

Animal welfare concerning farming of pigs

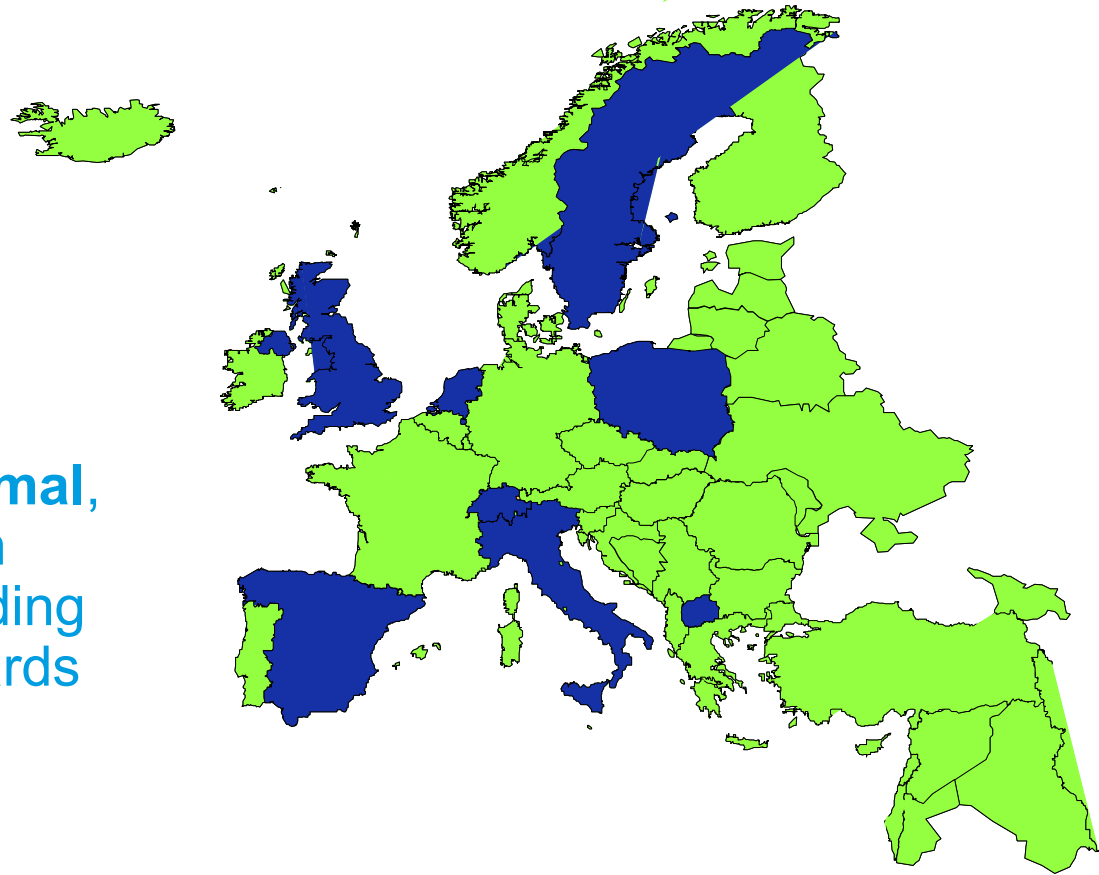
Social economical aspects of animal welfare concerning farming of pigs

P. Ferrari, K. De Roest - CRPA

Pescara - September 30th 2011

EconWelfare

Good **animal welfare**
in a **socio-economic**
context: project to
promote insights on
the impact for the **animal**,
the **production chain**
and **society** of upgrading
animal welfare standards



1.3 million total

1 Aug 2008 – 31 July 2011

ASG (Co-ordinator, NL), CRPA (IT), FIBL (CH), LEI (NL), SGGW (PL), SLU (S), UNEW (UK), UNEX (E) and UKIM (MK)

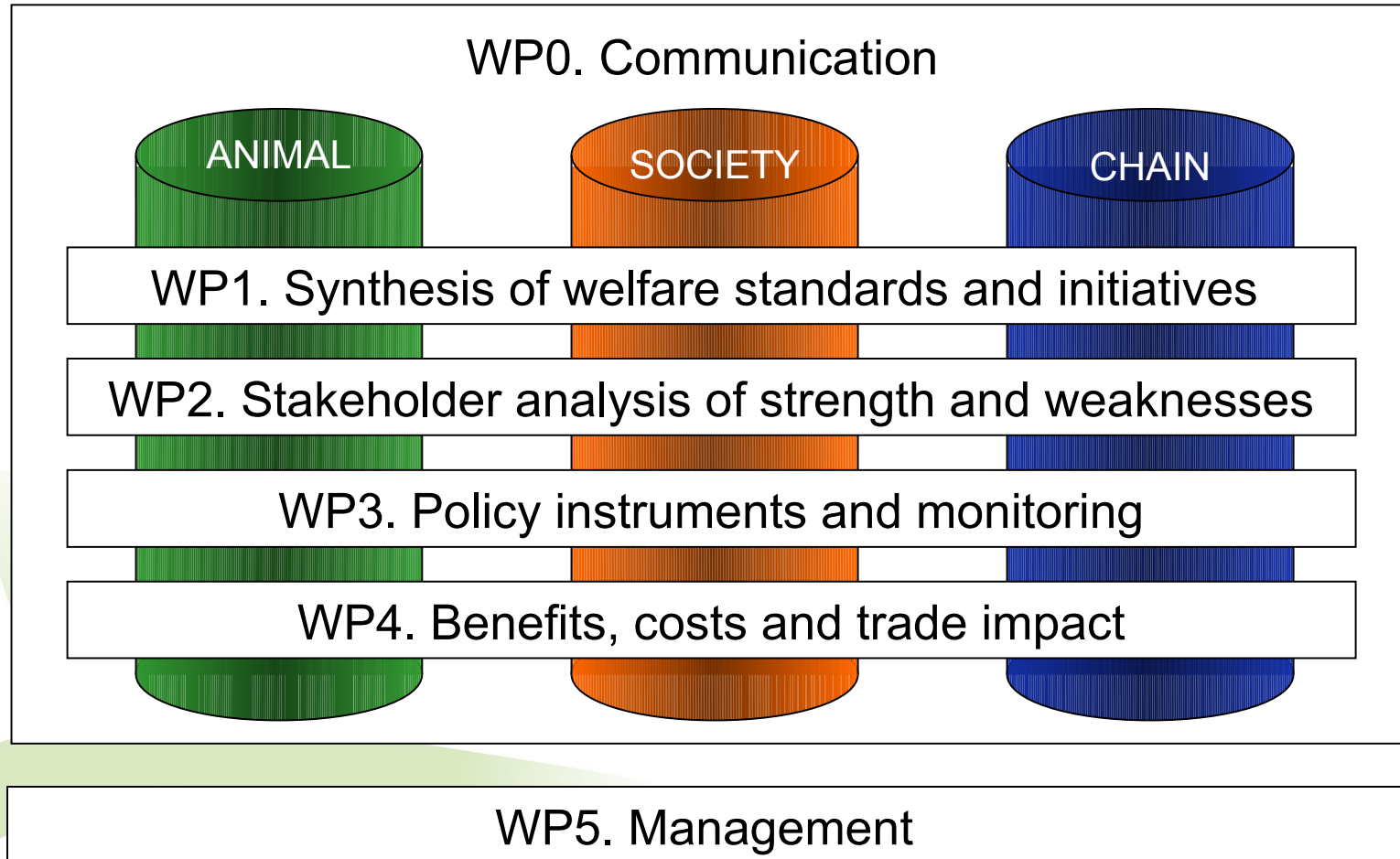
Aims of EconWelfare

Overall aim:

‘What are the policy instruments which are effective in the route towards higher farm animal welfare?’



Structure of the project



WP1 Synthesis of initiatives

Otto Schmid & Rahel Kilchsperger (FiBL)

Collecting initiatives from across Europe

‘Cluster’ these initiatives



WP1 main results: initiatives

Altogether 84 initiatives = 7-14 per country

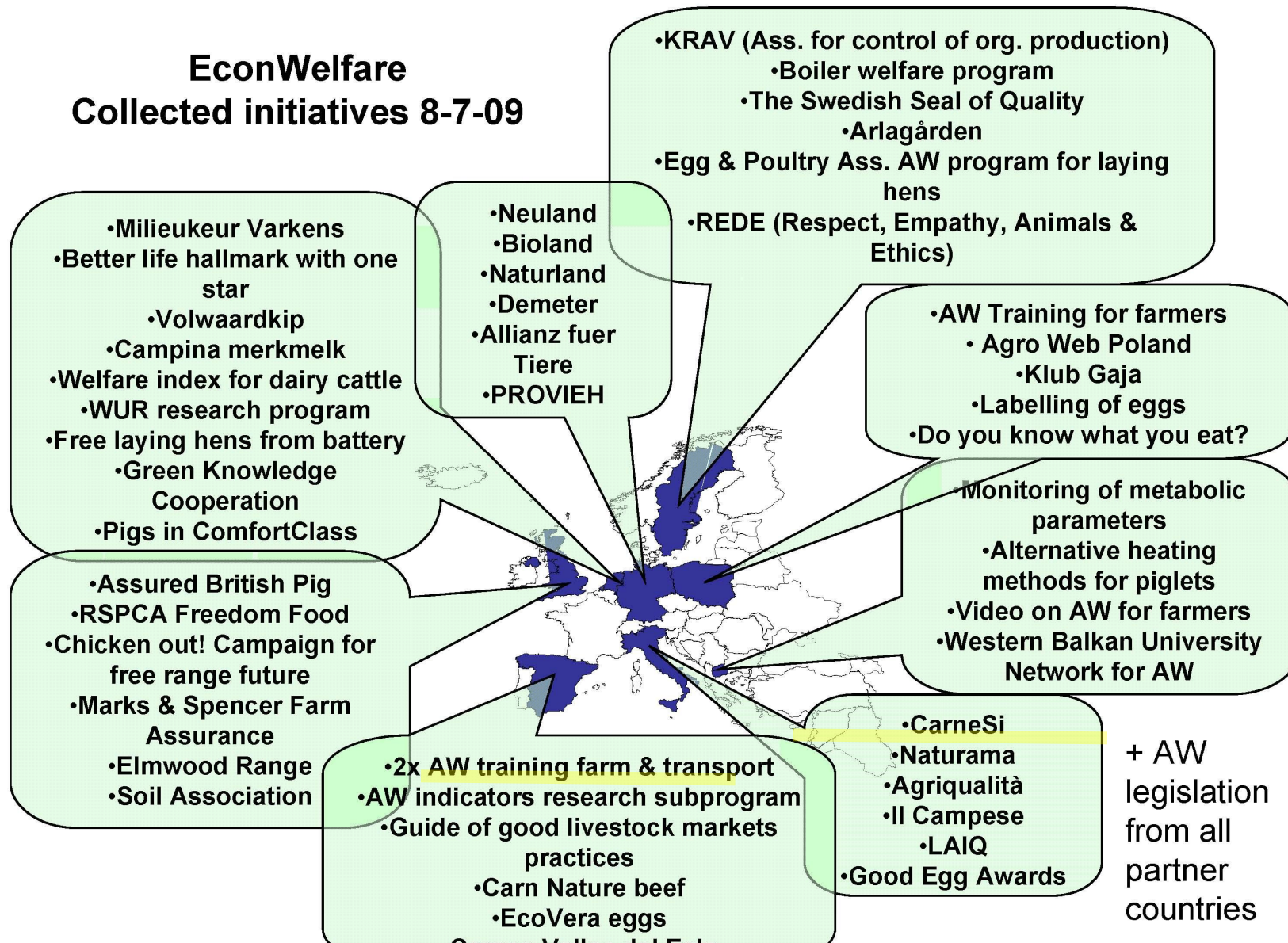
40 regulatory initiatives:

- 7 governmental AW legislation;
- 25 non-organic standards/labelling schemes;
- 8 standards for organic production, including relevant EC organic regulation.

44 non-regulatory initiatives:

- 29 education and information initiatives,
- 5 research initiatives,
- 3 internal quality assurance schemes,
- 2 regional direct payment systems (financial incentive)

EconWelfare Collected initiatives 8-7-09



WP2 Stakeholder consultation

Kees de Roest & Paolo Ferrari (CRPA)

The Animal: scientific literature and European experts consultation

Society: attitudes of consumers, NGO's and retailers

The Chain: farmers, transporters, abattoirs



Outline of presentation

Contents of voluntary animal welfare standards

View of scientists on the standards

The multiple retailers and NGOs opinion

Representatives of the chain actors (farmers, transport companies and industry)

Consumers and citizens attitudes and expectations towards increased levels of animal welfare

Literature analysis of attitude of consumers, multiple retailers and NGOs

Species reports (dairy, beef, veal calves, pigs, poultry)

European stakeholders consultation by means of a seminar

Methodology

Identify (dis)advantages of current levels of animal welfare standards for farm animals

Analysis of scientific literature

Species reports (dairy, beef, veal calves, pigs, poultry)

European Expert Meeting

Favours and drawbacks of increased levels of animal welfare according to the **key actors in the supply chains**

Analysis of literature

National country reports

National chain oriented workshops involving farmers organisations, transport companies and associations, processing industry

Scientific view from Animal perspective



Contents of voluntary standards for sows and piglets

Welfare Quality® PRINCIPLES	Welfare Quality® CRITERIA	Distinguishing aspects of considered welfare standard	Matching of standards with welfare aspects									
			Neuland - DE	Elmwood range - UK	Freedom Food - UK	Milieukeur Varkens - NL	Assured British - UK	EU Organic	Bioland - DE	Naturland - DE	KRAV - SE	Soil Assoc. - UK
Good feeding	Absence of prolonged hunger	Allowance of roughage (dietary fibre for sows and gilts) on farm	s					d	s	s	s	s
		Minimum age at weaning	e					d	s	s	s	s
	Absence of prolonged thirst	Feeding before loading on vehicles for transport	n		n				n			
		Facilities to avoid competition for water on farm (heads/drinking spots)	n		n		n				n	n
Good housing	Comfort around resting	Drinking before loading on vehicles for transport	n		n				n			
		Bedding materials in laying area on farm	n		n	n		n	s	s	e	s
	Thermal comfort	Bedding materials on vehicles			d		d					
		Microclimate control on farm		d	d	d	d		d		d	d
		Lightening on farm (intensity, natural light, photoperiod)	d	d	d	d		d	s	s	s	s
	Ease of movement	Space allowance on farm	d		d			d	s	s	s	s
		Access to outdoor run on farm	n	n		n		n	s	s	e	s
		Race and passageway design for transport and at slaughter			d						d	
Good health	Absence of injuries	Avoidance or limitation of slatted floors	e	d	d			d	s	s	s	s
	Absence of disease	Restricted use of antibiotics	d					d	s	s	s	s
		Breeding (avoidance ipermuscled breeds)	n					n	s	s	s	s
	Absence of pain induced by management procedures	Avoidance of electric prods	d		d		d	d	s	s	s	s
		Avoidance of tooth clipping/grinding	e	d		d		d	e	s	s	e
		Avoidance of castration	e	d	d	d	d	d	s	s	s	e
		Avoidance of tail docking	e	d	d	d		d	e	s	e	e
		Length of journey	d		d				d	d	d	d
		Stunning efficiency	d		d						d	d
Appropriate behaviour	Expression of social behaviour	Avoiding individual housing	d				d	d	s	e	s	s
		Stable groups to avoid aggressive behavior on farm			d	d						
		Separations of unfamiliar groups in transit and before slaughter	d				d			d	d	d
	Expression of other behaviour	Environmental enrichment/manipulable materials on farm	s					d	s	s	e	s

*) n = new aspect not regulated by EC; d = stricter than EC basic legislation for animal welfare; s = same as EC regulations on organic farming (EU Organic); e = even stricter than EC regulations on organic farming (EU Organic).

Most important aspects for sows and piglets on farm

Minimum age at weaning

Early weaning will increase the use of antibiotics to treat diarrhoea

Microclimate control to prevent cold/heat stress

Heat stress control is very important for farrowing and lactating sows in the hot season, particularly in the Southern European Regions.

Avoidance of individual housing

Farrowing crate is a huge welfare gap in the environment of farrowing and lactating sows. In Sweden and Switzerland farrowing pens without crates seem to work whereas in some other countries they do not function. There are commercial farms in the USA, from 100 to 200 sows, operating with loose farrowing systems for years and years. A crucial factor for piglet mortality is maternal behaviour.

Avoidance/limitation of slatted floors

Inadequate flooring as a welfare problem can lead to claw injuries, over-grown claws and pain. Slatted floor should be reduced as much as possible as well as the width of the slots between the slats.

Stable groups to avoid aggressive behaviour

Pregnant sows should be kept in stable groups as much as possible to reduce lesions and stress due to fights and aggression. Furthermore some commercial diets for pregnant sows are not really satisfying the sows' needs because they do not fill their stomach so the sows start to look for more feed and become aggressive.

Environmental enrichment/manipulable materials

Sows and piglets should be allowed to root by providing them enriched pens with manipulable materials. Sows before farrowing should be provided with proper material to let them build the nest, as rooting and nest building is considered to be the natural behaviour of the pigs and they should be allowed to express this behaviour; to this end the housing systems should be designed and equipped to manage such kind of materials.

Contents of voluntary standards for fattening pigs

Welfare Quality® PRINCIPLES	Welfare Quality® CRITERIA	Distinguishing aspects of considered welfare standards	Matching of standards with welfare aspects*								
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Good feeding	Absence of prolonged hunger	Allowance of roughage on farm	n				n	s	s	s	s
		Facilities to avoid competition for feed on farm (trough width/heads)	n		n	n					
		Minimum age at weaning	d				d	s	s	s	s
		Feeding before loading on vehicles for transport	n		n			n			
	Absence of prolonged thirst	Facilities to avoid competition for water on farm (heads/drinking spots)	n		n					n	n
		Drinking before loading on vehicles for transport	n		n			n			
Good housing	Comfort around resting	Bedding materials in laying area on farm	n		n	n	n	s	s	e	s
		Bedding materials on vehicles			d						
	Thermal comfort	Microclimate control on farm			d	d		d		d	d
		Lightening on farm (intensity, natural light, photoperiod)	d	d	d	d	d	s	s	s	s
	Ease of movement	Space allowance on farm	d		d	d	d	s	s	e	s
		Access to outdoor run on farm	n			n	n	s	s	d	s
		Race and passageways design for transport and at slaughter				d				d	
				e	d	d		d	s	s	s
Good health	Absence of injuries	Limitation of slatted floors	e	d	d		d	s	s	s	s
	Absence of disease	Restricted use of antibiotics	e				d	s	s	s	s
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		Avoidance of tooth clipping/grinding	d			d		d			d
		Avoidance of tail docking	d			d		d		d	d
		Avoidance of castration	d	d	d	d					d
		Length of journey	d		d			d	d	d	d
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Most important aspects for fattening pigs

Facilities to avoid competition for feed and water

Efficient drinking and feeding facilities able to avoid pigs' competition for feed and water are very important to limit stress and suffering due to aggressions and fights and to ensure an adequate nutrition to them.

Microclimate control to prevent cold/heat stress

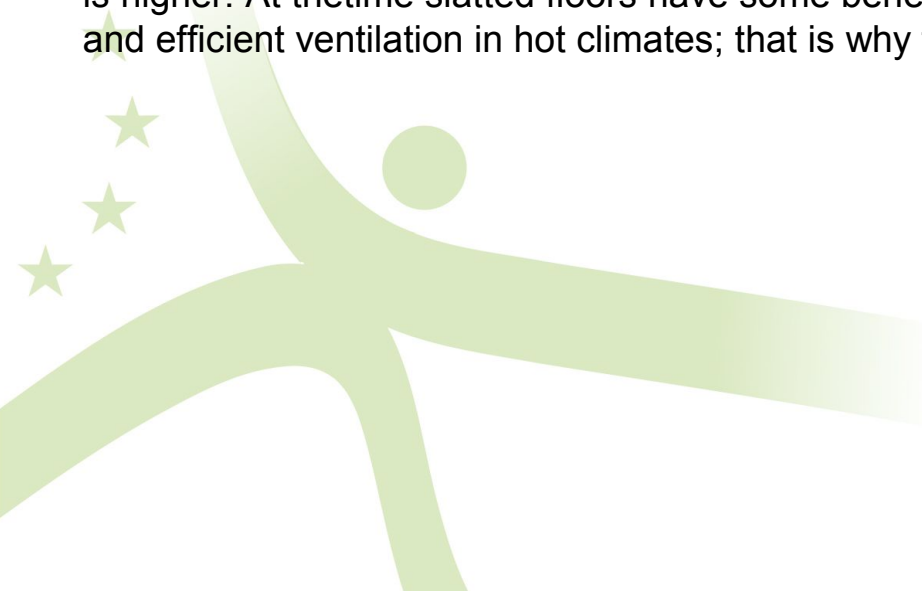
Heat stress control is important in the hot season and in particular in the Southern European Regions.

Space allowance

Space allowance is important, but so is the design and the enrichment of the pens in order to create different clearly identifiable sections of the pen. If you are a pig you want to have access to your laying place, to your feeding space, to your drinking space and to your dunging area.

Limitation of slatted floor

Fully slatted floors lead to a higher risk of lameness than partly solid floors and the prevalence of bursitis is higher. At the time slatted floors have some benefits from the animal point of view in terms of hygiene and efficient ventilation in hot climates; that is why the pens should not be fully slatted floored.



Most important aspects for pigs during transport and before slaughter

Race and passageways design in transport and before slaughter

A good design of runs for pigs is very important to permit stress free movement from the farm to abattoirs, markets and, above all, during loading and unloading; to this end the ramp slope should be limited as much as possible because pigs hesitate to move and get irritated when they have to climb.

Stunning efficiency

Stunning efficiency before killing is a high priority for all farm animals before slaughter; time between stunning and bleeding is also crucial and depends on the stunning methodology.

Separation of unfamiliar groups

As mixing unacquainted pigs during transport and in the abattoir's lairage before slaughter leads to a substantial risk of fighting and injury, a higher welfare may be reached if animals of different groups are not mixed.



Lacking aspects in existing standards

Housing systems allowing freedom of choice

An animal can achieve a positive emotional state when it is allowed to make constructive contribution to cope with life. We should give them an opportunity; a freedom of choice (i.e. a varied environment or a housing system in which the animal is free to choose between different options to satisfy his needs).

Good stockmanship

Good stockmanship is extremely important to guarantee all farm animals from poor welfare. It may be improved not only by mandatory training, which is already in EU legislation for some species, but also through economic and social incentives.

Thermal comfort in transport

Thermal comfort is very important for short and long transport. During the hot season the temperature inside the lorries may rise very quickly when the lorries are halting because of stops or traffic jams. Important is a vehicle design which allows thermal comfort at rest and in motion.



Lacking aspects in existing standards

Maximum waiting time in the lairage of abattoirs

A maximum waiting time in the lairage of abattoirs should be provided for. More and more large abattoirs use to store cattle, sheeps and pigs in the lairage overnight for a too long time (i.e. for 12-24 hours) before slaughter.

Emergency killing

Slaughter is only one case of killing but there are other cases as well by definition. Standards should be improved for euthanasia and emergency killing.

Incentives for transporters and slaughter staff

Transporters and slaughter staff should have economic incentives to improve animal welfare (i.e. according to the percentage of dead animals on arrival at the abattoir and to the stunning efficiency).



Society and Chain partners: Statements used in workshops

Higher levels of animal welfare should be achieved primarily through mandatory EU regulations

Farmers will only go for higher animal welfare if there are sufficient financial incentives

Voluntary animal welfare schemes combined with labelling are the most effective in raising animal welfare

The best way to change consumers' buying behaviour is to educate and inform them about animal welfare

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Higher welfare only through legislation? (1/4)

Current EU legislation for all species can guarantee a sufficient level of animal welfare (Retailers and Chain)

More should be done through legislation (Animal Scientists and NGOs)

Problem: there is a lack of enforcement of current legislation (Ret, NGO, Chain)

Higher welfare only through legislation? (2/4)

NGOs opinion

Market driven initiatives are more effective to increase animal welfare than mandatory legislation which will be almost impossible to enforce:

NGO pressure -> Retailers -> Legislation

Legislation in less AW sensible countries will finally raise animal welfare there too

Higher welfare only through legislation? (3/4)

Chain actors in Netherlands and UK

Minimum equal level is necessary to create level playing field for competition

Enforcement of existing legislation will create sufficient level of animal welfare

Enforcement and control is urgent in order to eliminate intra EU trade market distortion

Higher animal welfare through more legislation endangers EU competitive position on world market

Higher welfare only through legislation? (4/4)

Chain actors in Poland and Italy

Minimum equal level is necessary to create level playing field for competition, **but**

Legislation should be adapted to local geographical conditions (climate, breeds, production systems)

When farmers recognise the advantage of legislation for the productivity of the animals, it will more easily be accepted

Distortion of competition between member states related to animal welfare

Differences between national legislation and EU legislation (Sweden, UK stall and tether ban, Germany and Netherlands with ban on cage eggs)

Differences in enforcement of existing EU legislation between Member States but even within Member States because of differences in local interpretation of legislation

Objectives WP3

Paul Ingenbleek & Victor Immink, LEI, NL

Carmen Hubbard and Guy Garrod Newcastle University, UK

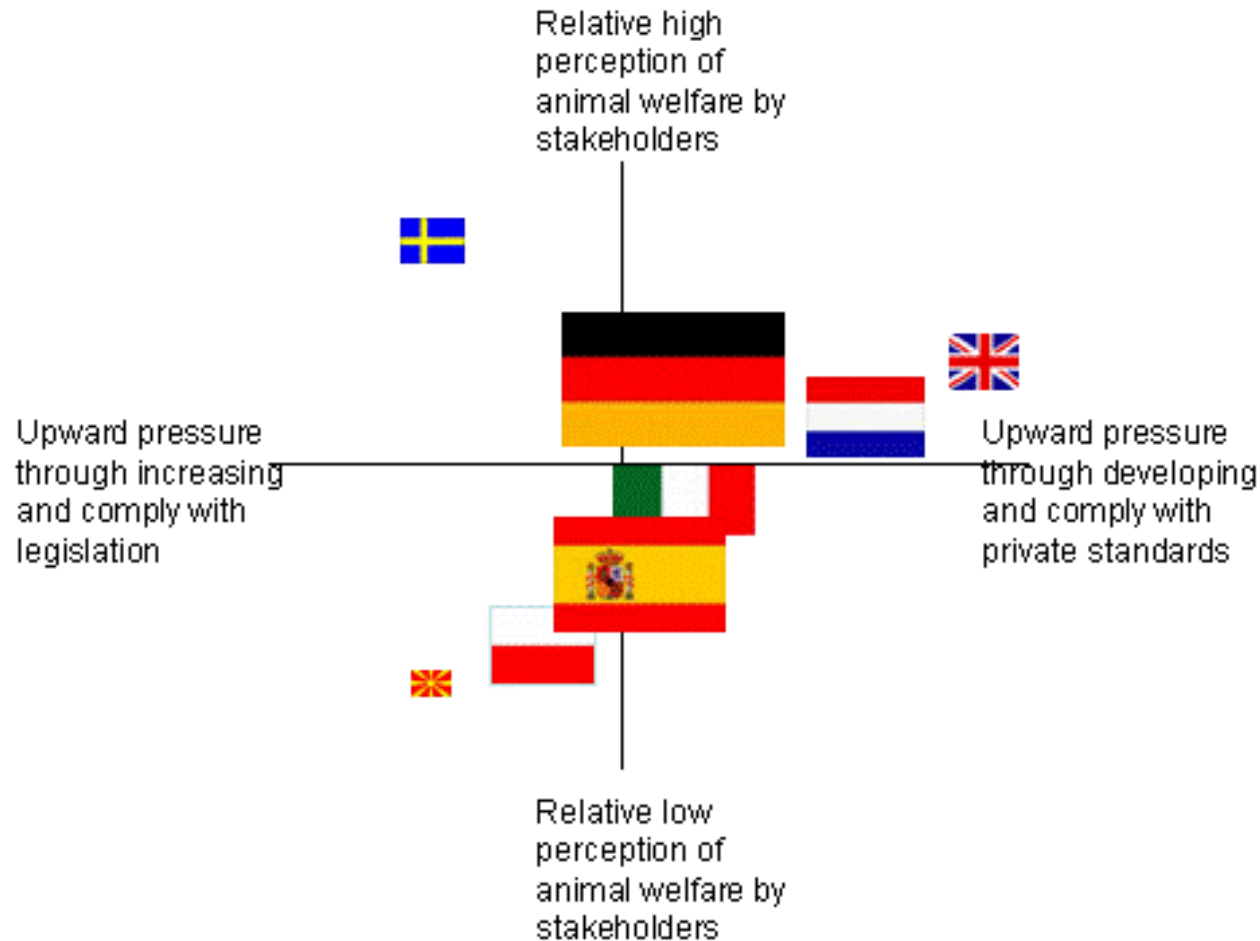
Linda Keeling SLU, SE

To design policy oriented instruments to move from current standards towards the standards aimed at in the Community Action Plan

To design methods to document the effectiveness of policy-oriented instruments



WP3: design of policy instruments



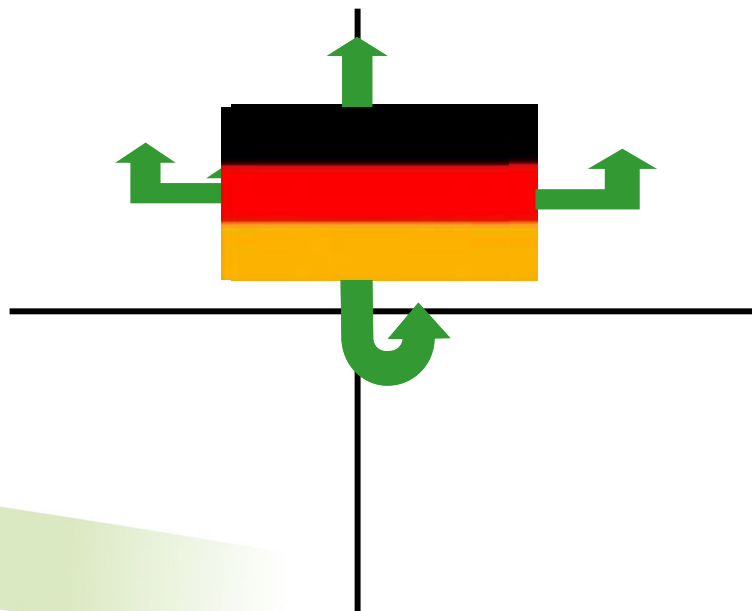
A common welfare goal for Europe ... but via different routes?

Germany as an example

(3) Increasing transparency and accountability of initiatives, while reducing the potential risks that awareness is not further developing among consumers

(1) Already higher than EU legislation: can the market absorb additional AW requirements?

(2) Strengthening development of regional supply chains



Conclusions regarding policy options

There seems to be no single 'European view' of animal welfare, but a collection of 'cultures' with different norms, values and sense of urgency to deal with the issue

Given this, a 'one size fits all' solution to improve the welfare of farm animals across the EU is not realistic.

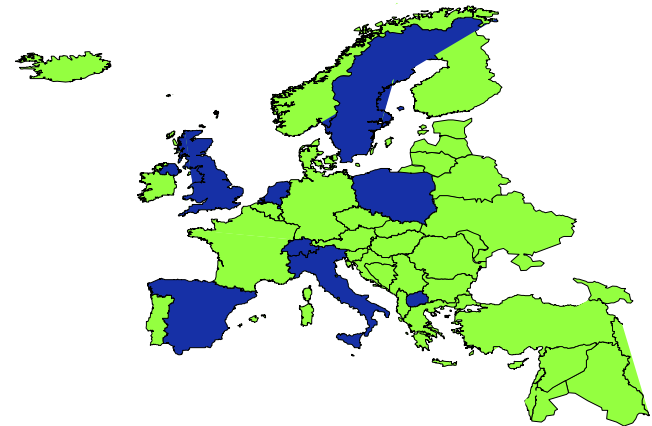
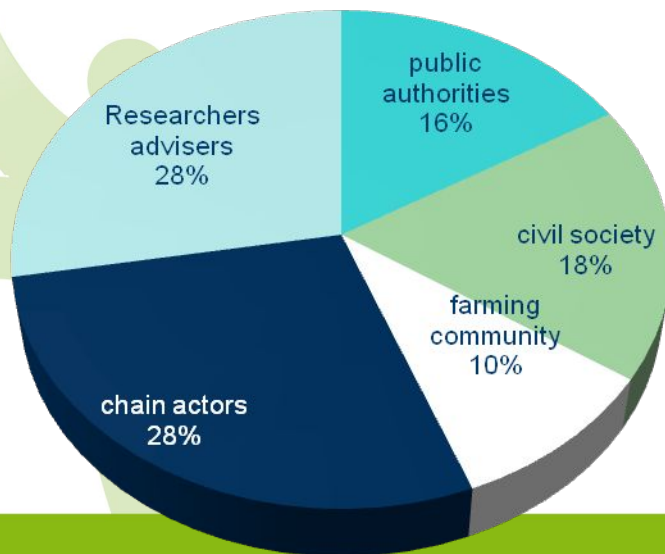


Delphi Approach

To assess the relative importance and effectiveness of policy objectives, policy instruments and indicators.

To identify differences and similarities between countries and experts

Not aimed at building consensus but to explore the diversity of opinions



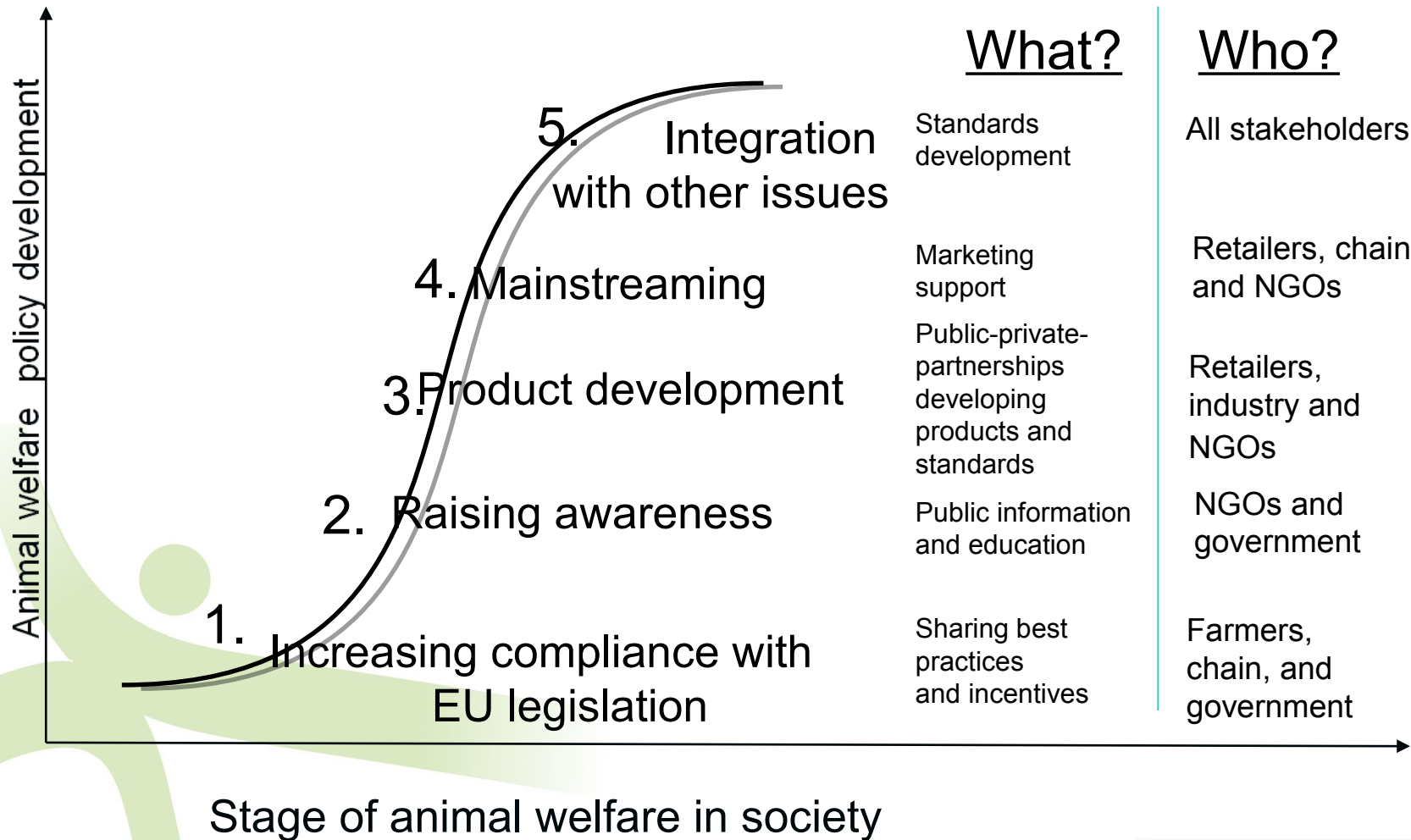
Conclusions

Generally more agreement on the effectiveness of indicators than on the importance of different policy instruments

This is understandable put in the framework of different countries being at different stages of animal welfare policy development.



Life cycle analysis applied to animal welfare policy development



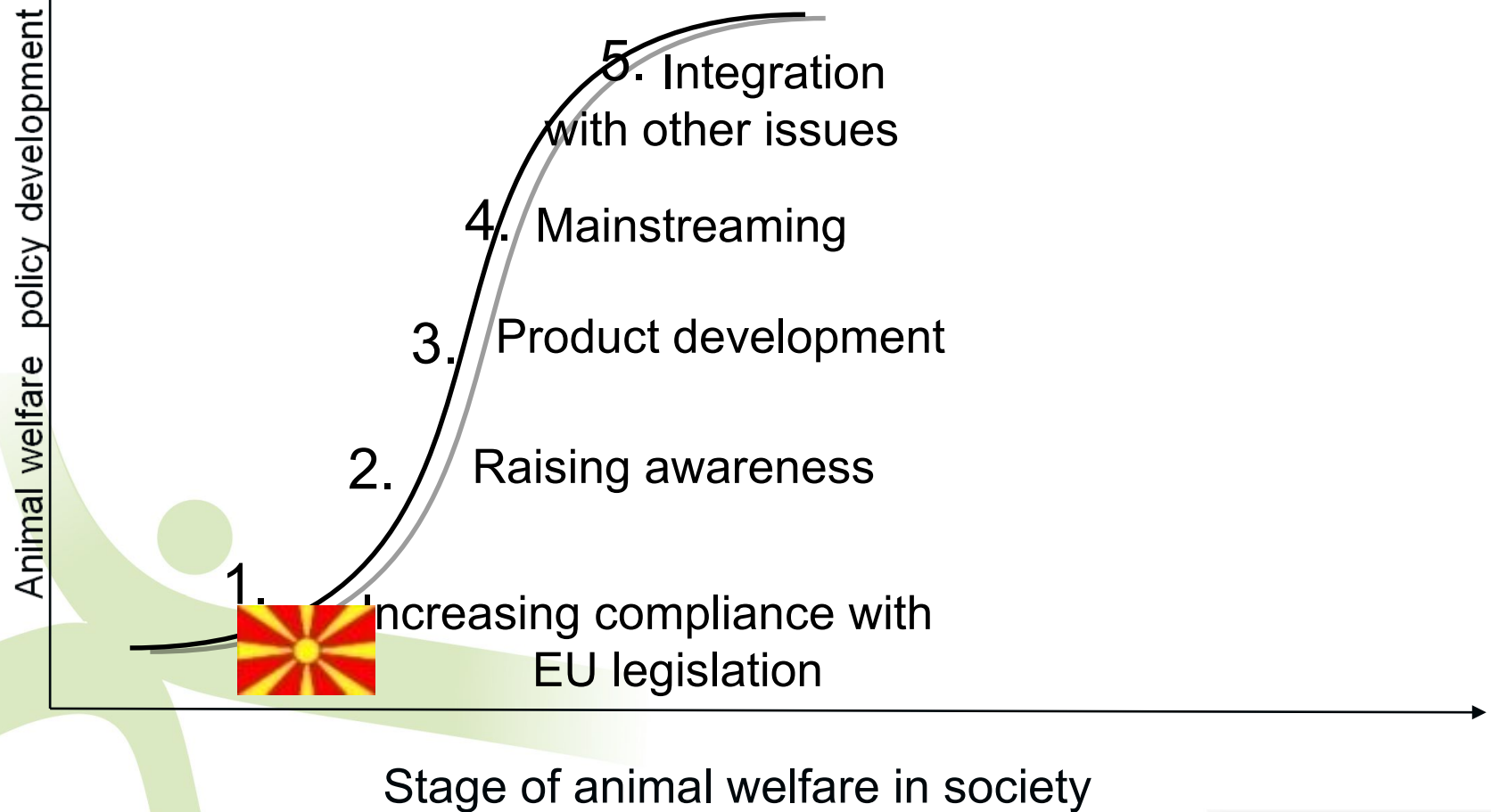
Mapping countries

Where each country is on the Animal Welfare Road to development?

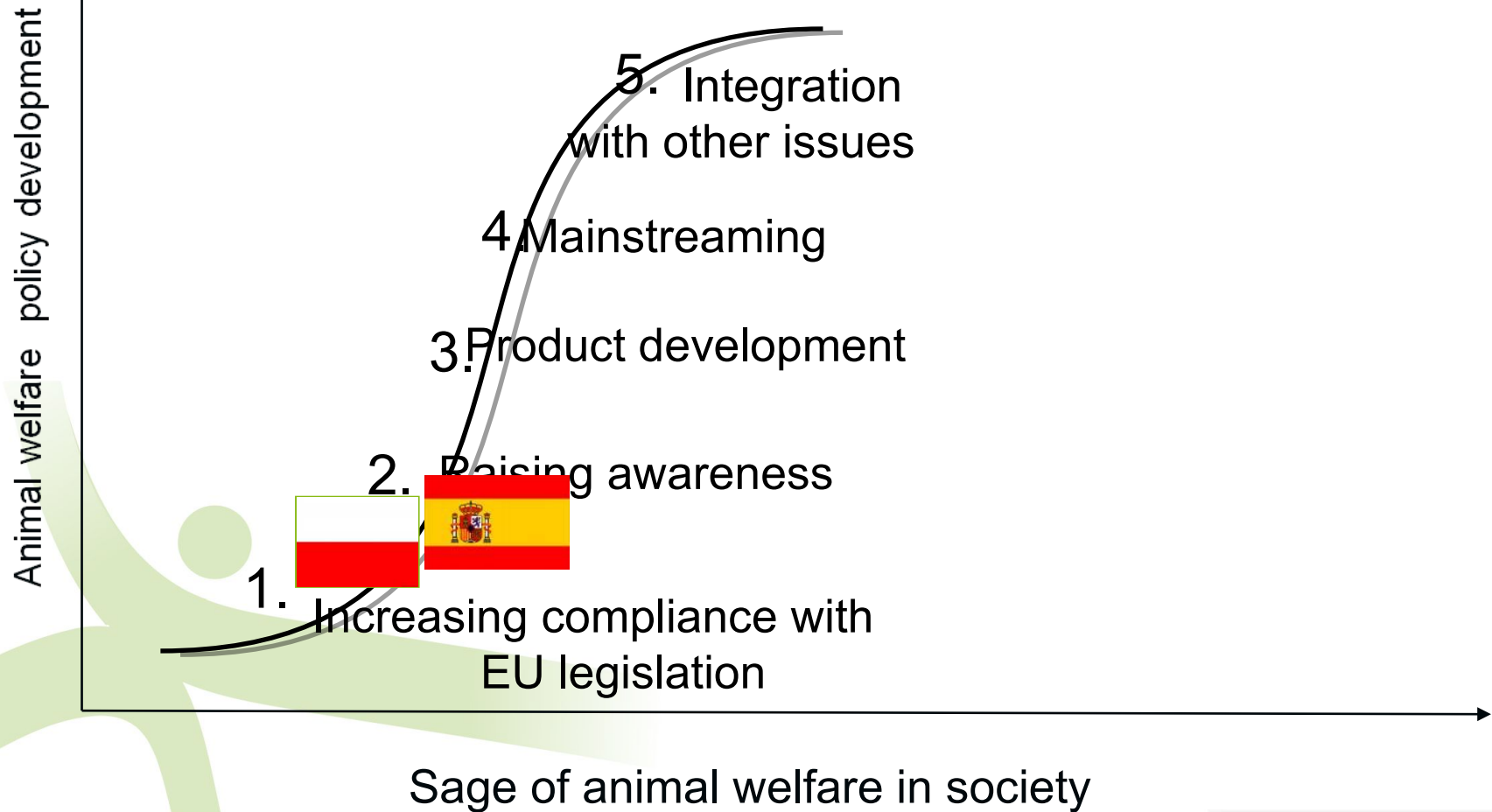
Which instruments are most appropriate for them just now?

Which indicators are most appropriate to monitor their progress?

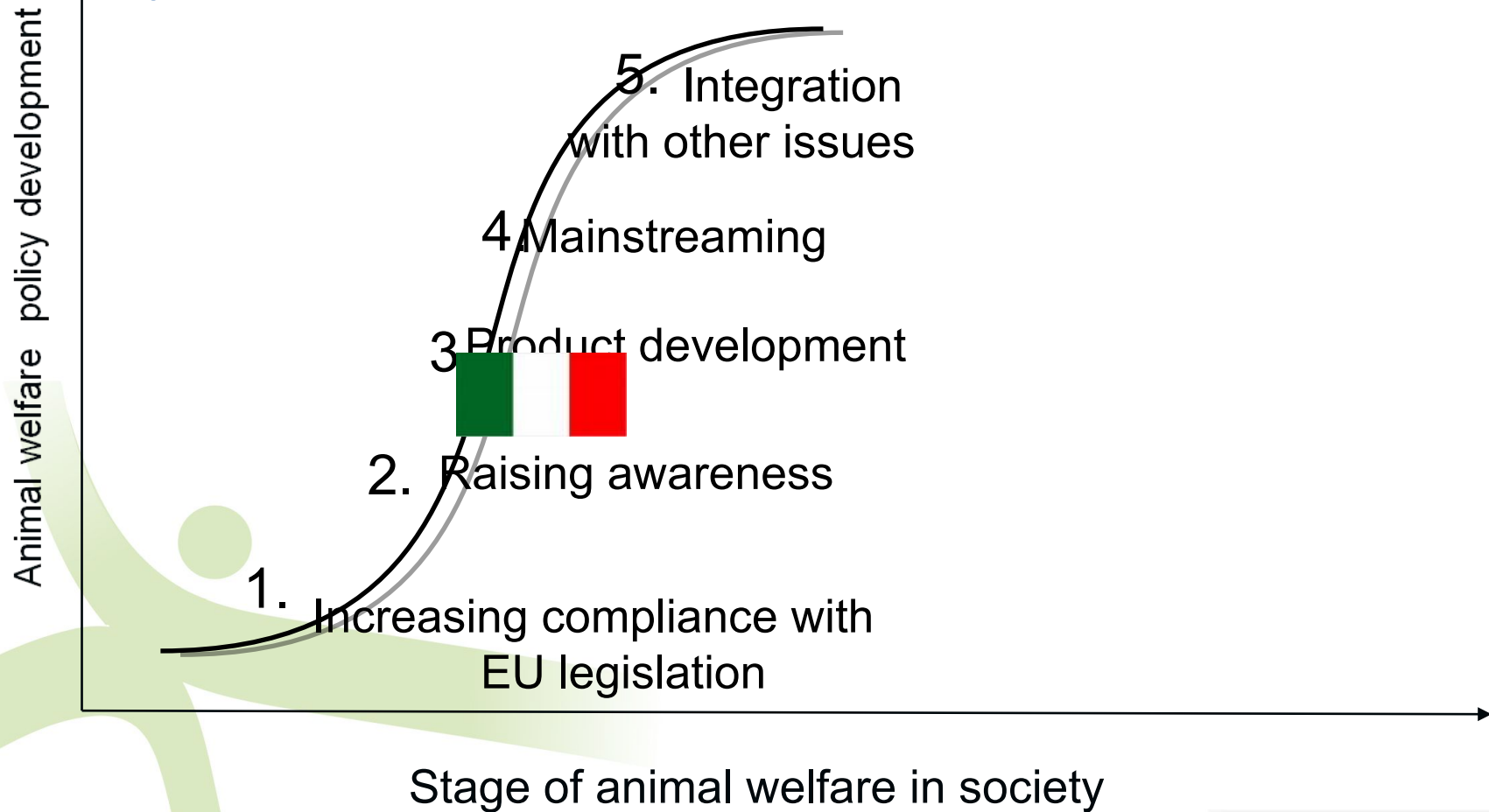
Macedonia



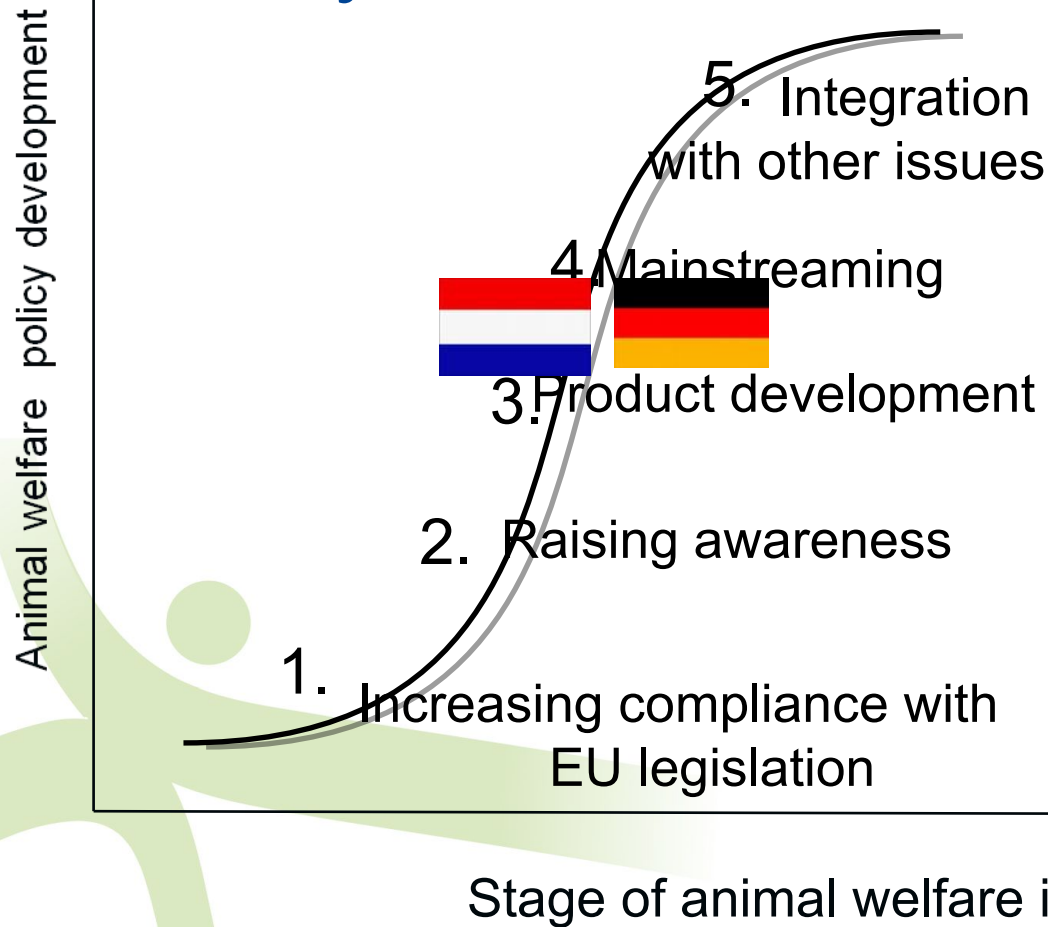
Poland and Spain

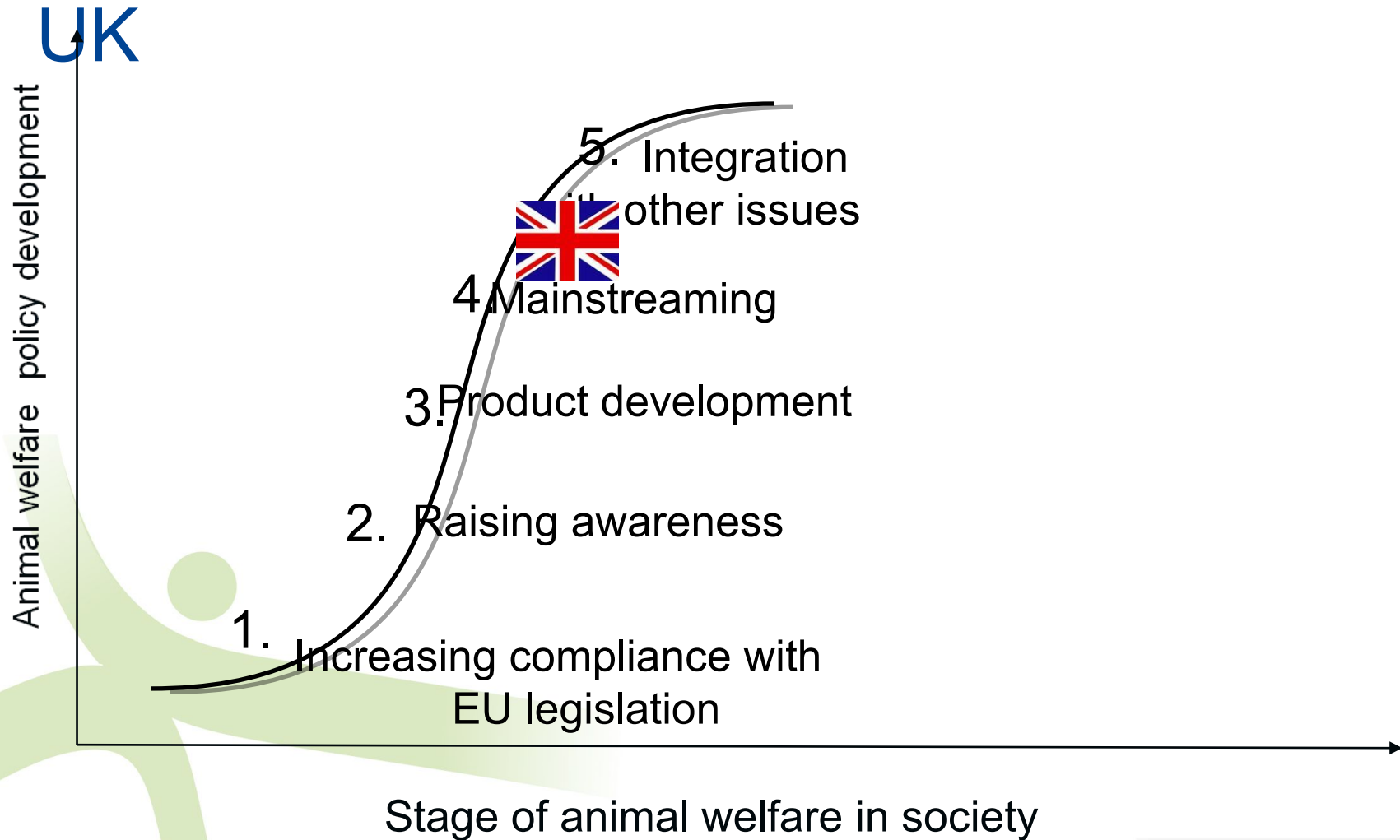


Italy



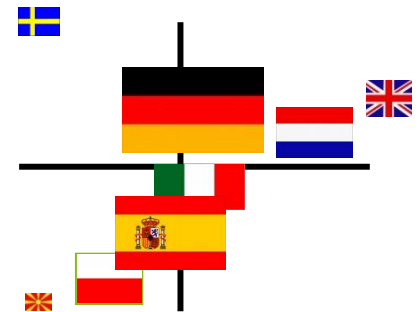
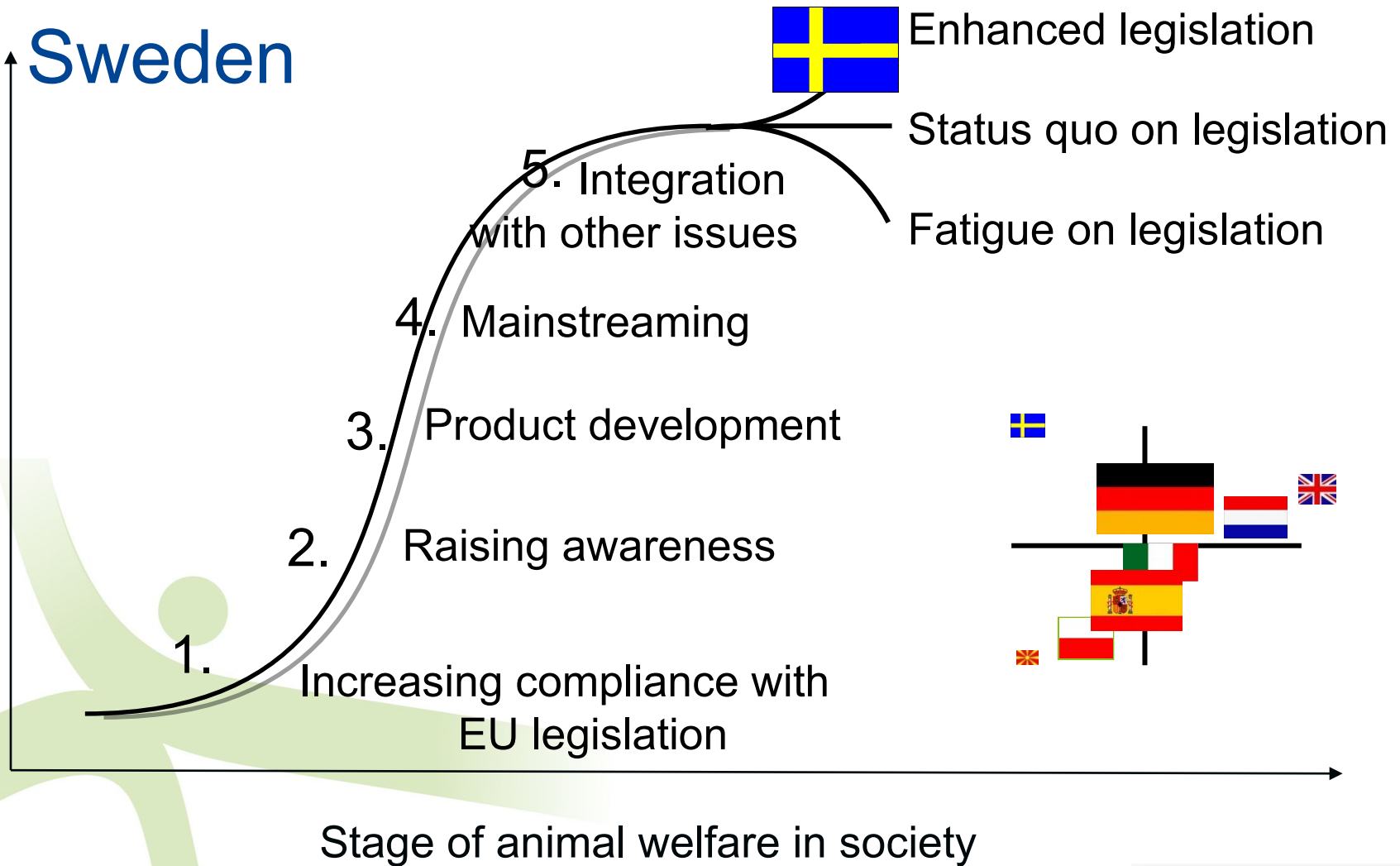
Netherlands and Germany



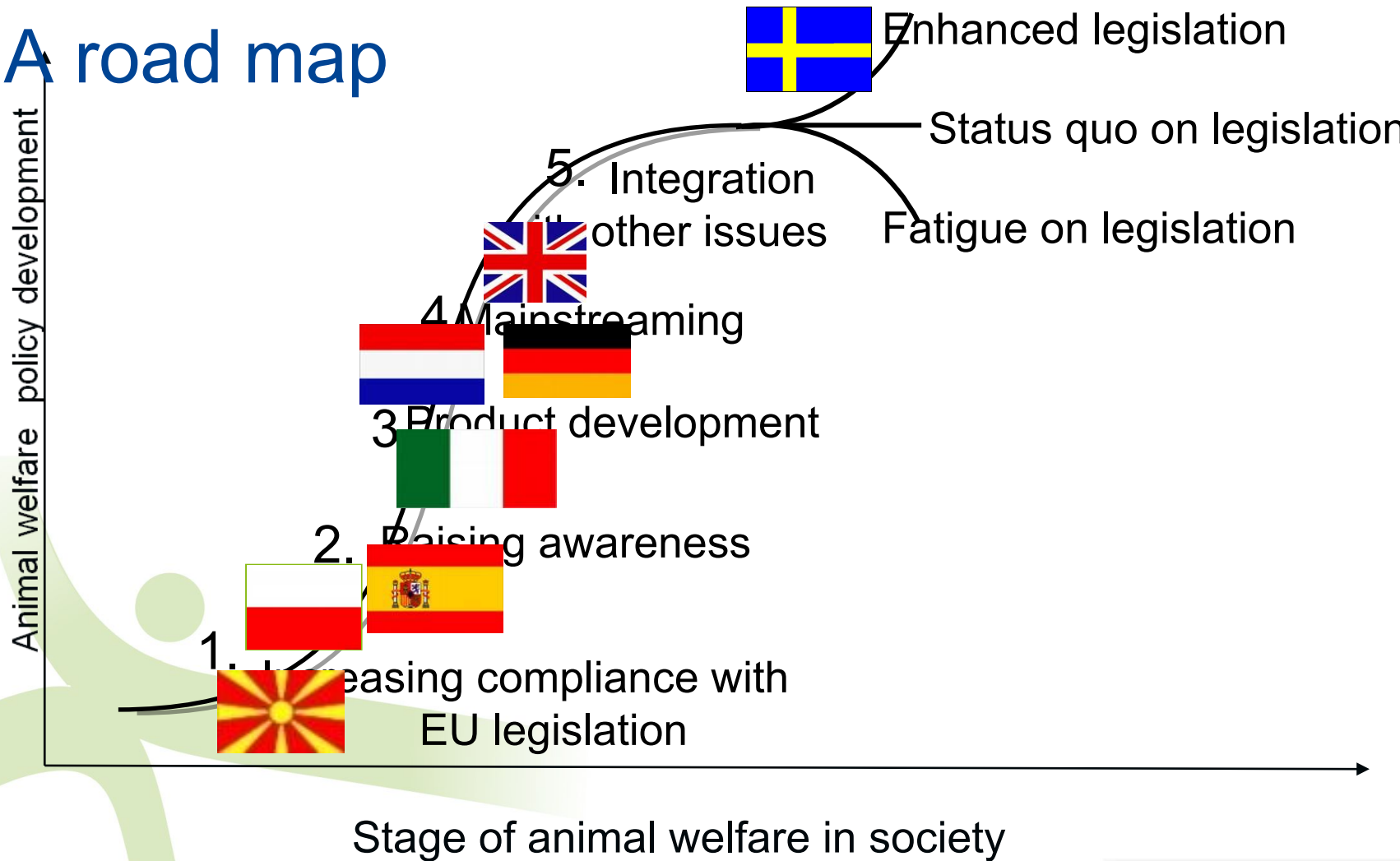


Sweden

Animal welfare policy development



A road map



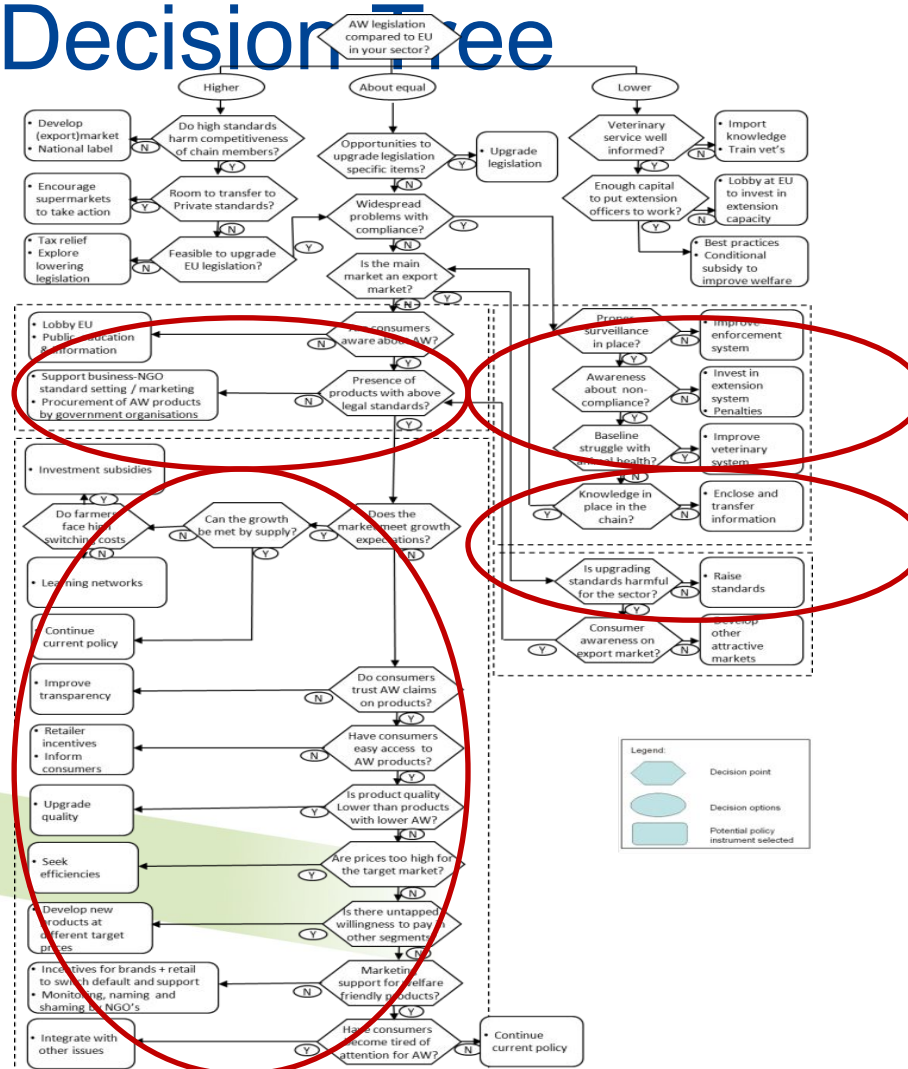
Taking decisions

Developed a decision tree to guide policy makers (from governments, retail, industry, farmers, NGOs) step by step towards the policy instrument that is likely to be most effective for their stage of animal welfare development

Takes current EU legislation as its starting reference point.

If a country contains multiple systems that are relatively different from each other, developing independent policies for these different sectors may be most effective.

Policy Decision Tree



WP3 General Conclusions



There is no one-solution-fits-all policy.

Sectors /countries need to identify their stage of animal welfare policy development and implement the most effective policies to progress to the next stage of development

Chain and/or society indicator(s) can be used to monitor if the selected instrument(s) are being effective.

Animal – based indicators are needed to confirm that policy initiatives are having the desired improvement on animal welfare

WP4 Benefits, costs and trade impact

Edward Majewski (SSGW)

Economic impact at farm level

Quantitative scenarios based on model farms

Impact on the chain

Quantitative and qualitative

Impact on international trade

Qualitative; limited number of scenarios

**IN COLLABORATION WITH EUROPEAN ANIMAL
WELFARE PLATFORM**

European Animal Welfare Platform

Progressing animal welfare
throughout the food chain



Farmer's willingness to implement animal welfare

Competitiveness of farmers

- Animal welfare **additional costs**
- EU standards not enough known by consumers
- **No equivalent standards** in third countries competing with EU producers



EconWelfare – WP4 objectives

To assess/estimate:

implications of introducing upgraded Animal Welfare standards at the farm level;

consequences of imposing upgraded standards through distribution chains;

major impacts upgraded animal welfare standards at the EU-level may have on international trading patterns.



Farm level Cost / Benefit

Analysis
Additional costs and benefits due to upgrading Animal
Welfare standards above EU regulations

„**Econwelfare standard**” = set of norms

Norms = single animal husbandry practices (quantifiable in terms of additional inputs and measurable potential benefits)

Basis for constructing „**Econwelfare standard**” – initiatives analyzed in the project (RSPCA, ...)

Source of parameters for the C/B model – farm surveys and normative data, expert's judgment

Cost/Benefit Analysis - a process

Two types of standards:

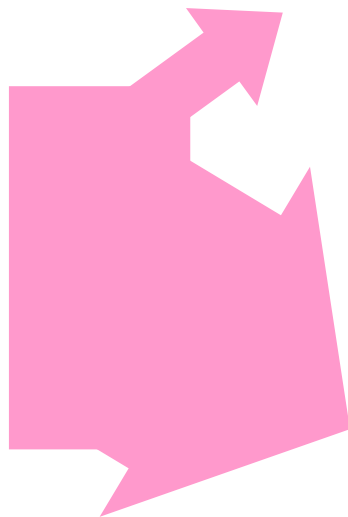
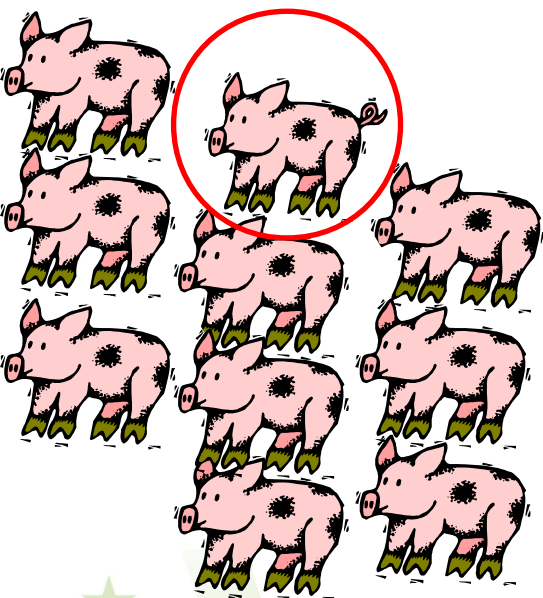
- „**moderate**” (applicable for large scale, intensive production systems)
- „**premium**” (more restrictive, higher level of AW requirements)

Key assumptions:

Potential benefits (eg. less feed, better yield, lower vet costs);

Estimated % of population of animals that complies with Ecnwelfare AW standard

Methodology of calculation



**% of population that meets requirements
(eg. 10%) – no changes**

% of population that does not meet requirements – imposed upgraded standards will have an effect - costs/benefits (90%)

	Upgraded Standard MODERATE	Upgraded Standard PREMIUM	EU standard
Pigs	Allowance of roughage in the diet [straw]	Allowance of roughage [fodder-silage,..]	Not regulated
Dairy cows	Limitation of slatted floors [50%]	Slatted floors not allowed	Not regulated
Laying hens	Space allowance (enriched cages) – 860 cm²/hen	Space allowance (non-cage system) – 7 hens/m²	650 cm ² /hen (750 in 2012) or 9 hens/m ²
Broilers	Space allowance (bedding system): 30 kg/m²	Space allowance: 25 kg/m²	39 kg/m ² in 2010, 33 kg/m ² in 2012

C/B Farm level analysis – aggregation of results to the country scale

Assumptions:

% of livestock in up-graded „Moderate” and „Premium”
standards (basically 80/20);

No investments in new stands for animals;

No changes of prices of livestock and animal products

Farm level Cost and Benefit – results

Key messages:

Improving Animal Welfare up to the EconWelfare standards „costs the money”



Additional costs of upgrading differ between species and countries

C/B of upgrading AW standards for PIGS

Net costs increase (benefits – additional costs)

	PL	NL	SE	UK	SP	DE	MK	IT
Direct costs - PIG SECTOR (mln €)	300	572	117	114	1575	2283	6	404
Net direct cost increase €/kg Lw	0,16	0,35	0,34	0,12	0,37	0,35	0,13	0,22
Increase of LW price to compensate cost (%)	16%	28%	21%	10%	29%	34%	13%	18%
Ratio: total costs after upgrade/ 2010 costs	1,20	1,40	1,24	1,14	1,34	1,40	1,17	1,22

Direct costs/benefits from introducing upgraded AW standards - fattening pigs

Country	Moderate			Premium		
	Benefits €	Costs €	NET Cost €/kg	Benefit s €	Costs €	NET Cost €/kg
PL	3,56	7,84	0,04	8,72	29,80	0,20
NL	4,72	37,51	0,28	9,20	90,77	0,70
SE	4,05	11,01	0,06	12,84	76,93	0,56
UK	0,78	8,83	0,08	8,03	31,04	0,23
SP	2,78	32,64	0,28	9,80	67,69	0,55
DE	10,56	28,70	0,15	19,76	78,78	0,50
MK	3,99	5,59	0,02	8,89	26,29	0,17
IT	6,18	24,83	0,12	13,32	49,60	0,23

CONCLUSIONS

The most affected – PIGS, HENS, BROILERS

- poultry - mainly due to density reductions;
- pigs – roughage in the diet, avoidance of slatted floor, space allowance and outdoor

COWS, BEEF CATTLE – not significant changes

Net costs the lowest in the UK and Sweden (except beef cattle)