



Food and Agriculture Organization
of the United Nations



**Key elements for LSD preparedness:
contingency plans, surveillance & early detection,
vaccination strategies and how to assess them
through simulation exercises**

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outline

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- ✓ Contingency plan
- ✓ Surveillance
- ✓ Early detection
- ✓ Vaccination
- ✓ Simulation exercise

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Preparedness ~ contingency plan

- Knowledge- updated information
- Capabilities
- Surveillance - look for the incursion
- Contingency Plan- be ready & act upon detection

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Capabilities – national VS

- Data base- updated, flowing
- Scenarios- realistic risk assessment
 - Single/ multiple
 - Site, size of area, cattle population
 - Compliance
- Vaccine & vaccination
- Culling & disposing
- Compensation & court challenges- be prepared
- Repopulation
- Risk communication

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Capabilities – VS field units

- Knowledge
- Clear authority & chain of command, SOP's
- Training (simulation exercises)
 - Sampling, transporting, reporting
 - Sealing, containing, inspecting, enforcing
- Networking, consulting with other players
- Surveillance
- Vaccination (responsive)


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Capabilities- Laboratories

- Where, Who
- Response time
- Reference lab
 - National
 - Int'l
- Infrastructure, disposables
- bio-safety & bio-security
- Proficiency Tests
- Int'l training & collaboration

"fast & accurate"

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Contingency plan

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- Based on updated risk-assessment
- The best you can realistically execute
- Will never be perfect – better than non
- TAD's tend to act “out of the box”
- Assess incursion and response accordingly
- Decision maker(s) & chain of command
- Shift of paradigm- stamp-out to vaccination

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Surveillance

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Risk Analysis




```

graph TD
    RC[Risk Communication] <--> HI[Hazard Identification]
    RC <--> RA[Risk Assessment]
    RC <--> RM1[Risk Management]
    HI --> RA
    RA --> RM1
    RM1 <--> RM2[Risk Management]
    subgraph RM2 [Risk Management]
        CP[Control & Prevention] --> S[Surveillance]
    end
  
```

After the OIE animal health code

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Surveillance planning & execution

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- Continues active process
- Sustainable & cost-effective
- Periodic re-assessment
- Planned by a formal and capable team
- Multiplayers- coordination & IT
- Update contingency plan accordingly

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Surveillance planning & execution

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- **Passive** - unplanned farm visits or samples
- **Active** - preplanned program
- **Clinical**- relatively easy (awareness!!)
- **Serological**- too complexed, cost-benefit !
- Before outbreak (free country/ region)
- During and after (infected areas)
-

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LSD active surveillance

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- Who
 - Official vets
 - Private vets, others ?
- When
 - Planned visits, other chores
- How
 - LSD - Clinical >>> Serological
 - Reporting; written, simple, electronic, data-base
 - Supervise- higher level, central level

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LSD Surveillance

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Parameter/ type	Clinical (visual)	Serological
Objectives	Identify introduction Find index case Detect spread to new herds/ regions	Vaccination compliance Immune response Protection level
Ease to perform	Simple to visualize Train to sample nodules Capable labs	sample Cold chain labs
Cost	low	High
when	Preparedness During/ between outbreak response	Preparedness/response - vaccine evaluation During outbreak- investigation

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Immediate (emergency) response

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- Early detection- smaller outbreak
- Objective- maximum containment
- Single/ multiple
- Isolated/ spread
- On the border/ deep penetration (IL-40 km, KZ- 80km)
- Terrain- accessibility to forces, activities
- Shift manpower; logistics- feed, sleep, care, pay
- Notify- spokesperson, list, routes, transparency

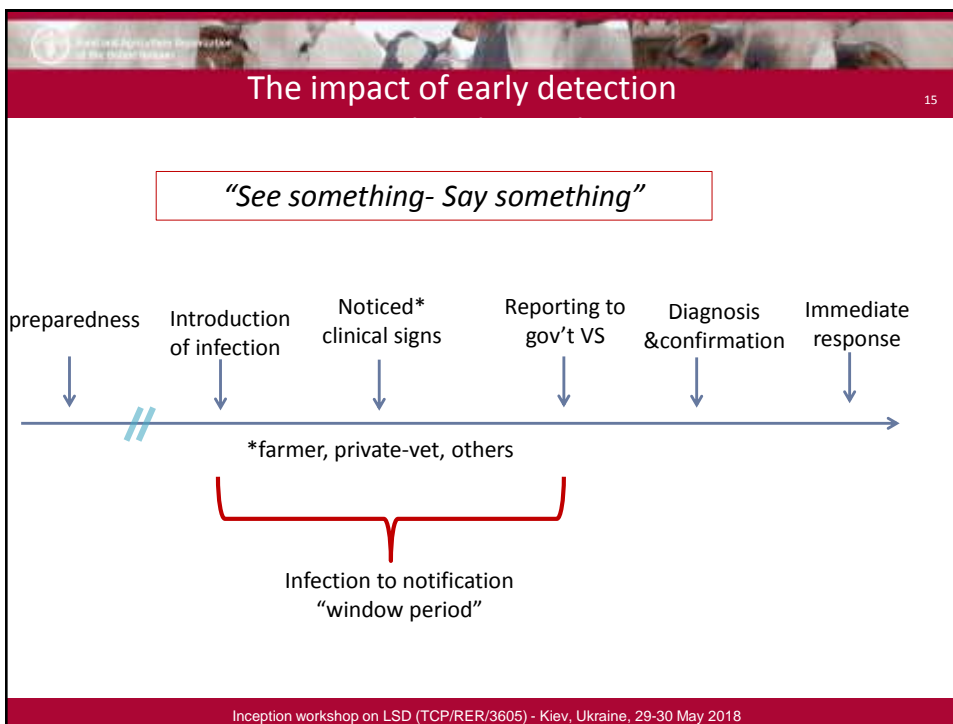
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Early detection



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- In a country, in a region
- Preparedness; knowledge, awareness
- Remote border areas
 - Few farmers, part-time farmers, intensive/ extensive
 - Few official inspectors, few clinicians, no farm visits
- Cattle gathering abilities; paddocks, chutes
- Sampling, shipment; incorrect – false negative

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- Cattle movements control** 16
- Define zones- declare a "standstill"
 - legislation, regulation, "blue/ green" Police, army
 - Inspection, enforcement – limited recourses
 - Remote areas, roads accessibility
 - Longer period- compliance drops
 - high risk – long distance spread ("jump")
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Biosecurity

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- Most spread is by flying-biting-insects
- Define epi' unit; grazing, non-grazing
 - Herd size- Backyard herds; 1-10 heads
 - Herd density
 - Free roaming, nomadic
 - Communal grazing
- General disinfection mostly ineffective
- Post outbreak cleansing and disinfection



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Disinfection

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- LSD- Limited importance
- Limited effectiveness
- Costly
- Food products effect
- Environmental effects
- Cleaning is important

LSD is not FMD

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Vaccine

- Which- homologous / heterologous
 - *NEETHLING / NEETHLING-LIKE*
- How much
- Backup
- Budget
- Storage
- Cold chain
- Accessories

“Vaccines do not protect-
Vaccination does”

Vaccination

- Preventative
 - Risk-based
 - Trade impact
 - Farmer, consumer impact
- Responsive
 - Time-pressure
 - Speed, extra manpower
 - Immune response
- Combined Preventative- Responsive
- Documentation



Stamping Out

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- No “one solution fits all outbreaks”
- Fit policy to capabilities and reality
- EFSA epi’ experts statement 2016:
 - *“When using an effective vaccine*
 - *and vaccination coverage is high enough-*
 - *Stamping-Out has minor effect”*



Stamping Out

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- it’s the first incursion to a country/region
- isolated small outbreak detected and notified
- the infection to detection period is short
- the threat of repeated incursions is low
- Epi’ unit can be well defined and isolated
- Immediate response- quick & effective
- Regaining freedom of LSD
- back to normal business


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Carcass disposal (dead/culled)

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- Legislation & environment; water, land...
- Amount of carcasses to dispose/ time
- Availability on farm/ near farm, cost
- Carcass is not important source of spread
 - Cover, repellent spray
 - Distance to incineration plant
 - Vehicles route- entering non-infected farms
 - Special vehicles/ special routes - extra costs

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Simulation exercise

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- Based on RA and contingency plan
- “general rehearsal”- make it real
- Different planner / actors/ referee
- All active players
 - Head quarters
 - officers
- Scenario- Expected & unexpected
- Post exercise- Analyse, fix, adjust C’ plan and means
- Use brain-storming not blame-storming

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Summary

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- Be prepared
 - Detailed plan
 - Have everything ready, everybody trained
 - vaccination
- Awareness
 - All stakeholders and levels
- Respond asap
 - Contain
 - Control
 - Back to freedom

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Thank you

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Don't reinvent the wheel
 adjust it to your conditions & capabilities



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