerra model – budget

Present local financing model			EcoTerra model					
Direct IMI revenue	National Funds	Total	Direct IMI revenue	National Funds	Revised Funding			Total
					To municipalities	To land owners	New Nature Fund (FNAT)	
1124	1998	<b>3122</b>	815	1898	136	136	136	<b>3122</b>



# Nature related benefits

**103 €/ha** of agriculture subsidised area,  
per year

**0,6€/ha** of rural property per year (IMI  
revenue)

**25€/ha** per classified area per year (for  
municipalities and landowners)

**73€/ha** per Natura 2000, per year (for  
FNAT)



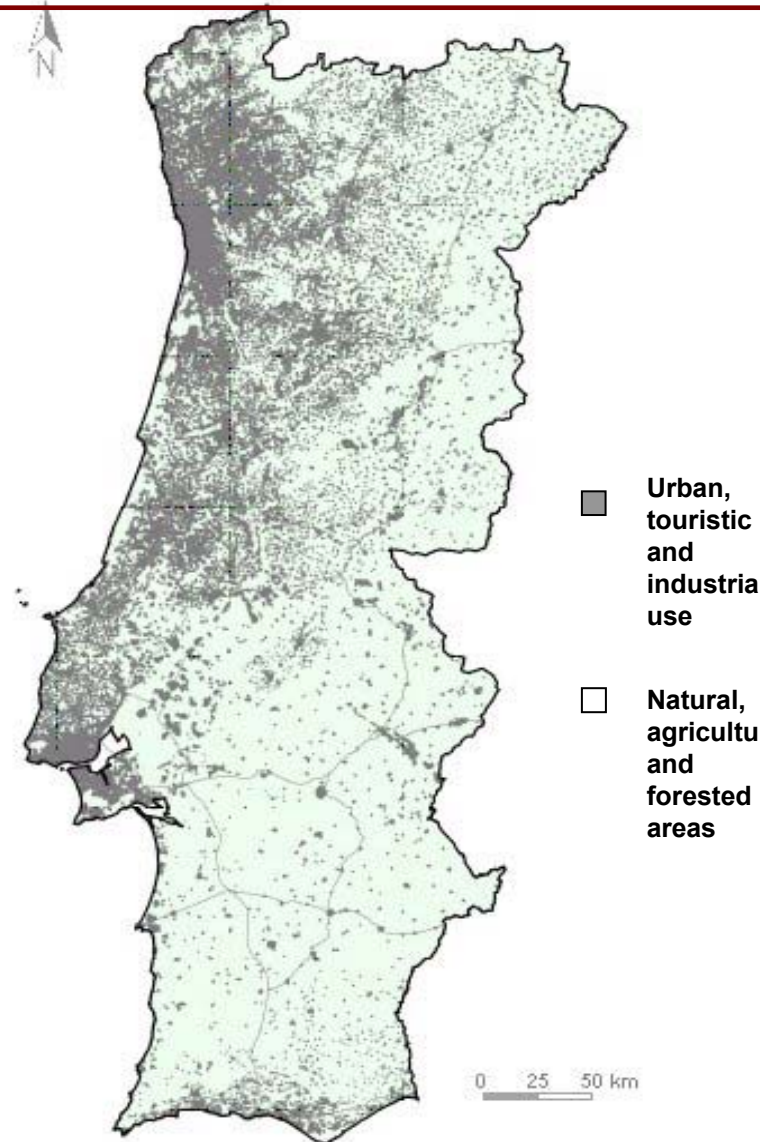
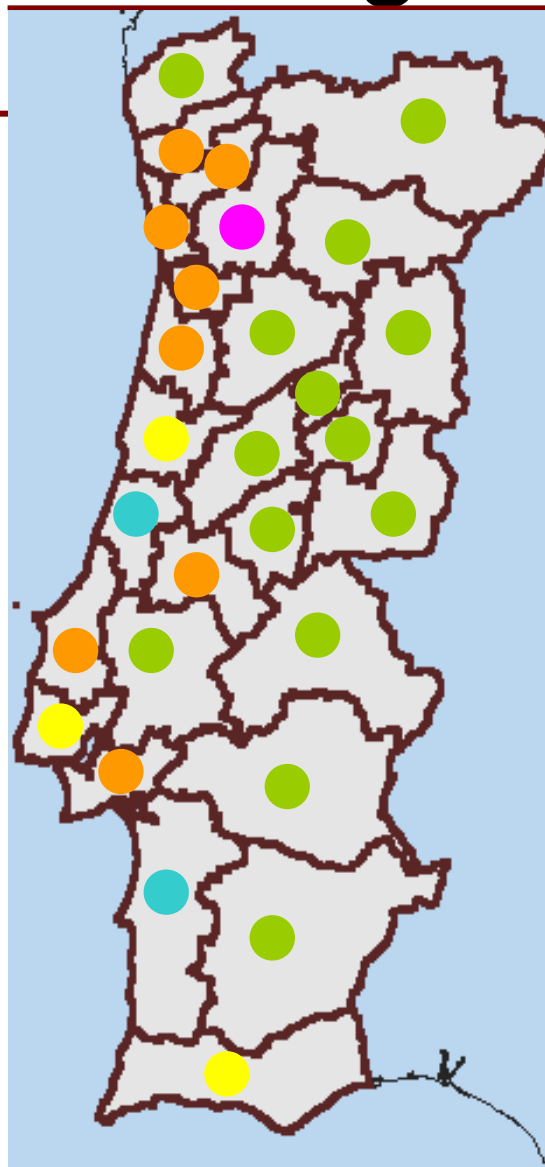
# Impact by sub-region

Sub-regions benefitted by the model:

- Medium/low GDP
- High GDP

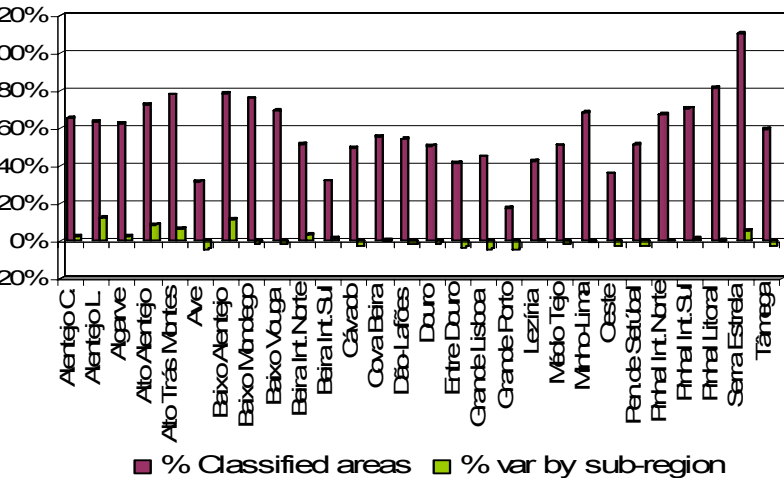
Sub-regions prejudiced by the model:

- High GDP
- Medium GDP
- Low GDP

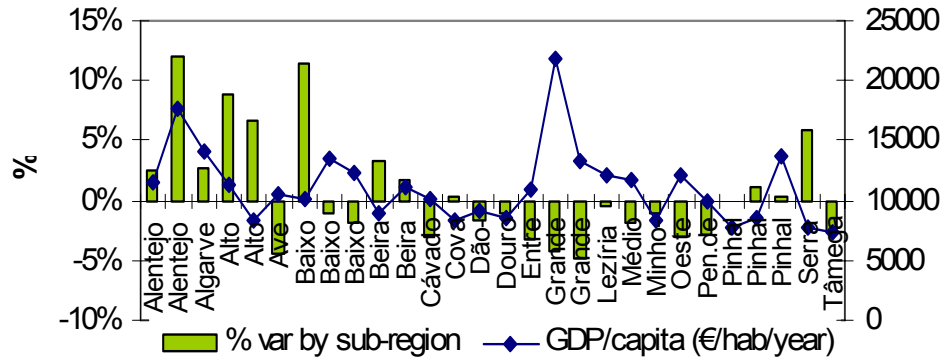


# Impact by sub-region

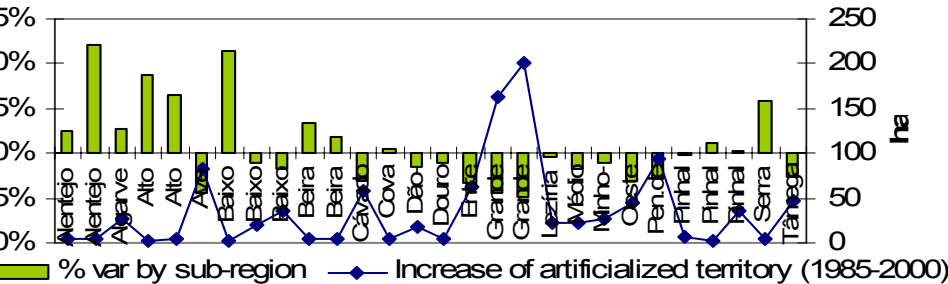
**% Classified areas and % variation between sub-regions**



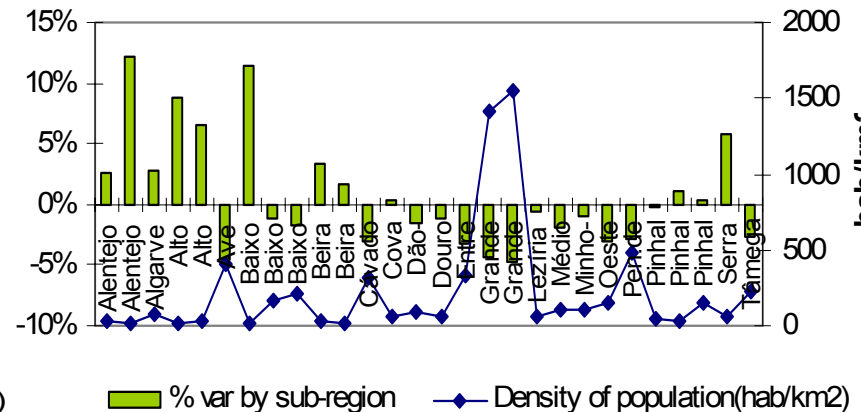
**GDP and and % variation between sub-regions**



**Increase of artificialized areas 1985-2000 and % variation between sub-regions**



**Density of population and % variation by sub-region**



# Results

Almost all sub-regions benefitted by the model are today low-density economically depressed areas, thus the model contributes to local development

- Exceptions: Pinhal Litoral and Alentejo Litoral: concentrated industry and large classified areas

All sub-regions prejudiced by the model are high-density, rapid urban growth areas

- Some highly economically developed: Lisbon, Algarve, Baixo Mondego
- One poorly developed, despite high density: Tâmega (explanation: excepcionally high 2003 IMI)



# EcoTerra model – conclusion

Existing local financing and real estate taxation systems are Nature-damaging

Regulation alone insufficient: let us look at economics

EcoTerra proof of concept:

- tax collection can have policy aims
- nature conservation can be funded by reliable sources based on “environment-consuming” activities

Impacts on regional development: overall very positive

Public opinion should be favourable when informed:  
most stakeholders stand to gain with new model





# EcoTerra –future developments

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Examination of local case studies

GIS prototype to use environmental data as basis for tax collection

Application of the concept of “environmental services” to the valuation of land for tax purposes

Interaction with stakeholders to assess model principles, consequences and feasibility



# Thank you for your attention

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