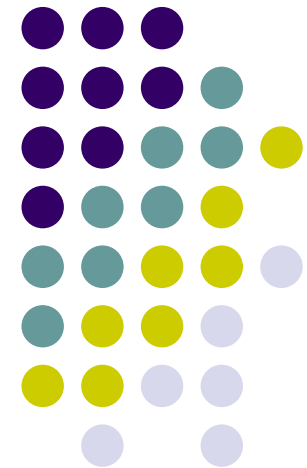
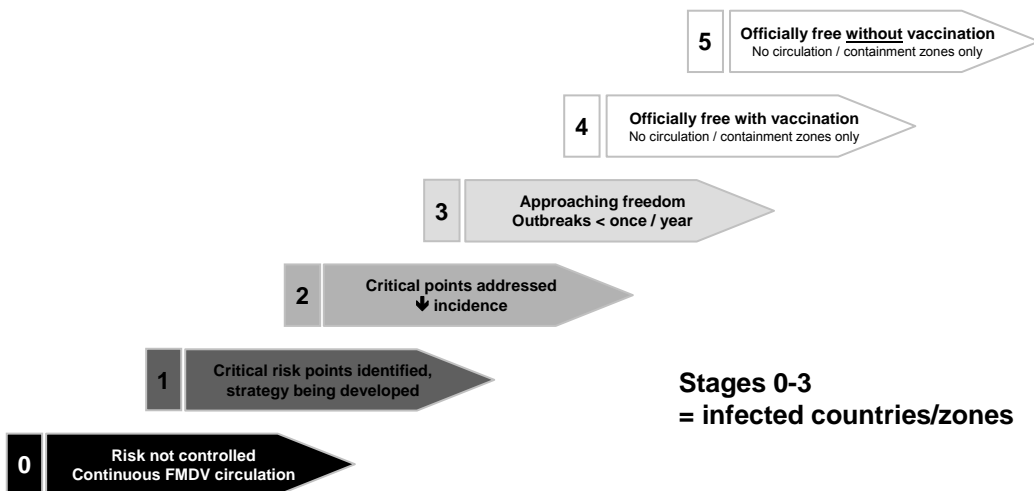


Progressive Control Pathway (PCP) and Regional Roadmaps : -  
towards a common framework for long term action against  
FMD at national and regional levels  
*focus on Eurasia and Africa*  
Presentation [\[1\]](#) to the OIE/FAO Global Conference on FMD,  
Asuncion, Paraguay

Sumption K (1) , Lubroth J (2) , Ferrari G (2), Potszch C (1) , Domenech J (2)  
(1) European Commission for the Control of Foot-and-Mouth Disease (EuFMD), FAO, Rome, Italy, (2) EMPRES Animal Health, AGAH, FAO, Rome, Italy

[\[1\]](#) Prepared by:



# Structure

- Regional Roadmaps – why?
- National actions –why a Progressive Control Pathway approach?





## Vision - 2020

*What do we hope for at this OIE/FAO Global FMD conference?  
(Paraguay, June 2009)*

- adoption and application of the PCP approach from 2009
- resolution to have Regional Roadmaps covering all 7 major endemic regions:
  - in place and active from 2010
- global monitoring - ANNUAL published progress monitoring (OIE/FAO)

*Outcomes:*

- reduced incidence in every Roadmap country reaching stage 2
- most endemic countries in stage 2 or above by 2020
- safer trade from an increased number of countries

## Global Control through Regional Roadmaps for each of the seven virus pools



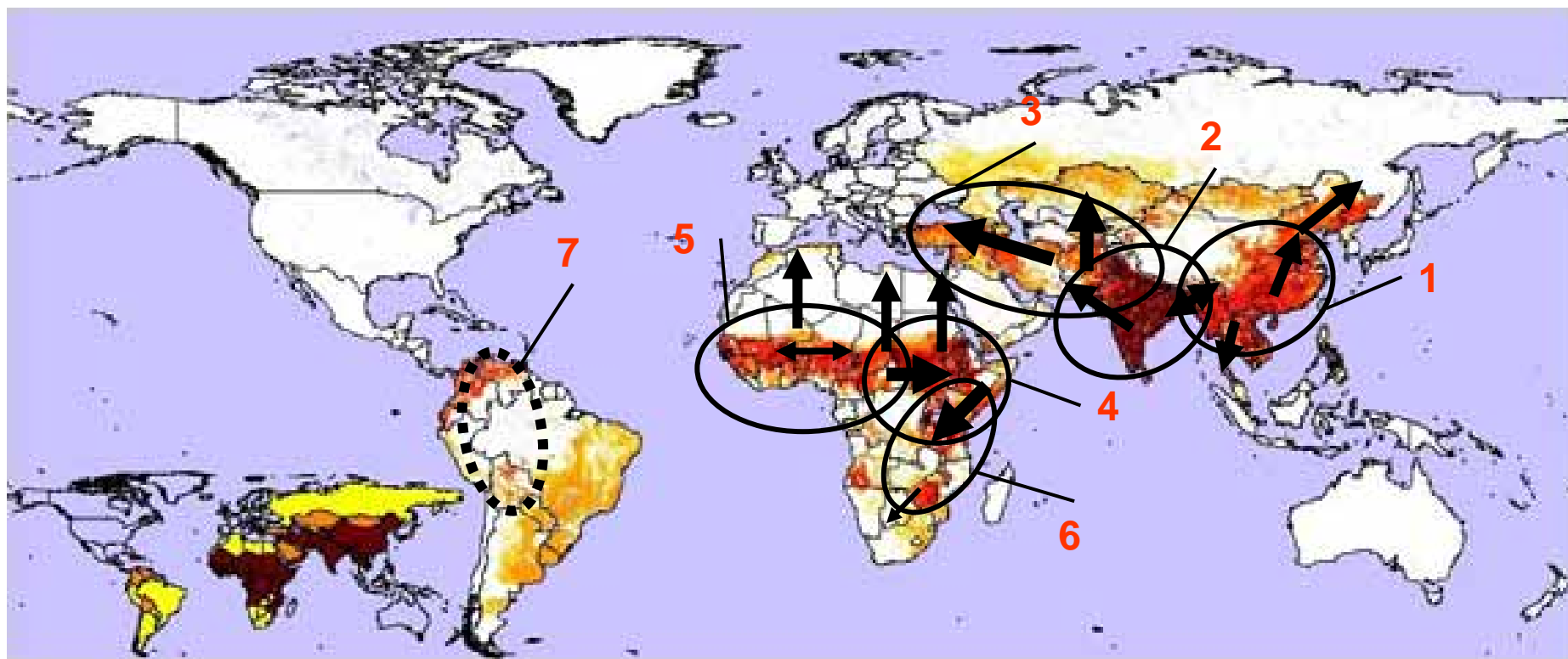
- a recommendation of the Open Session of the EuFMD research group held in Erice, Sicily, October 2008
- 7 virus pools recognised by the OIE/FAO FMD lab network
  - differ in FMDV antigenic types/required vaccines, risk factors and control capacities, requires tailored approach
- FAO follow-up has been to develop the PCP approach – first applied at the Shiraz Regional Workshop in November 08



*The seven major virus pools; basis for action against the regional virus types*

Continual virus circulation and evolution within regional pools

Epidemic jumps between pools and to free regions (arrows)





# Why Regional Roadmaps?

- Regions have
  - common risk features
    - different FMDV variants – vaccines must be selected for regional strains
    - flourishing intra-regional animal movement patterns
    - porous landborders – informal trade
  - high intra-regional differences in capacity to control movements/FMD
  - one or more economic or political integration organisations
  - regional animal health mechanisms –
    - GfTADS Steering Committees
    - OIE/FAO Regional Animal Health centres, etc



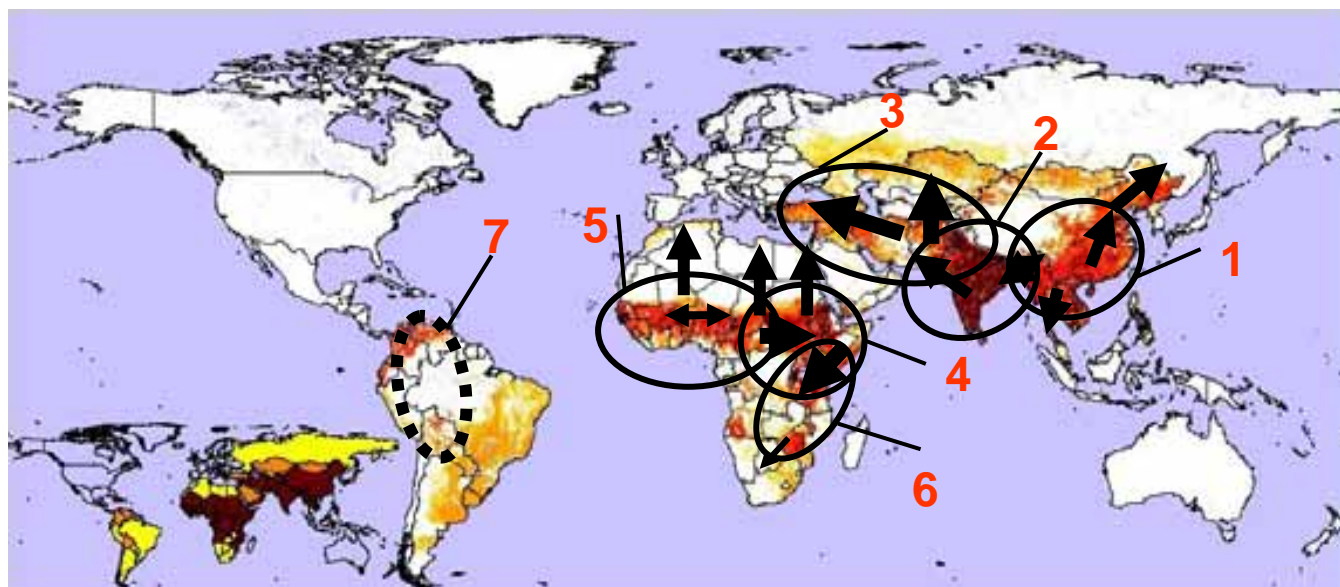
# Why Regional Roadmaps?

- successful mechanism for long term progress
  - Europe (EuFMD /OIE/EC)
  - South-East Asia
  - South America
- Regional co-ordination :
  - uses regional leaders, builds political commitment
  - lobbies for resources/actions
  - addresses problem of reservoirs/high risk countries within region
  - communicates risk and assist response



# Regional Roadmaps

- common vision
- RR exist for South-East Asia (SEAFMD campaign) and South America
- needed for Pools 2 to 6
- Pool 3 is the West Eurasian virus pool





# National capacity and action against FMD



- enormous variation in investment in FMD control within Regions
- questions
  - can more impact be achieved for the same level of investment?
    - impact on incidence, reduce virus circulation, eradicate
  - for countries with almost no current investment, what can be done?
    - that will:
      - create conditions for investment (benefits)?
      - generate FMDV information to build future national strategy?
      - assist regional risk-reduction efforts?

# If we promote national efforts, how can we objectively measure progress?



- the need for comparative indicators
  - compare progress
    - within a Region
    - between Regions
  - self-assessment at National level
  - provide progress indicators for donors/investment
- lessons from HPAI and PVS

## The Progressive Control Pathway for FMD (PCP-FMD) and Regional Roadmaps



- PCP-FMD: is a set of control program activity stages leading to FMD freedom
- Regional Roadmaps (RR) describe the anticipated progress along the PCP at national and regional level over longer term (e.g. to 2020)

*PCP at national level and RR at regional level*

- *the suggested approach of FAO for **long-term** co-ordinated action against FMD.*



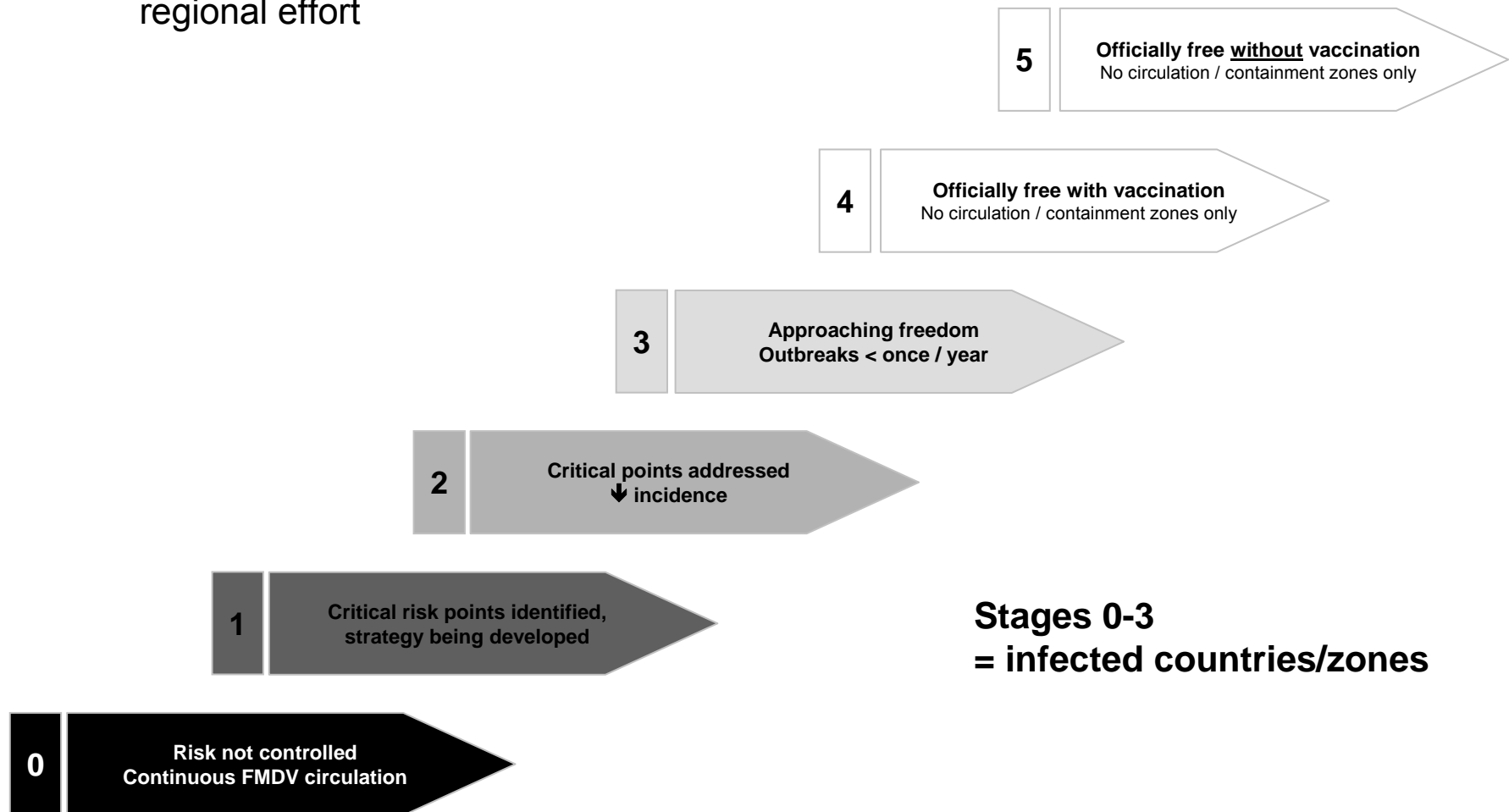
## PCP – stepwise along the road

- Country Stages - facilitate progress monitoring
- at national and regional level
- Global scale -across Regional Roadmaps
- *and at every stage generates information for risk assessment*



## FAO Progressive control pathway - risk reduction approach

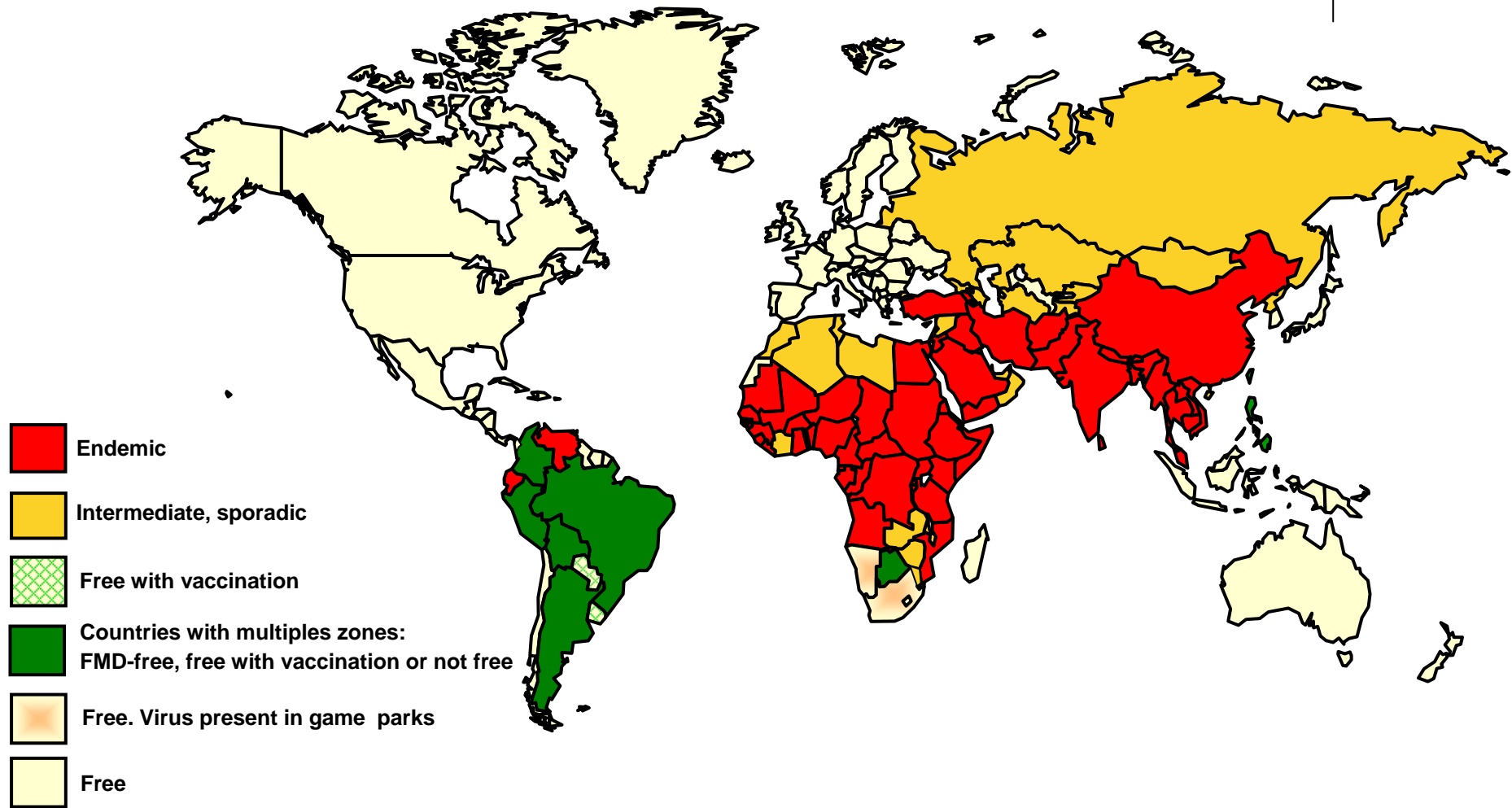
•not a top down prescribed approach: but each MS encouraged to develop national risk reduction strategies that are supportive to the regional effort



# Stages in the progressive control of FMD

- OIE Code only recognizes “FMD free” and “infected”
- Progressive control recognizes that
  - differences in risk of infection occur between (and within) infected countries
  - countries are at different stages in managing the risk of infection
    - from continuous circulation of FMDV
    - to sporadic outbreaks, originating from import of infection (introductions) to the country, that are quickly brought under control

# Risk of infection: one example of subdividing infected countries by frequency of epidemics 2007 - 2009



# Official recognition of FMD freedom



- responsibility of the OIE
- zone or country basis
- with or without vaccination
- requires minimum period of 12-24 months without evidence of FMD infection/circulation
- There is considerable latitude available to OIE Members to provide a well-reasoned argument to prove
  - the absence of FMDV infection (in non-vaccinated populations)
  - or absence of circulation (in vaccinated populations)
  - at an acceptable level of confidence



## *The PCP approach – principles:*

- does not prescribe how to control FMD
- uses HACCP principles: addressing critical control points
- starts with risk/critical control point identification
- promotes targeting of resources to critical risk control points
- progressive increase in surveillance requirements
- culminates in meeting requirements for official recognition of freedom



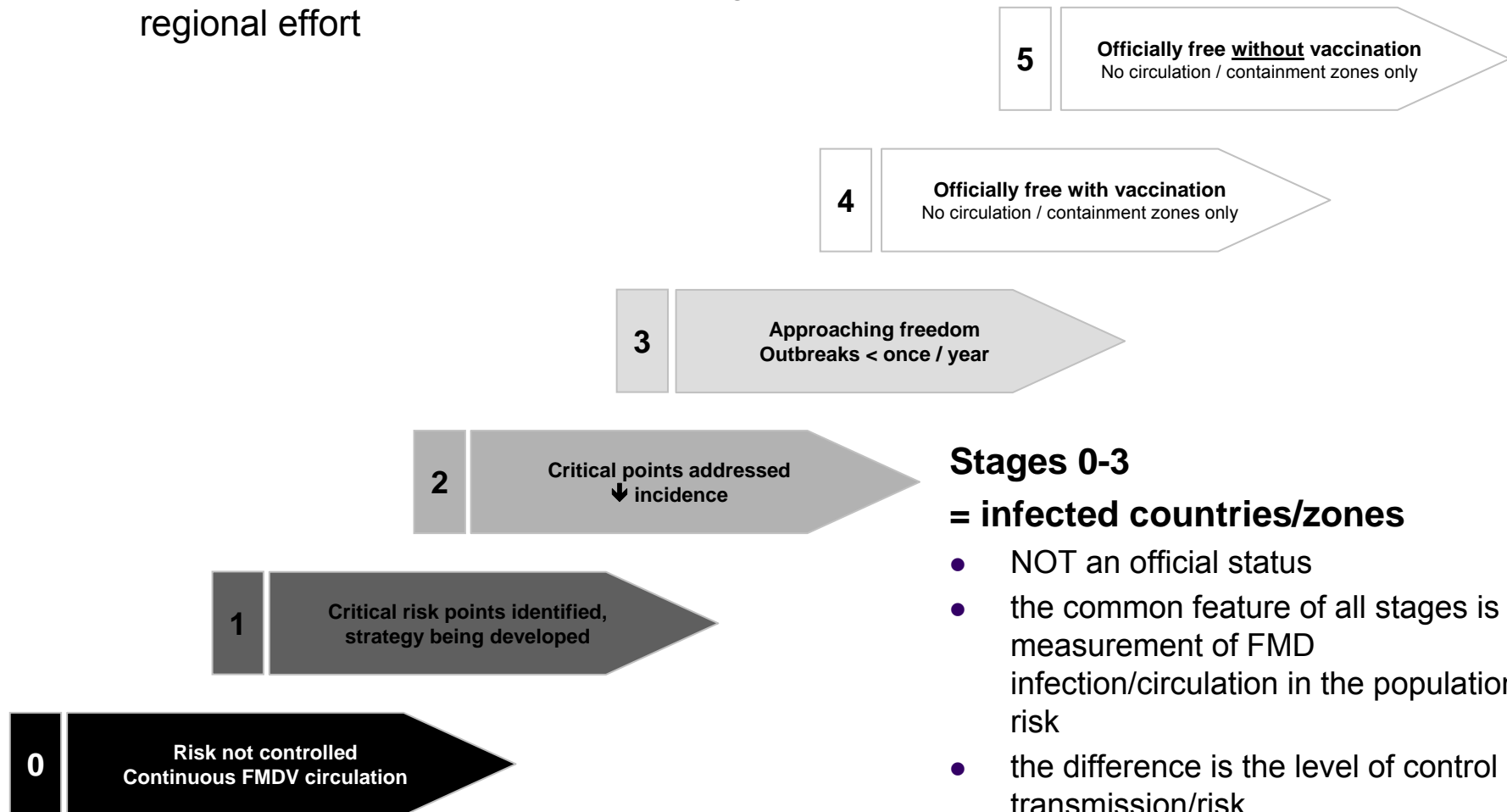


## PCP criteria, tools, guidelines

- criteria – tested in 4 workshops/surveys
- surveillance principles developed
  - require refinement, validation
- PCP technical support and evaluations
  - currently by FAO staff but training could be provided
- linkage to PVS
  - criteria for progress could include PVS evaluation and follow-up

## FAO Progressive control pathway - risk reduction approach

•not a top down prescribed approach: but each MS encouraged to develop national risk reduction strategies that are supportive to the regional effort



# Stage 0: risk not controlled



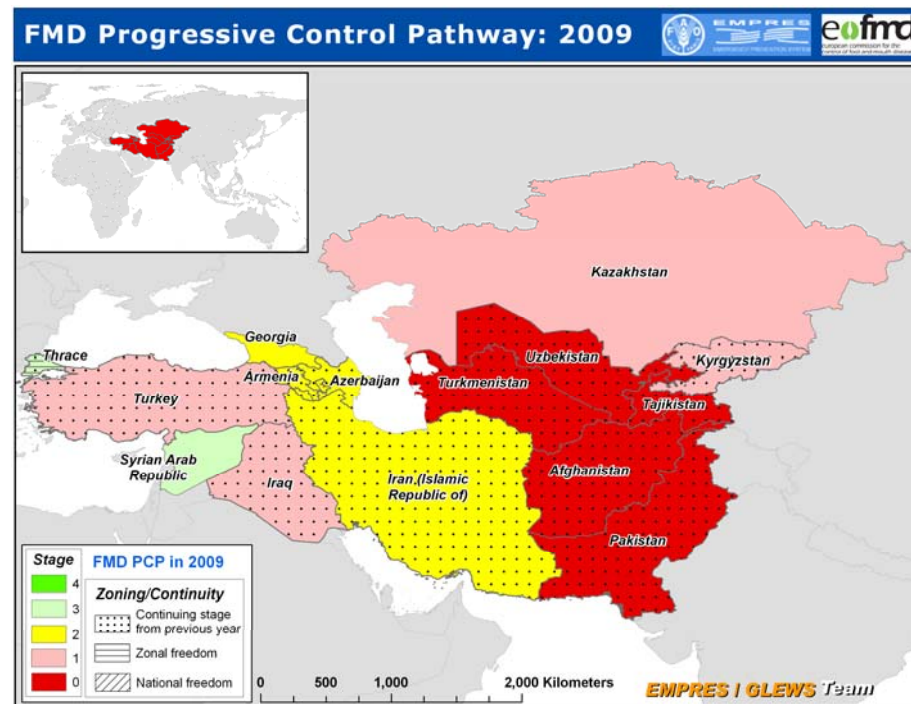
- Stage 0: characteristics
  - *when:*
  - level of virus circulation (prevalence in serological studies) has not been studied in past 12 months;
  - and/or: outbreaks occur every year
  - and: the impact of control measures (vaccination, quarantines) on virus circulation is not studied or measured

Risk not controlled  
Continuous FMDV circulation



# Stage 0

- many countries!
- whether vaccinating or not
- countries that [deliberately?] do not report FMD ....and do not report results of serological surveys are automatically in Stage 0

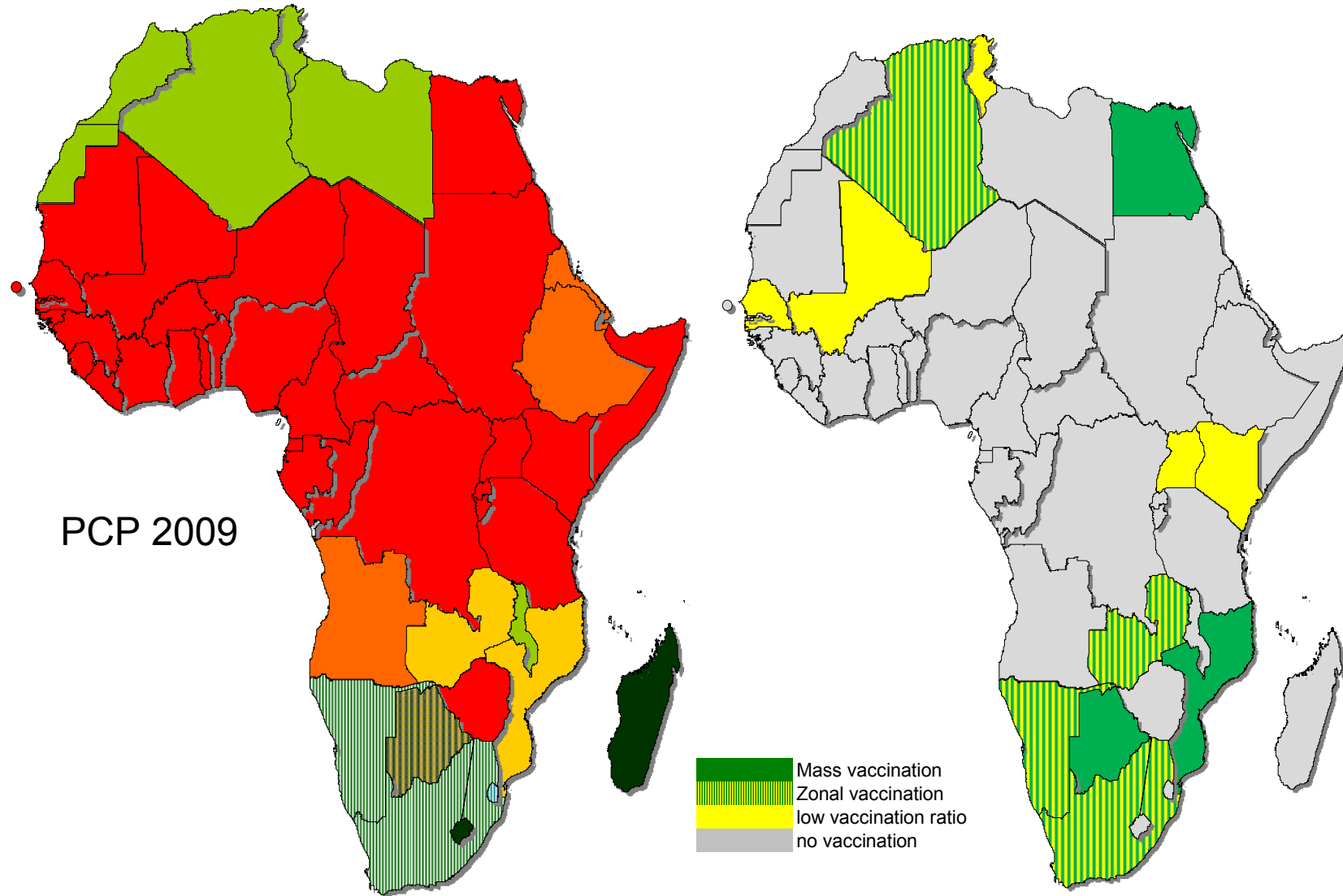


*Stage 0 in red*

Most subsaharan African countries are in Stage O, with very low vaccination rates:



vaccination against FMD in 2008 in Africa



PCP 2009

## Stage 1: critical FMD risk points assessed, national strategy under development

- Stage 1: characteristics
  - when:
    - level of virus circulation (prevalence - NSP positives) has been studied in past 12 months, and indicates virus circulation has occurred
    - the critical risk points associated with the major husbandry/marketing chains are being identified ;
  - and:
    - a strategy is under development to address the CRP

**Critical risk points identified,  
strategy being developed**



## Stage 1 – low cost

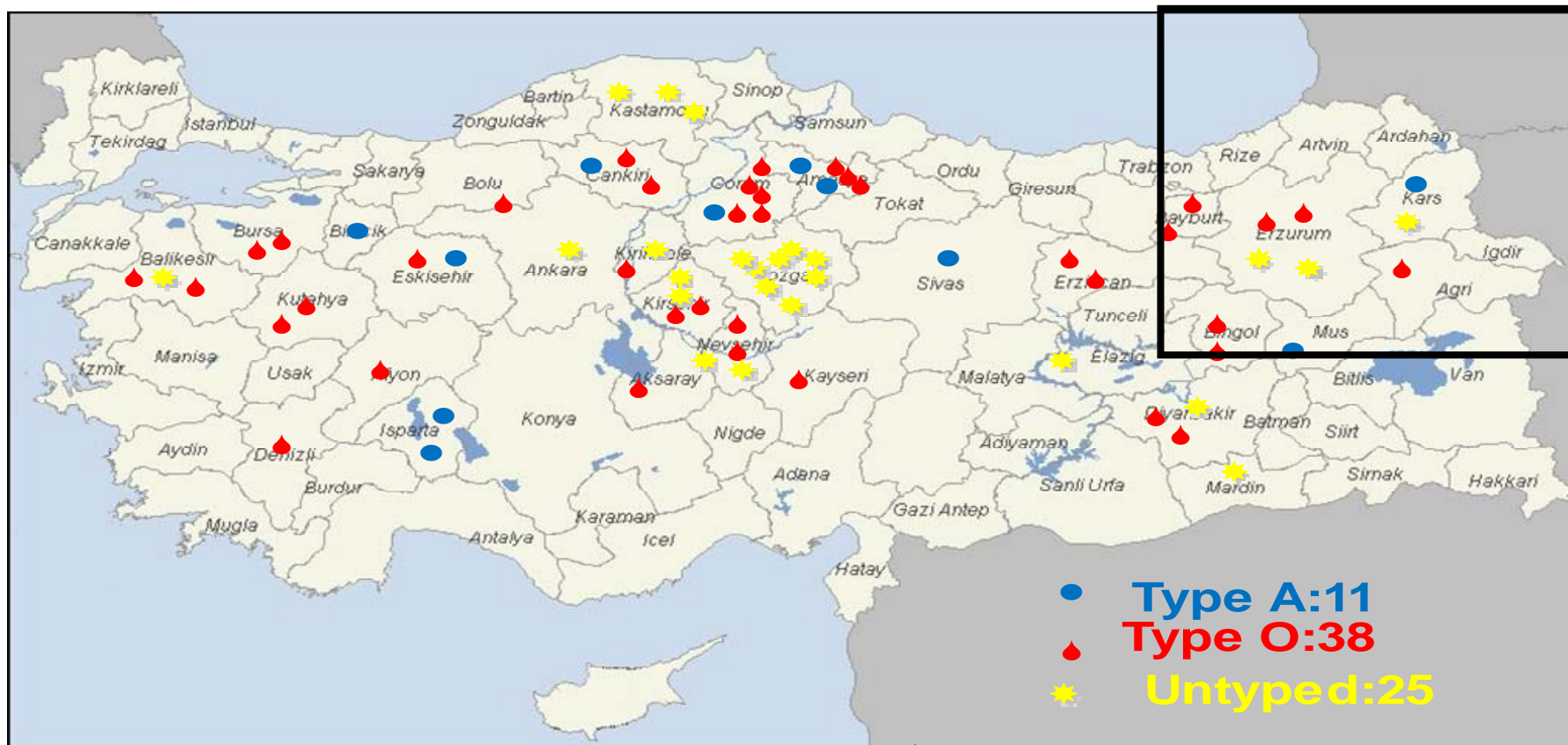
- serological survey to identify incidence and risk groups
  - identify FMDV strains
  - identify Critical Control Points (CCP)
  - identify capacity to control and identify willingness to pay
  - develop strategy
- *provides valuable surveillance data for risk assessment therefore Stage 1 activities of regional value*



# Application: progressive risk reduction Eastern Turkey/Caucasus/Iran/Iraq/Syria



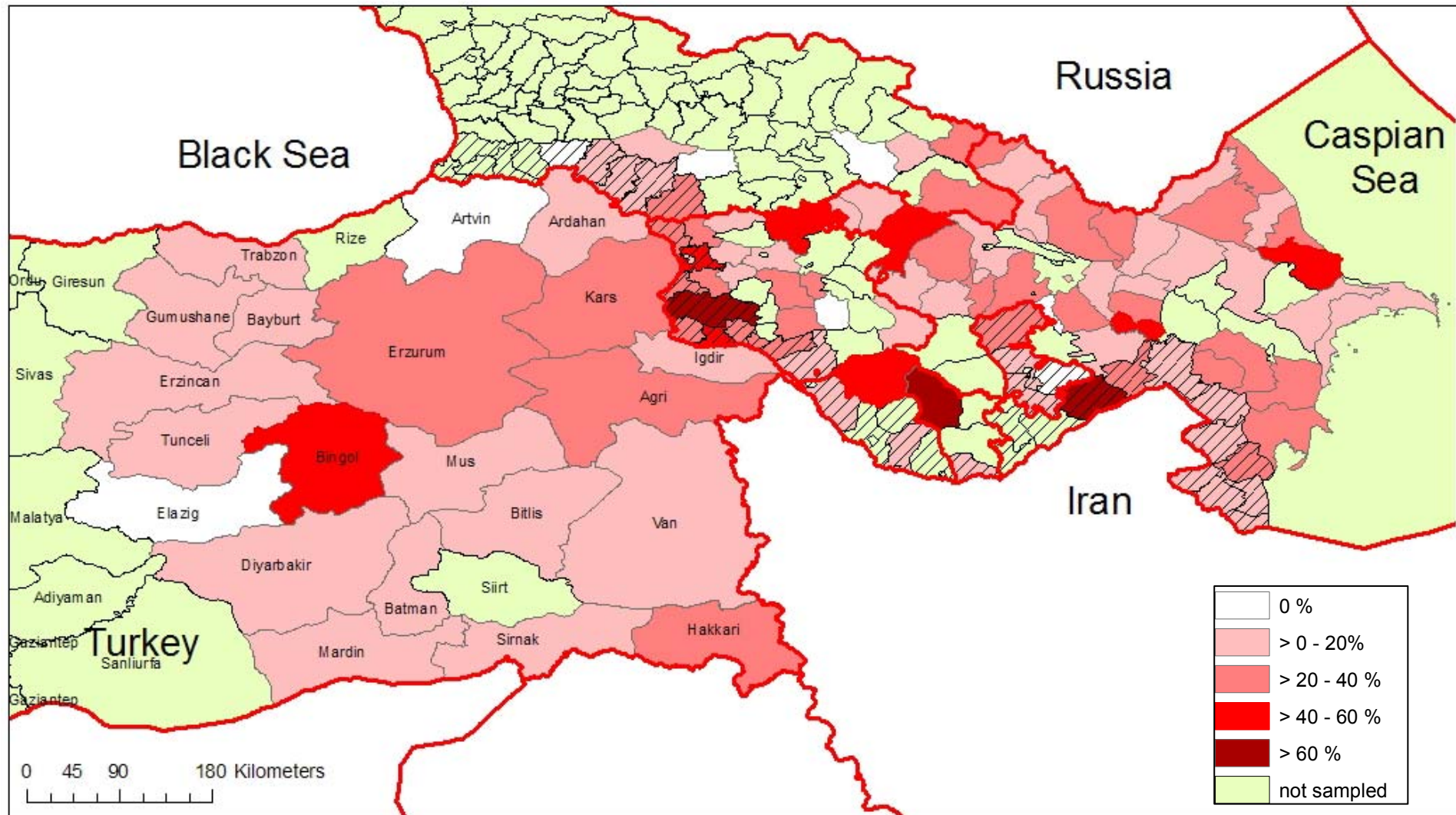
FMD outbreaks in Turkey, 2009 (UP TO 21th May)



Source: GDPC, Ankara 1<sup>st</sup> June 2009

# Regional NSP situation – four country sero-survey

*Sampling Mid-2008 in 6-24 month animals (true prev.)*



Critical control points.....





## Stage 2: FMD under control, circulation is progressively reduced

- Stage 2: characteristics
  - when:
    - each new outbreak(s) is investigated and potential sources identified
    - level of virus circulation (prevalence in serological studies) has been studied repeatedly for at least 24 months, and evidence of FMDV exposure found in each survey
    - the risk associated with the major husbandry/marketing chains identified, and strategies implemented for each ;
    - and: the impact of control measures (vaccination, quarantines, measures at borders) on virus circulation is being measured

Critical points addressed  
↓  
incidence



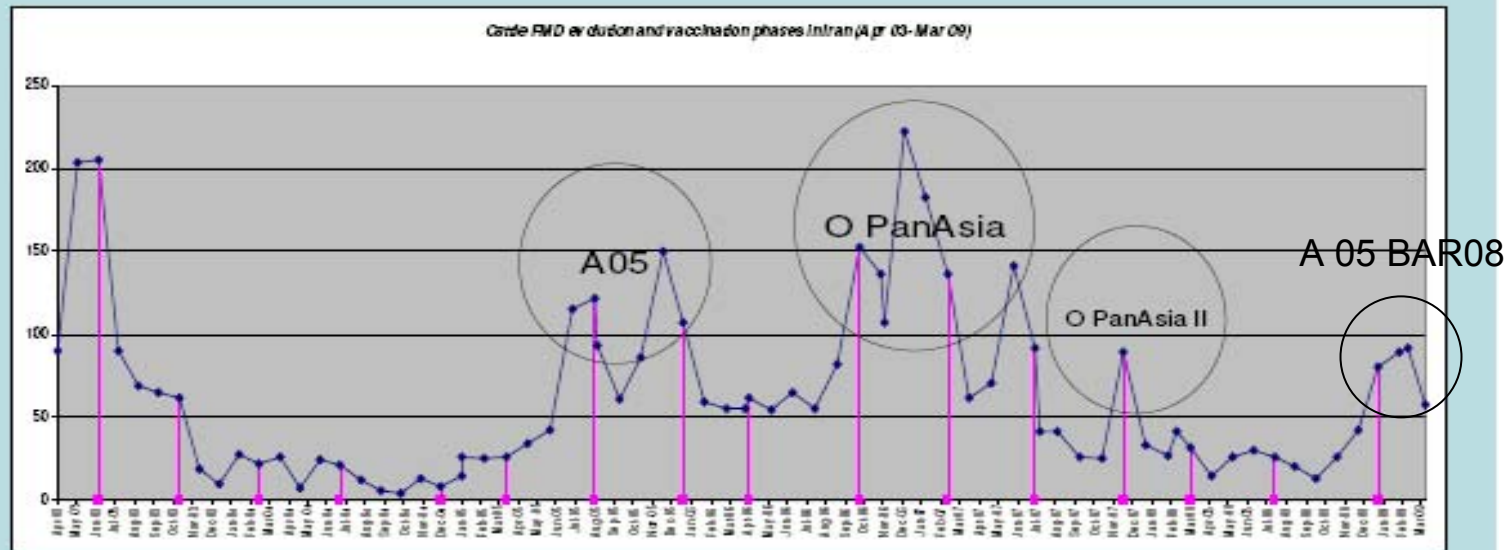
## Stage 2: can be high cost

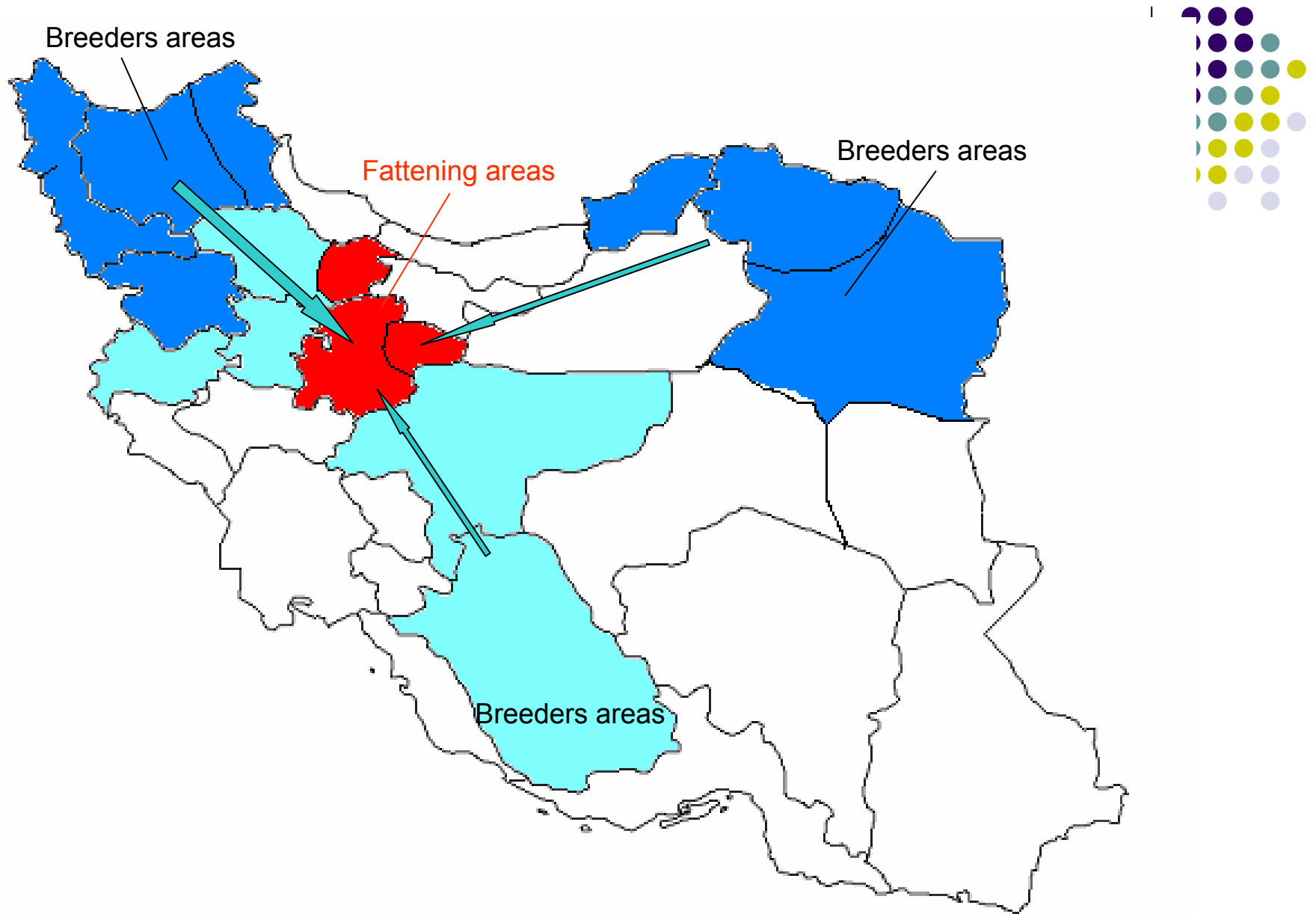
- usually involves vaccination
- but does not prescribe national mass vaccination
- expected that some countries will choose not to effectively implement Stage 2
  - lack of economic incentives and finance
  - importance of regional political pressure and support
  - potential incentives: FMD controlled compartments/commodity based trade

# I.R of Iran: progressive control despite epidemic incursions of variant FMDV



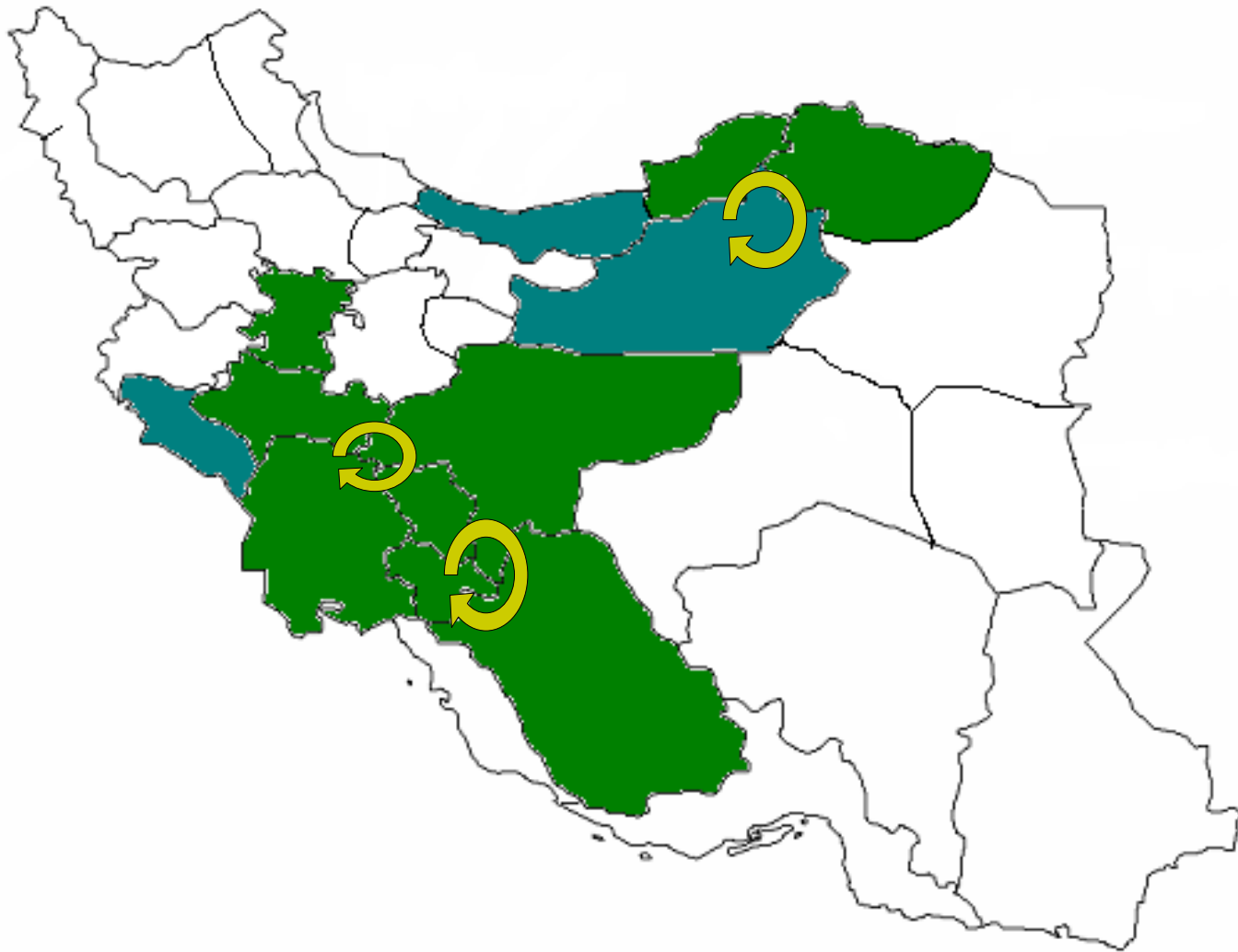
FMD outbreaks Evolution (Apr 03- Mar 09)





**In country movements**





**Nomadic movements**

Iran: Vaccination program differs between production systems and risk regions



- **Intensive dairy** cattle units
  - ☛ sequential program / every 4 months
- **Intensive Fattening** units
  - ☛ permanent program (pre-entry)
- **Villages** / High risk areas
  - ☛ sequential program / every 4 months
- **Nomadic** herds
  - ☛ yearly program in high risk areas



# Vaccination is often not enough.....

- very high  $R_0$  of virus
- high vaccination cover rarely enough
- gaps remain
- critical control points need to be addressed - stop virus finding gaps



Kevenlik, Turkey: June 4<sup>th</sup>, 2009

## Stage 3: Approaching freedom; effective prevention and containment measures



- Stage 3: characteristics
  - *when:*
  - each new outbreak(s) is shown to originate outside of the country or zone, not originate within;
  - level of virus circulation (prevalence in serological studies) has been studied repeatedly for at least 24 months, and evidence of FMDV exposure found but being restricted to limited foci or limited time periods;
  - each cluster of infection or outbreaks have a plausible explanation, through outbreak tracing;
  - each outbreak or evidence of infection is followed up by **immediate measures and post-outbreak surveillance**, and review of the impact of control measures (vaccination, quarantines, measures at borders)

**Approaching freedom**  
**“FMD Events” < once / year**



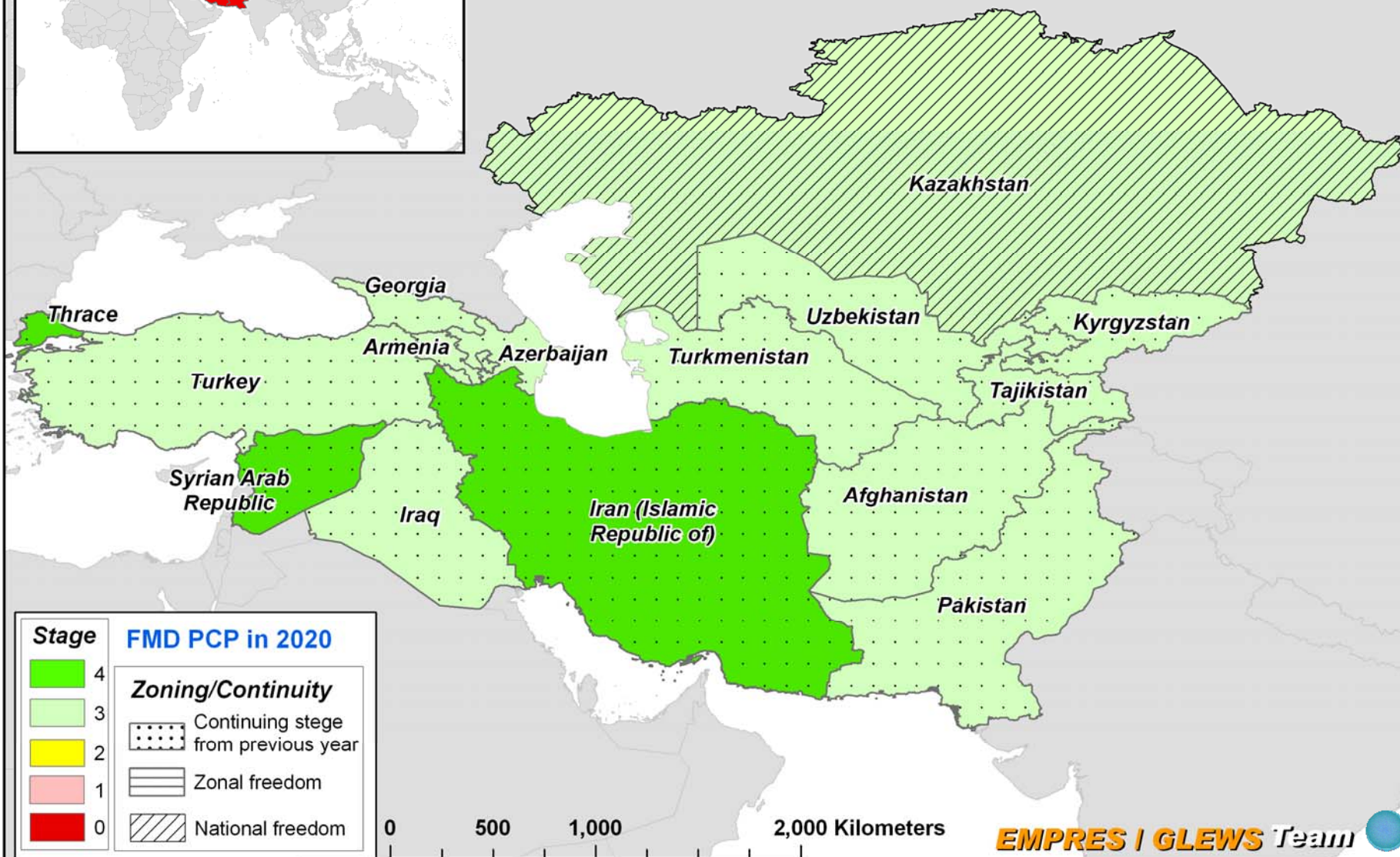
## Stage 3:

- good level of contingency planning
  - access to vaccine reserves/banks for emergency
  - rapid response to risk
  - ability to regulate animal movement;
- 
- example:
    - several North African countries in response to the type A Iran 05 incursion into Libya in 2009

# FMD Progressive Control Pathway: 2020



*by 2020, all at least in Stage 3*



# Stage 4: Officially Free with vaccination

- Stage 4: characteristics
  - official recognition on zone or country basis by the OIE
  - requirements set out in the Terrestrial Animal Health Code
- **Stage 4: for inclusion in the list of FMD free countries where vaccination is practised, a Member should:**
  - have a record of regular and prompt animal disease reporting;
  - send a declaration to the OIE that there has been no [outbreak](#) of FMD for the past 2 years and no evidence of FMDV circulation for the past 12 months, with documented evidence that:
    - [surveillance](#) for FMD and FMDV circulation in accordance with Articles [8.5.40.](#) to [8.5.46.](#) is in operation, and that regulatory measures for the prevention and control of FMD have been implemented;
    - routine vaccination is carried out for the purpose of the prevention of FMD;
    - the vaccine used complies with the standards described in the [Terrestrial Manual](#).

**Officially free with vaccination**  
No circulation / containment zones only

## Stage 5: change its status to FMD free country where vaccination is not practised



- the status of this country remains unchanged for a period of at least 12 months after vaccination has ceased.
- Evidence should also be provided showing that FMDV infection has not occurred during that period.





# The PCP and Roadmap in practice

- Regional assessments – PCP
  - Regional meetings – develop Roadmaps
  - Political/donor meetings – advocacy and agreement on type of support
- 
- West Eurasia
  - Africa (4 subregions)

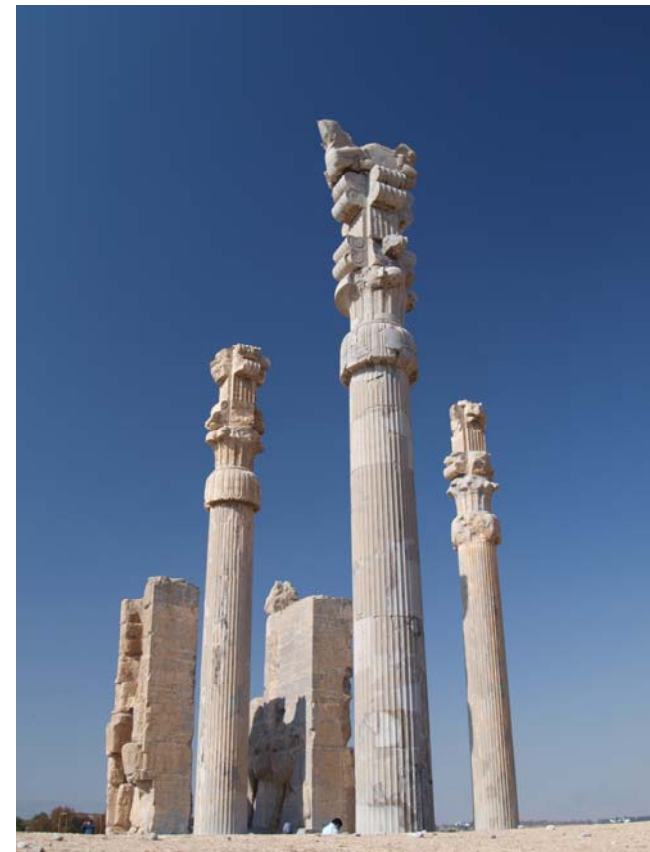
# West EurAsia Roadmap

## Shiraz Meeting November 2008 -15 countries



- summarised current control situation
- identified the Stage of Progressive Control of each country
- identified expected Stage progression to 2020
- developed a Vision Statement
- identified the regional actions required to support progress and maintain the initiative

*....while recognising Persepolis was not built in a day.....*



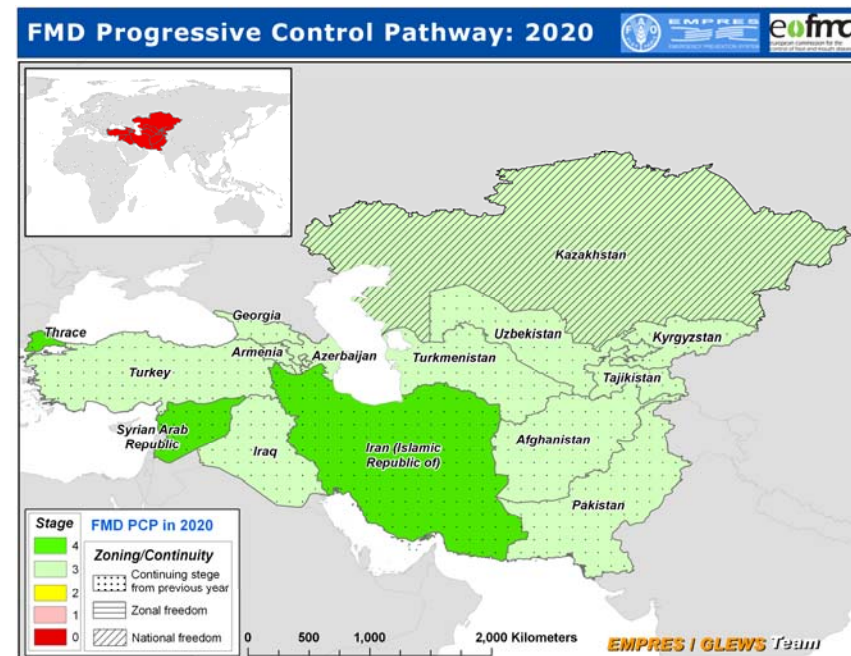
# Vision for the West EurAsia Roadmap for FMD Control: freedom from clinical disease by 2020



*Regional cooperation among Eurasian countries .....*

*for the progressive control of FMD through public and private partnerships*

*leading towards freedom of clinical disease by 2020 for regional economic development, food security, and poverty alleviation.*





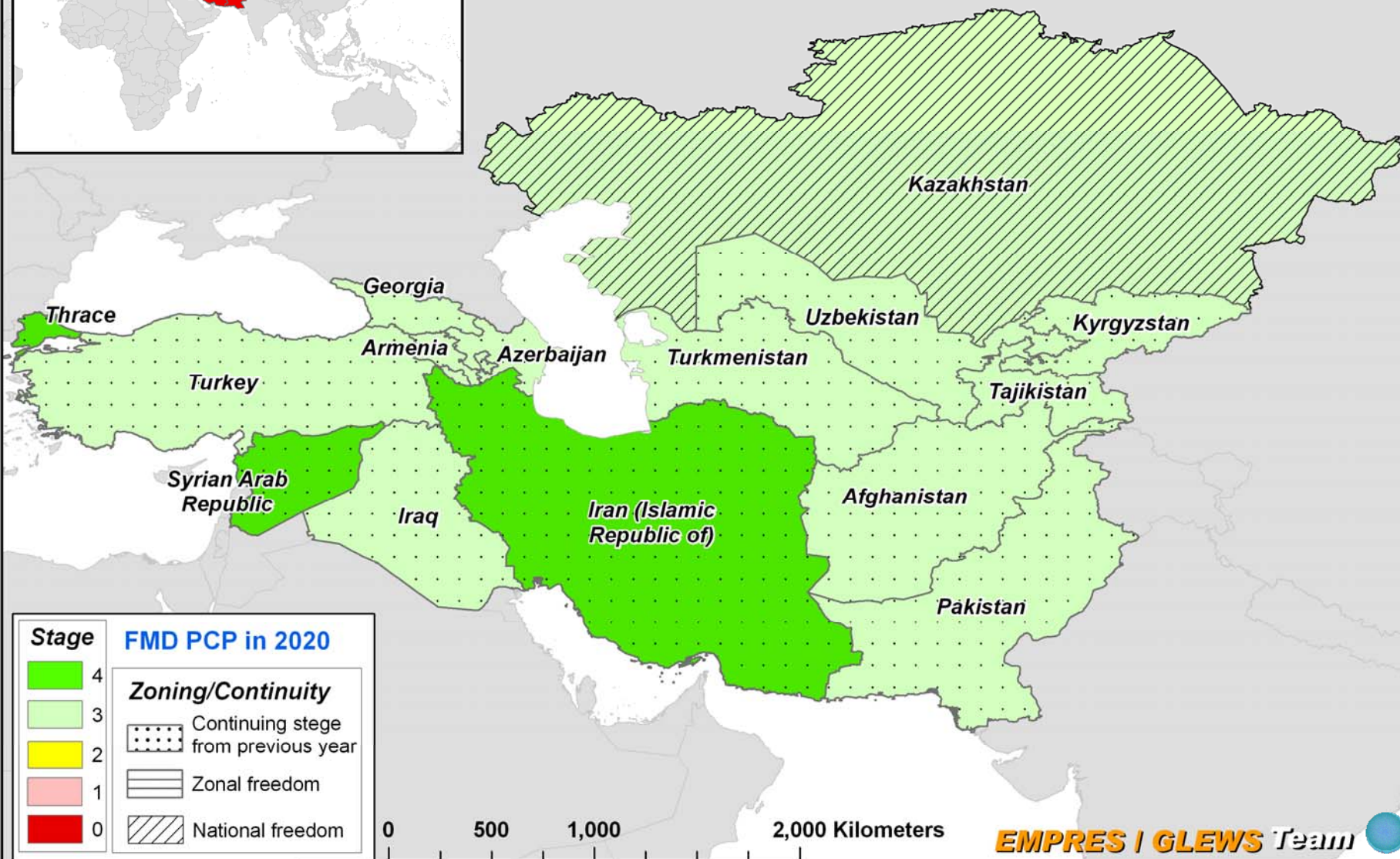
# Roadmap

## West EurAsia – Roadmap to 2020 - expected country progression (Shiraz Meeting Report, 2008)

West EurAsia	Countries	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
		Kazakh	Level 1	Level 2	Level 2	Level 2	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3
Kyrgyz	Level 1	Level 2	Level 2	Level 2	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3
Tajik	Level 0	Level 0	Level 1	Level 1	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2
Turkmen	Level 0	Level 0	Level 1	Level 1	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2
Uzbek	Level 0	Level 1	Level 1	Level 1	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2
AFG	Level 0	Level 1	Level 1	Level 1	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2
IRN	Level 2	Level 2	Level 3	Level 3	Level 3	Level 4	Level 4	Level 4	Level 4	Level 4	Level 4	Level 4	Level 4
PAK	Level 0	Level 1	Level 1	Level 1	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2
TURK	Level 1	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2
Thrace	hatched	hatched	hatched	hatched	hatched	hatched	hatched	hatched	hatched	hatched	hatched	hatched	hatched
added zones													
Syria	Level 4	Level 4	Level 4	Level 4	Level 4	Level 4	Level 4	Level 4	Level 4	Level 4	Level 4	Level 4	Level 4
Iraq	Level 1	Level 1	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2	Level 2
Armenia	Level 2	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3
Azerbaijan	Level 2	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3
Georgia	Level 2	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3	Level 3

	N	Z	
Level 0	Level 0	hatched	0 درجة
Level 1	Level 1		1 درجة
Level 2	Level 2		2 درجة
Level 3	Level 3		3 درجة
Level 4	Level 4		4 درجة
Level 5	Level 5		5 درجة

# FMD Progressive Control Pathway: 2020



# Roadmap development – other regions



- joint meetings FAO & OIE
- vision statements for position in 2020 developed
- expected progression to 2020 estimated by expert working groups
- assists to identify type of support needed to progress – national and regional

	Virus pool	Roadmap Workshop	Vision	Roadmap 2020
<b>South Asia</b>	2	to be done (TCP planned)	TBD	TBD
<b>West Eurasia</b>	3	Shiraz	√	√
<b>Africa</b>		Nairobi	√	√
<b>Africa-East</b>	4	Nairobi	√	√
<b>Africa-West</b>	5	Nairobi	√	√
<b>Africa-Southern</b>	6	Nairobi	√	√
<b>Africa - Northern</b>	At risk -3,4,5	Algiers	to be validated	to be validated
<b>Middle-east</b>	At risk – 3,4	Beirut	to be developed May 09	as vision

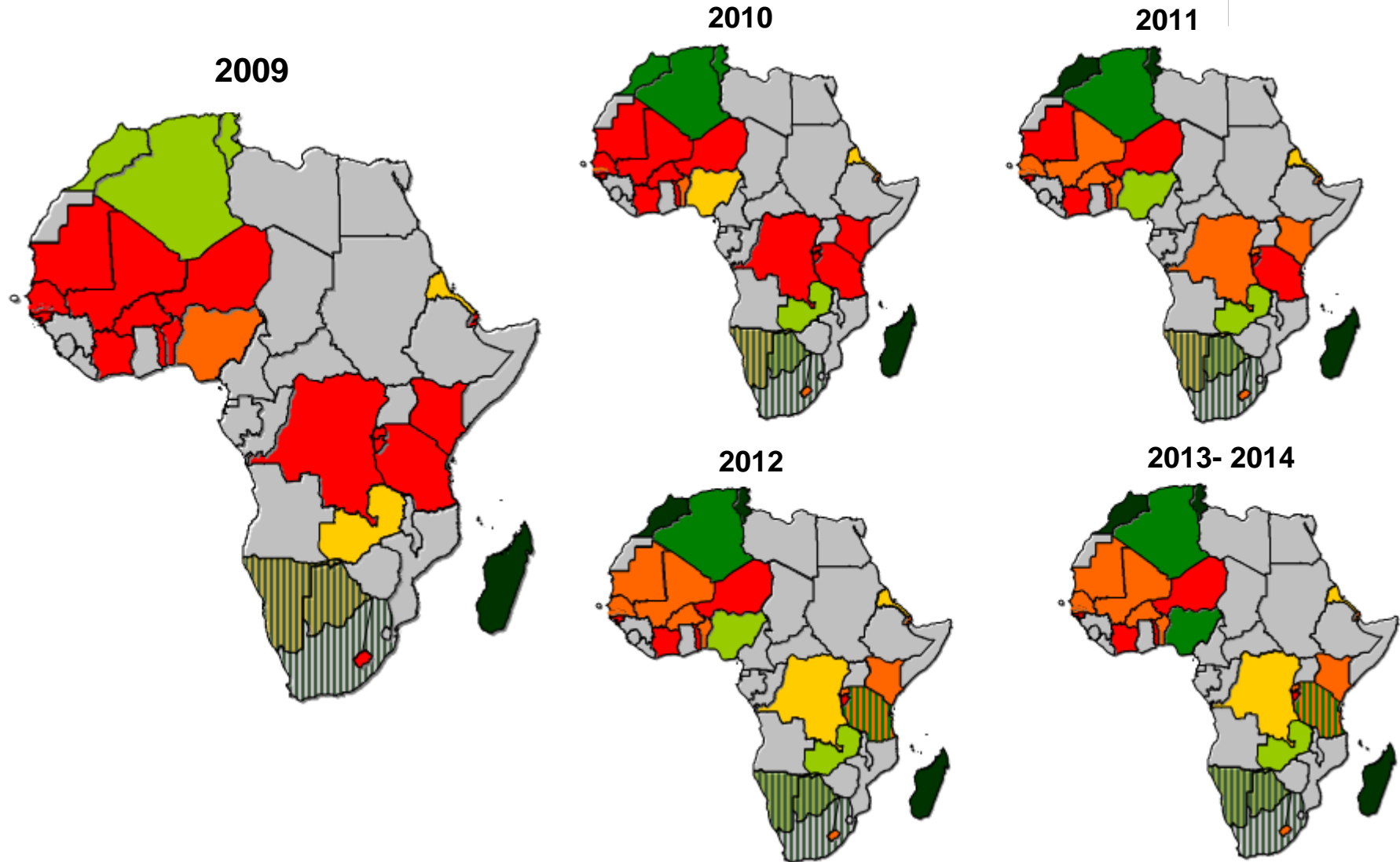


# Pan Africa PCP Survey

- Use of the **tool** developed by FAO (part of the progressive FMD risk reduction approach; see previous presentation) → level 0 to 5
- Questionnaire (4 questions)
- Launched on January 7; reply deadline on January 19
- Survey via the CVOs
- Legend used:

	National	Zone
Level 0	Red	Red vertical stripes
Level 1	Orange	Orange vertical stripes
Level 2	Yellow	Yellow vertical stripes
Level 3	Light blue	Light blue vertical stripes
Level 4	Green	Green vertical stripes
Level 5	Dark green	Dark green vertical stripes
Other	Blue	Blue
No response	Grey	Grey

# FAO/OIE/AU-IBAR Workshop to review PCP Survey results – Nairobi Jan 09







# Africa Roadmaps to 2020

Expected PCP progression,

North, West/Central, East and Southern Africa

(Nairobi Workshop, Jan 09 and Algiers, Feb 09)

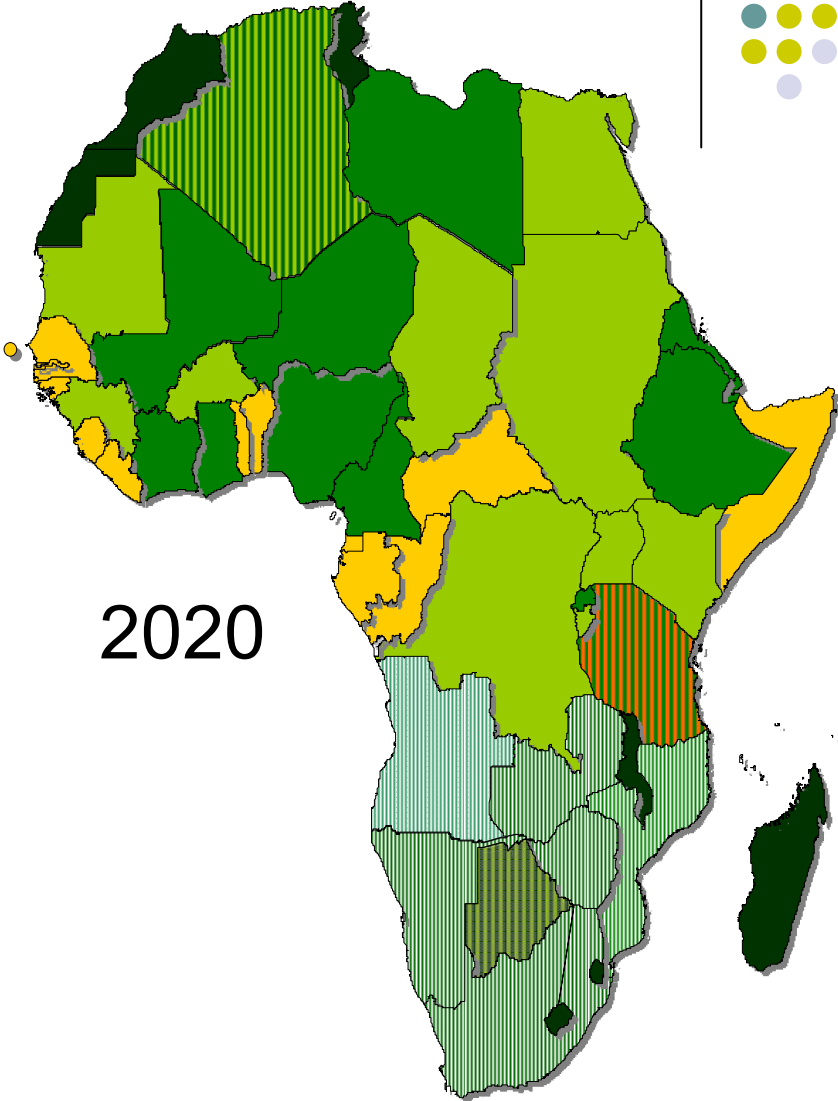
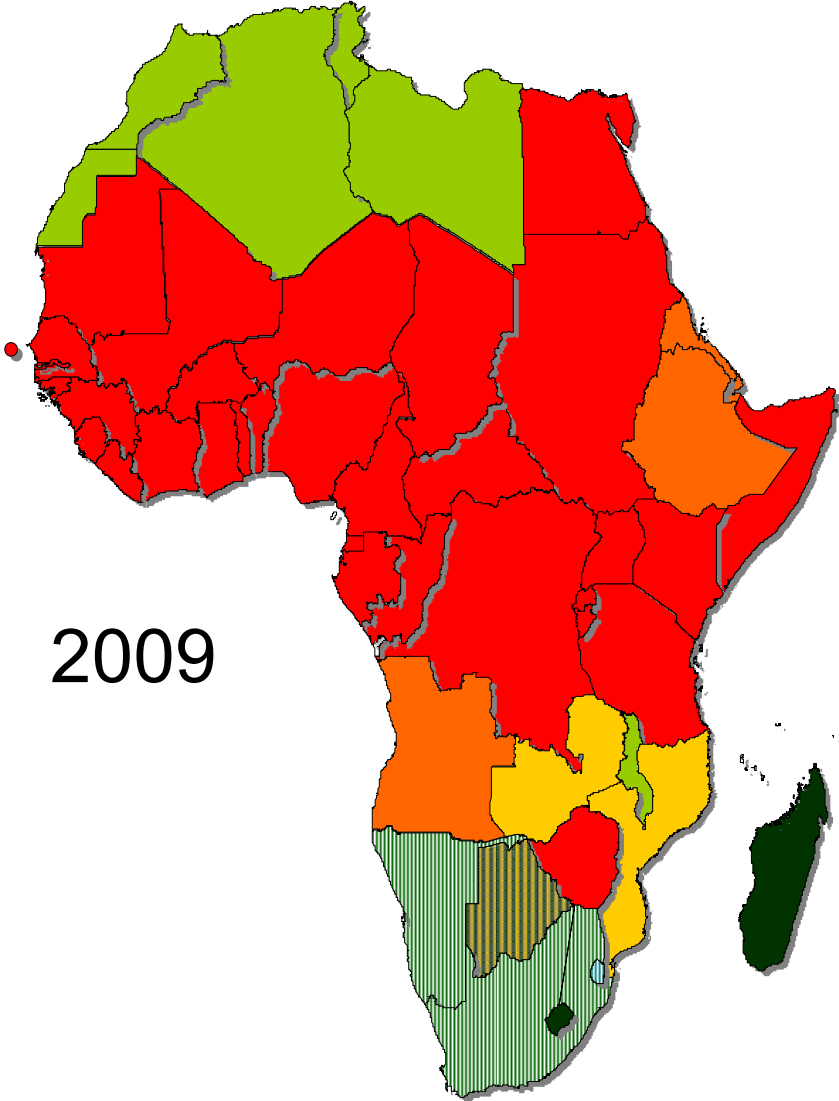
	Countries	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
North Africa	Algeria												
	Egypt												
	Libya												
	Mauritania												
	Morocco												
	Tunisia												
Western Africa	Benin												
	Burkina Faso												
	Cote D'Ivoire												
	Gambia												
	Ghana												
	Guinea												
	Guinea-Bissau												
	Liberia												
	Mali												
	Niger												
	Nigeria												
	Senegal												
	Sierra Leone												
	Togo												
Central Africa	Cameroon												
	Cape Verde												
	Central African Republic												
	Chad												
	Congo (Dem. Rep. of the)												
	Congo (Rep. of the)												
	Equatorial Guinea												
	Gabon												
	Sao Tome and Principe												
East Africa	Djibouti												
	Eritrea												
	Ethiopia												
	Kenya												
	Somalia												
	Sudan												
	Tanzania												
	Burundi												
	Rwanda												
	Uganda												
	Angola	??										4/5	4/5
South Africa	Botswana	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5
	Comoros												
	Lesotho												
	Madagascar												
	Malawi												4/5
	Mauritius												
	Mayotte (France)												
	Mozambique												4/5
	Namibia	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5
	Reunion (France)												
	Seychelles												
	South Africa	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5	4/5
	Swaziland	4/5											
	Zambia												
Zimbabwe	0	0	1	1	1	1	3	3	3	3	3	4/5	

By 2020, th

Vision statement agreed at the Final Plenary Session, 30th January  
 Vision statement for North Africa agreed at the OIE General Session, 26th May (Paris)

	N	Z	
Level 0			
Level 1			
Level 2			
Level 3			
Level 4			
Level 5			

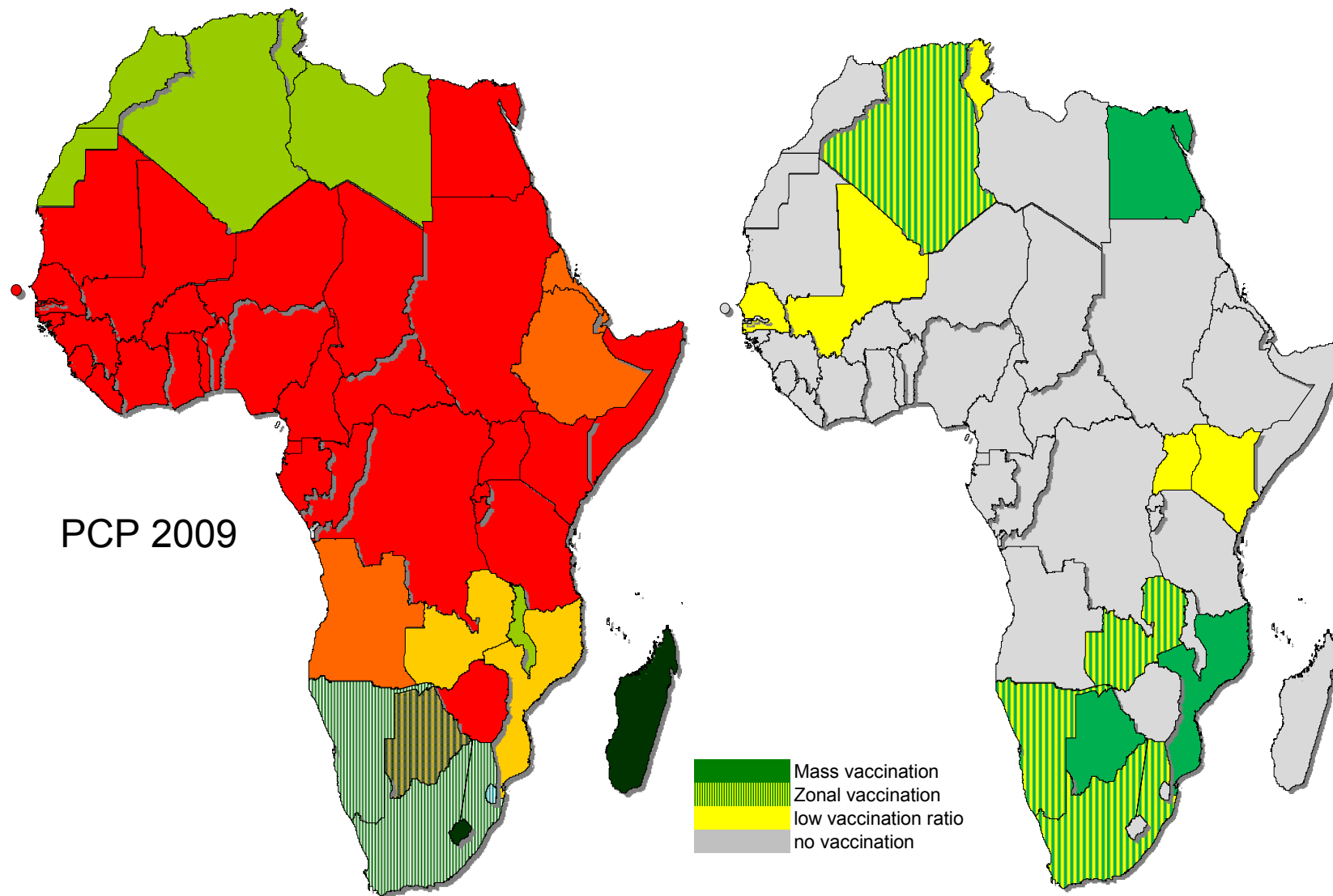
# Africa Roadmap progression to 2020 – after Nairobi and Algiers Workshops



# PCP Stage in 2009 – and level of current (reported) use of FMD vaccination



vaccination against FMD in 2008 in Africa





## Regional Vision Statements – for long term FMD control

### Vision for the Pan African Roadmap for FMD Control

Vision statement agreed at the Final Plenary Session, 30th January:

*'By 2020, there will be sufficient control of FMD in Africa to enable the livestock sector to participate in local, regional, sub-continental, international trade, and contribute to improved food security and livelihoods. In this regard, obtain by 2010 the commitment from the public and private sectors and other relevant role players to enter into the FMD progressive control pathway'.*



## Vision - 2020

*What do we hope for this OIE/FAO Global FMD conference?  
(Paraguay, June 2009)*

- adoption and application of the PCP approach from 2009
- Regional Roadmaps covering all 7 major endemic regions:
  - in place and active from 2010
- global monitoring - ANNUAL published progress monitoring (OIE/FAO)

*Outcomes:*

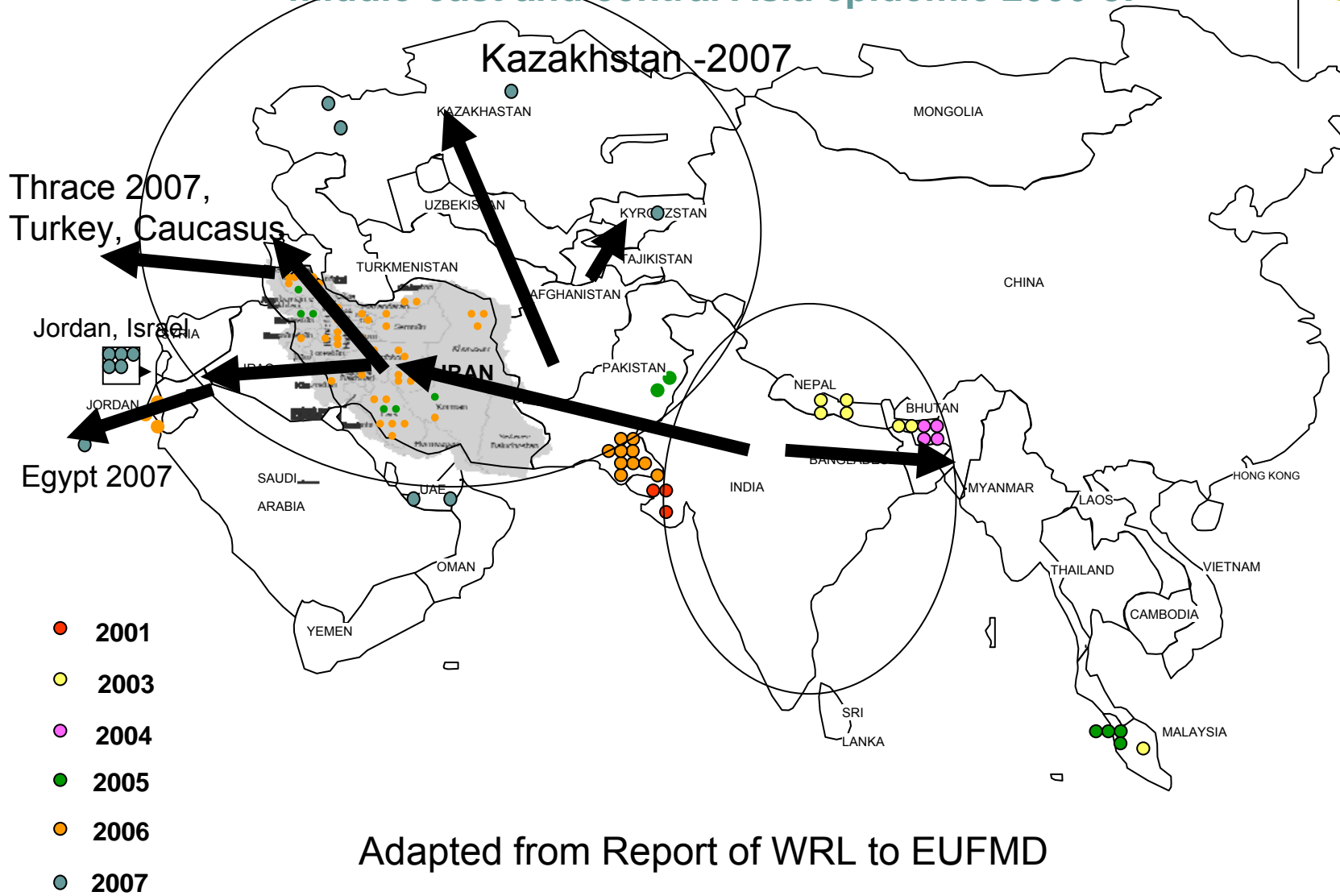
- reduced incidence in every Roadmap country reaching stage 2
- most endemic countries in stage 2 or above by 2020
- safer trade from an increased number of countries



# Acknowledgements

- EUFMD Commission member states
- EC (DG-SANCO –Regional workshops)
- FAO (J. Domenech, J. Lubroth, G Ferrari, J Pinto)
- OIE (G. Bruckner)
- African Union-IBAR (Pan African Workshop)
- FAO World Reference Laboratory (WRL) Pirbright (D Paton)
  
- Supporting centres:
  - EUFMD Secretariat staff (Nadia Rumich)
  - RAHCs in Nairobi, Bamako, Beirut, Tunis, Gaborone, Nepal

# West EurAsia Example FMD type O PanAsia II Spread from India to east and later to west – middle-east and central Asia epidemic 2006-8:



Adapted from Report of WRL to EUFMD