

Global Brucellosis Control – Issues and Opportunities or.... What's in it for SLU ?

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Objectives of presentation....

- **CGD is a unique *teaching, research & service* resource**
- **Controlling zoonotic diseases *benefits both the University & your Government***

CGD is a unique *teaching*, *research* & *service* resource....

- **Closer links between clinical vet medicine & basic sciences**
- **Research collaboration with social scientists**
- **Veterinary & graduate student teaching both benefit**

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Controlling zoonotic diseases benefits both the University & Swedish Government

- **Student teaching & research**
- **Faculty research**
- **‘Global Public Goods’**

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The case of brucellosis....

- Still around & re-emerging in some countries...
- Successful control in Tajikistan...
- Researchable questions & problems...

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Country Incidence (annual cases per million of human population) Pappas *et al* 2006

Denmark	0.7	
France		0.5
Germany	0.3	
Greece		20.9
Ireland	1.3	
Italy		9.0
Netherlands	0.5	
Norway	0.7	
Portugal		13.9
Russia	4.1	
Spain		15.1
Sweden	0.3	
Switzerland	1.5	
UK	0.3	

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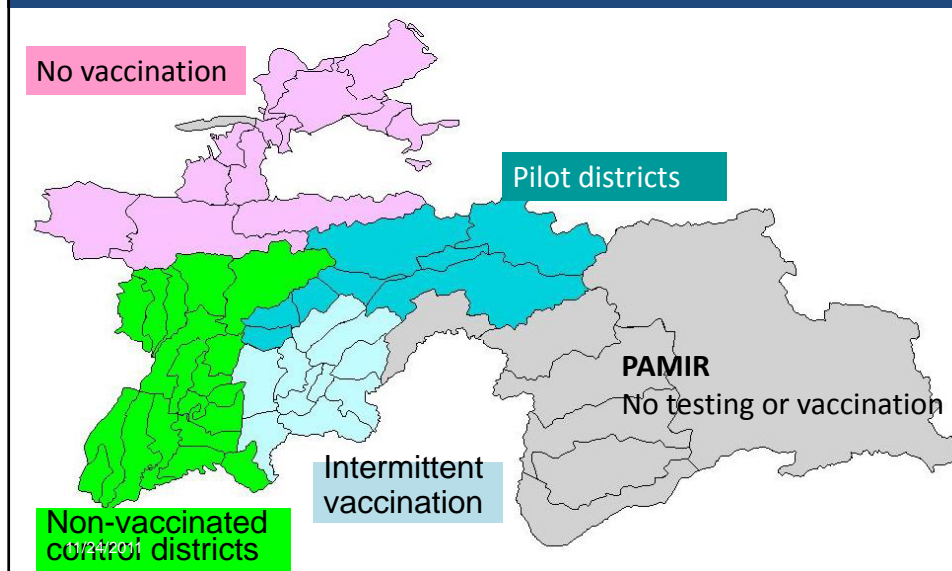
Afghanistan		3.8
China	8	
Iraq	278.4	
Iran	238.6	
Israel	9.2	
Kazakhstan		115.8
Kyrgyzstan		362.2
Mongolia		605.9
Oman	35.6	
Saudi Arabia	214.4	
Syria		1,603.4
Tajikistan		211.9
Uzbekistan		18
Uganda	0.9	
Egypt	2.95	
USA	0.4	

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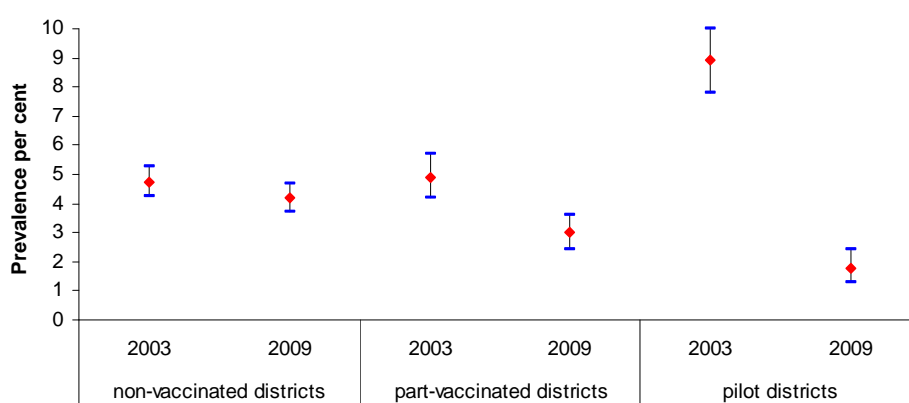
**Successful control in
Tajikistan...**

**And what are some keys to
success ?**

Vaccination status of districts, 2004 to 2009



Seroprevalence changes after 5 years



2003 prevalence – 8.9%

2009 prevalence – 1.7%

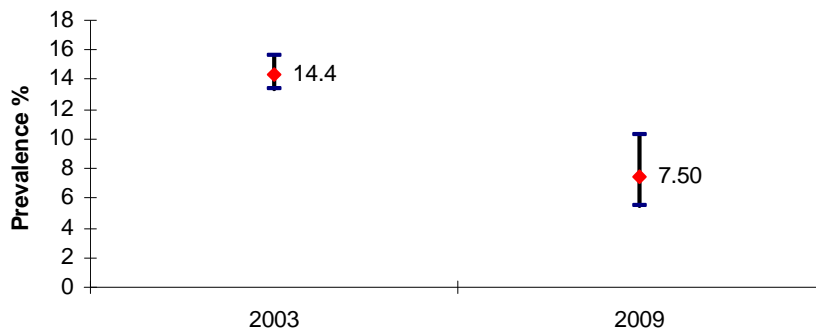
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Households with infected animals in 8 pilot districts

Prevalence of households with seropositive sheep or goats



2003 prevalence – 14.4%

2009 prevalence – 7.5%

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Researchable questions & opportunities for CGD & SLU...

- Clinical + basic research
- Sociological & behavioral research
- All intertwined for best service delivery

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Clinical + basic research...

- Where sheep & goats 1st infected ?
- Is Rev 1 vaccine effective in cattle, yaks, camels or water buffalo ?
- Best vaccine for large ruminants when sheep & goats are infected with *Br. melitensis* ?

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Sociological & behavioral research...

- How communicate brucellosis prevention messages in urban / rural areas ?
- What are ethical ways to deal with test +ve animals in villages ?
- What advice for communities with very high prevalences ?

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So what role can the CGD play...

- **Learn practical, bio-medical skills plus 'how to talk with farmers'**
- **Center of Excellence for field-oriented, bio-medial, animal production & socio-economic research**
- **Communication & management dimensions are researched & tested**

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So what role can the CGD play...

- **Swedish medical community keeps up to date with rare diseases**
- **Advocate for developing countries on OIE committees**

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Questions at this time ?

Final thoughts....

- **Limitations for animal & human disease control are not always the technology but are sometimes the delivery....**
- **CGD is a golden opportunity for SLU & the Swedish Government....**
- **Sweden adds to its already enviable reputation for international development assistance....**

Thank you

**Many thanks also to
colleagues in the institutions
& countries mentioned...**

Acknowledgements

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- Tajikistan Scientific Veterinary Research Institute
- Institute of Plant Physiology and Biophysics of the Academy of Sciences
- Medicin sans Frontiers
- Weybridge Veterinary Laboratories Agency
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Brucellosis in EU countries – 1998 and 1999

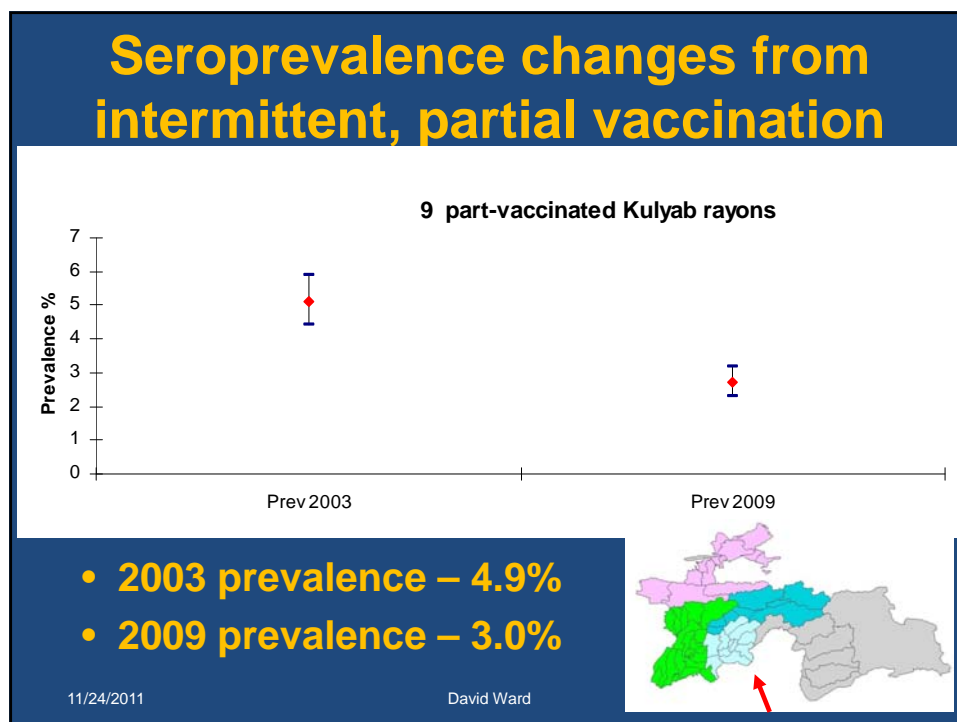
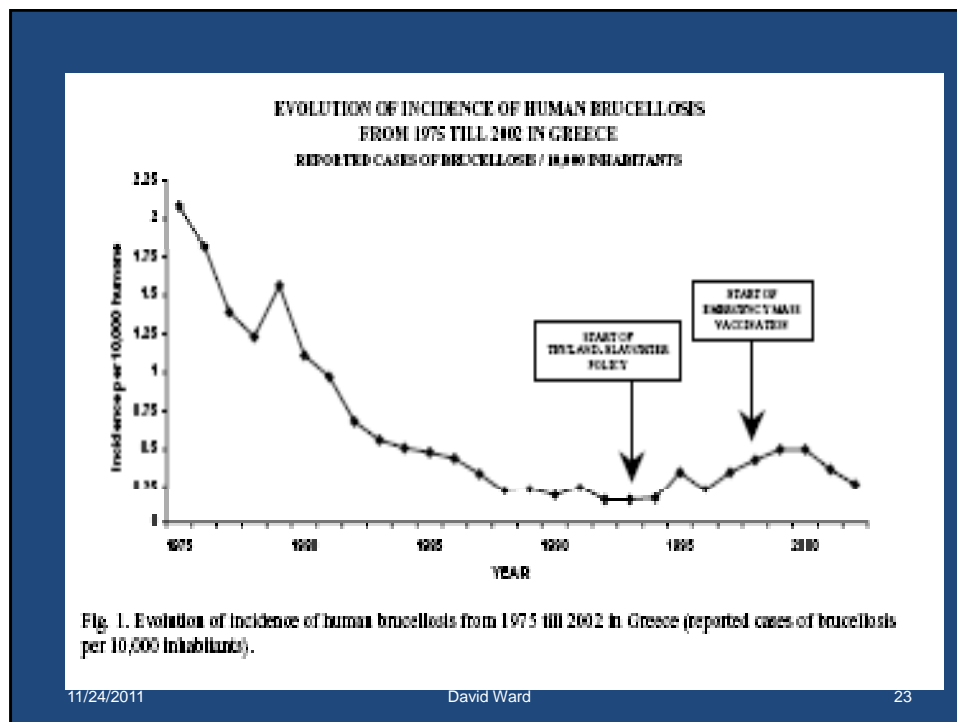
Member States	Herds			Animals		
	% Infected*		Difference	% Infected		Difference
	1998	1999		1998	1999	
Portugal	7.74	5.61	-2.13	2.07	1.70	-0.37
France	0.83	0.36	-0.47	0.05	0.023	-0.027
Greece**	3.35	2.34	-1.01	0.87	0.50	-0.37
Italy	3.21	4.71	+1.50	1.76	3.83	+2.07
Spain	17.59	18.99	+1.40	1.82	1.54	-0.28

* Calculated from investigated holdings / animals

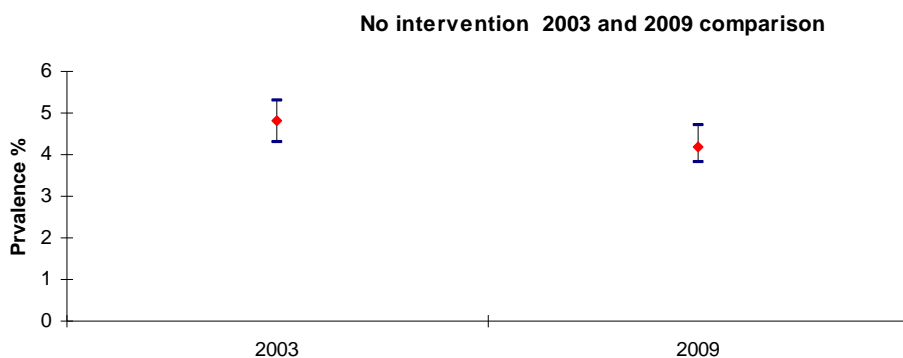
** In Greece in 1998 vaccination in the mainland of the country commenced. The data given in this table only refer to the eradication campaign on the islands (test-and-slaughter policy)

Test & Slaughter – Successes

- **Malta**
 - 50 small goat flocks controlled on farms no mixing of animals whole herd slaughter CF test
- **Cyprus**
 - Large part of island free small flocks on farms no mixing of animals whole herd slaughter strong vet department
- **Balearic Islands**
 - Whole herd slaughter small herds
1992 = 0.6% 1999 = 0%



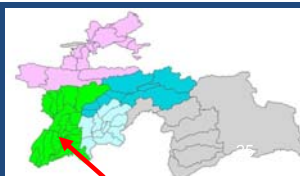
No significant change in districts where there was no vaccination



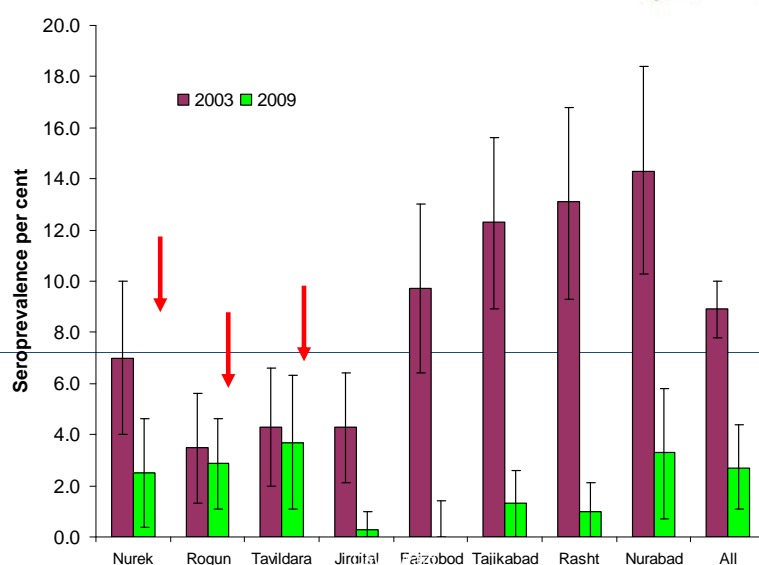
- 2003 prevalence – 4.8%
- 2009 prevalence – 4.2%

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Prevalences changes by district in 8 pilot districts



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