Summarized Survey Results on National Laboratory System for GHSA Meeting on Animal Health Sector

Involved Countries

- Vietnam
- Sri Lanka
- The Philippines
- Thailand
- Cambodia
- Bangladesh
- Nepal

Top 5 burden diseases (Zoonosis only)

- Rabies
- Avian influenza
- Leptospirosis
- Brucellosis
- Tuberculosis

1. Evaluate capacity needed at national reference, provincial, and district laboratories and implement a five-year approach based on experience with Integrated Disease Surveillance and Response (IDSR) and other ongoing platforms to build capacity at each level

- National level
- Regional level
- State/Provincial level
- District level

National level

- Molecular diagnostic capacity sustained/improved
- Proficiency testing, Diagnostic and Quality management of In-house methods, sharing and update information of diagnostic technique, diagnostic standards, training
- Infrastructure improvement & training
- BSL3
- Establishment a strengthening of VEC
- Need trained personals and technical support

Regional level

- Modernize laboratory facilities, equipment, training and competent staff
- Proficiency testing,Diagnostic and Quality management of In-house methods, sharing and update information of diagnostic technique, diagnostic standards, training program,research
- Infrastructure improvement & training
- BSL3
- Establishment a strengthening of VEC

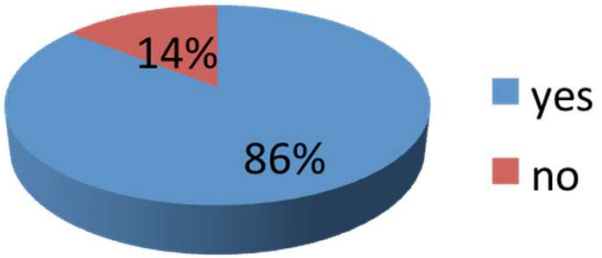
State/Provincial level

- Proper collection and packaging of specimen/good data
- Proficiency testing,Diagnostic and Quality management of In-house methods, sharing and update information of diagnostic technique, diagnostic standards, training program
- Not currently at state/provincial level

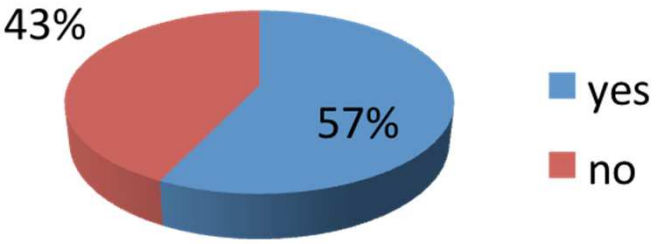
District level

- Training on rapid field test and disease information awareness
- Diagnostic and Quality management of In-house methods, sharing and update information of diagnostic technique
- Infrastructure improvement & training
- District epidemiological unit

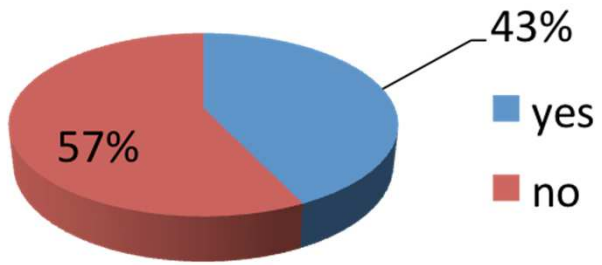
2. Integrate or increase collaboration among human and animal laboratory systems for a One Health approach



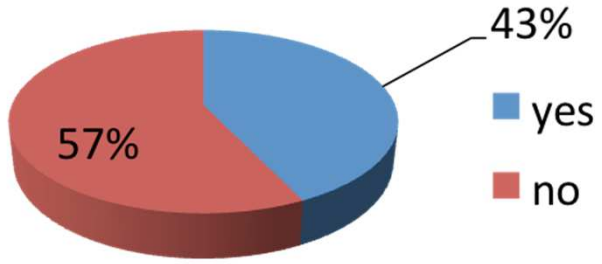
3. Have field-test novel point-of-collection diagnostics appropriate for screening outbreak specimens



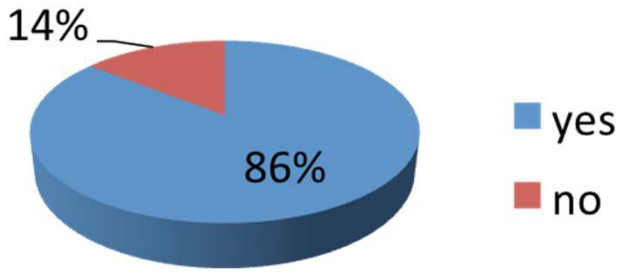
4. Train biomedical engineers in-country to certify biosafety cabinets and repair/maintain general laboratory equipment



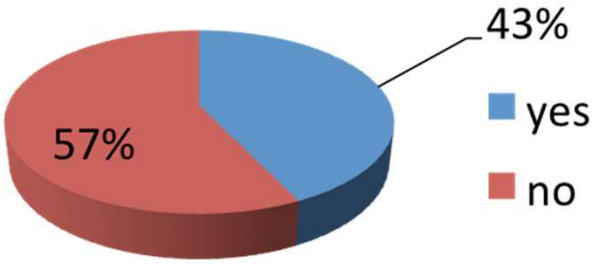
5. Systematically submit microbial samples or isolates to the public health reference laboratory/ies at the regional or national level



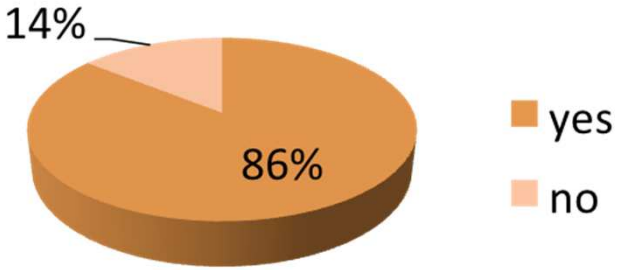
6. Establish a laboratory information management system that links with the national disease reporting system.

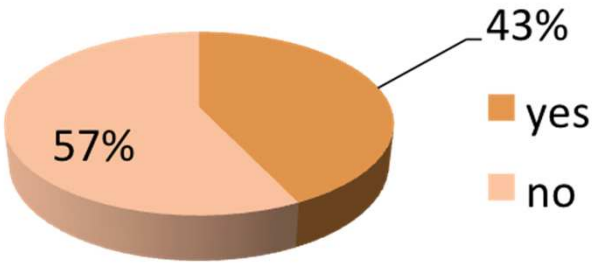


7. Provide infrastructure improvements, security enhancements, freezers, and a pathogen access control software system to archive and protect collections of dangerous pathogens.



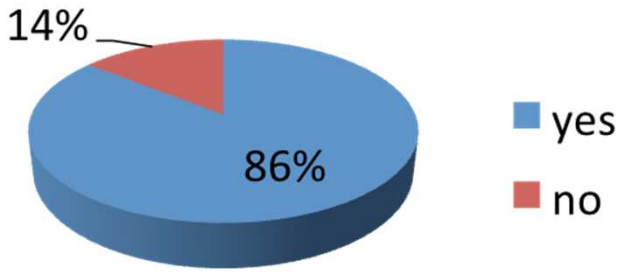
8. Implement step-wise improvement toward accreditation at the district and central levels.
    - 8.1 Central level
    - 8.2 District level



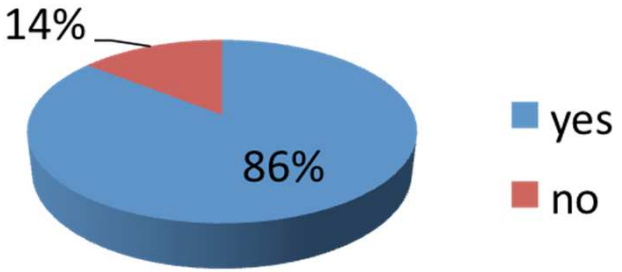


9. Implement basic microbiology training for district-level laboratory technicians

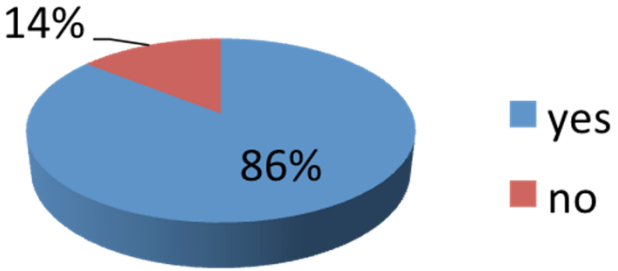
- Specimen collection



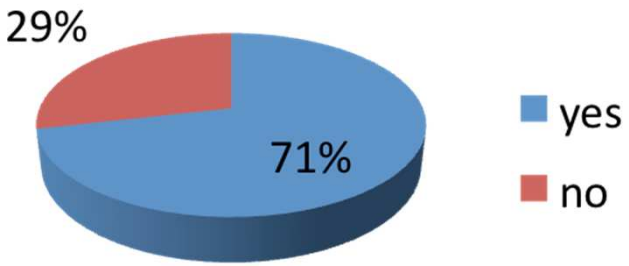
- Packaging, transport



- Disposal

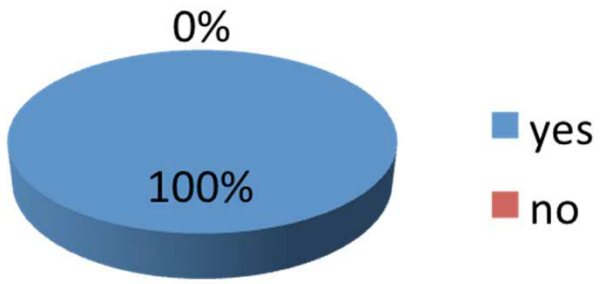


10. Have mechanisms to integrate and sustain national and regional diagnostic capability, including acquisition of reagents and media and access to reference laboratories to support ongoing validation of point-of-care diagnostic tests



Baseline Assessment and Planning Activities

1. Use OIE's PVS Pathway to identify countries' priorities for strengthening core competencies.



2. Identify the five priority test-pathogen combinations to form the basis for nationwide laboratory system strengthening efforts.

Rabies

	History taking	Histo-path	PCR	FAT	RT PCR	Mice inoc.	Direct smear	ELISA
Vietnam		X	X					
Thai				X	X	X		
Bangladesh		X						
Cambodia							X	
Philippine	X				X			X
Sri Lanka		X		X				
Nepal	NA							

AI

	HA-HI	Viral isolate	PCR	RT PCR
Vietnam	X	X		X
Thai	X	X	X	X
Bangladesh				X
Cambodia	X			
Philippine				X
Sri Lanka			X	
Nepal	NA			

Leptospirosis

	Culture	MAT	Sero-agglu
Vietnam		X	
Thai		X	
Bangladesh	NA		
Cambodia	X		
Philippine	X		X
Sri Lanka	NA		
Nepal	NA		

Brucellosis

	Culture	Rose Bengal	CFT	ELISA	PCR
Vietnam	NA				
Thai	X	X	X	X	X
Bangladesh	NA				
Cambodia	X				
Philippine	NA				
Sri Lanka	X				
Nepal	NA				

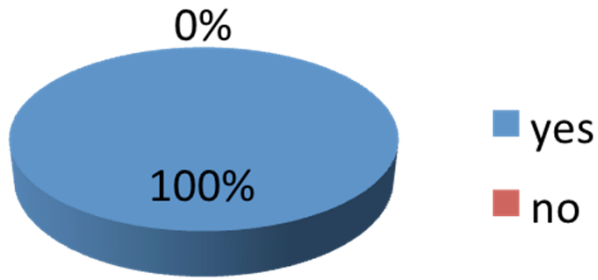
TB

	SID	PCR	Culture
Vietnam	NA		
Thai	X	X	X
Bangladesh	X		
Cambodia	NA		
Philippine	NA		
Sri Lanka	NA		
Nepal	NA		

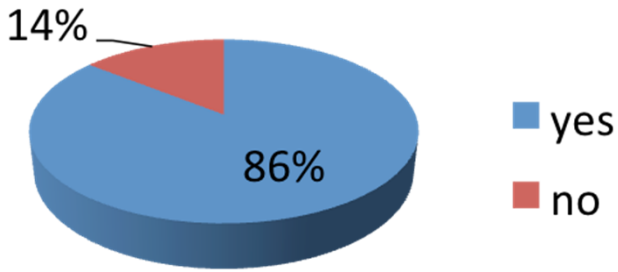
3. Determine the level of diagnostic capability practical and needed at each level of the animal health hierarchy from national to district

	National	Regional	State	District	Other
Vietnam	2+/3	2/3	1-2/2	1 /2	-
Thai	2/3	2 or 3 /3	-	-	-
Bangladesh	3 /4	2/3	2/3	2/3	2/3
Cambodia	2+/3	2/-	-	-	-
Philippine	Good/excellent	Poor/better	Poor/good	Poor/good	-
Sri Lanka	2/3	1 /2	-	1 /2	-
Nepal	3/-	2/3	-	1 /2	-

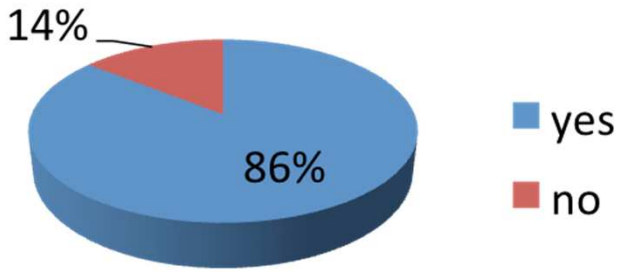
4. There are laboratory assessments



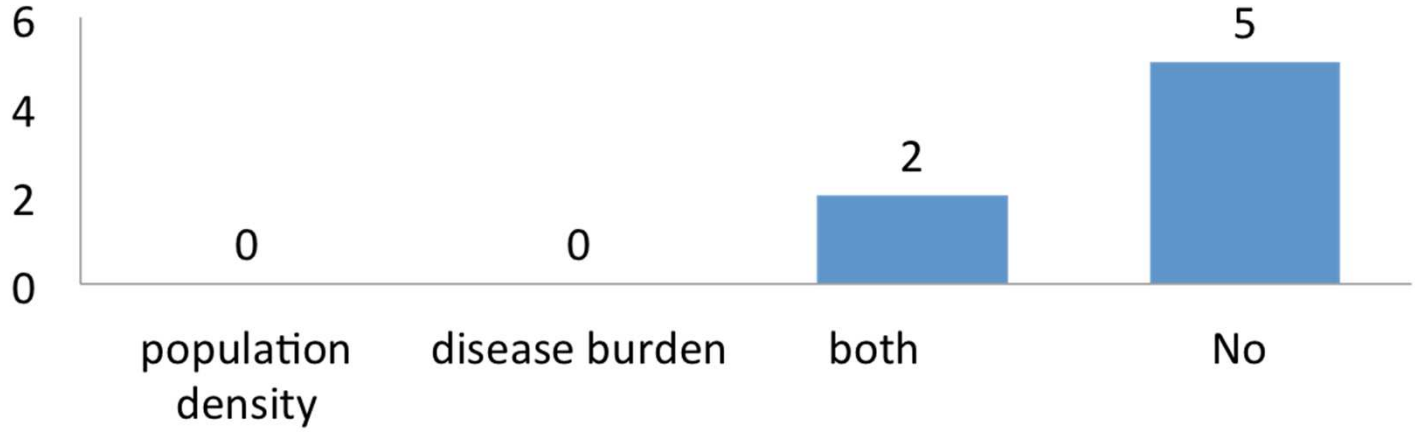
4.1 If the assessments failed, is the correction performed prior the test continue



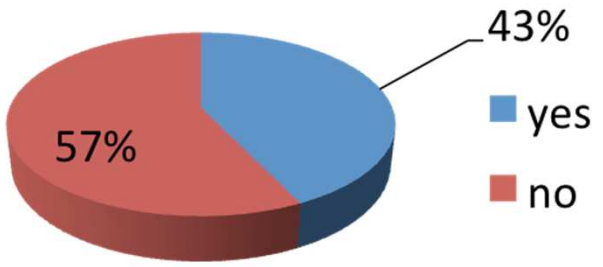
5. Develop national plans for developing and transitioning diagnostic approaches and training



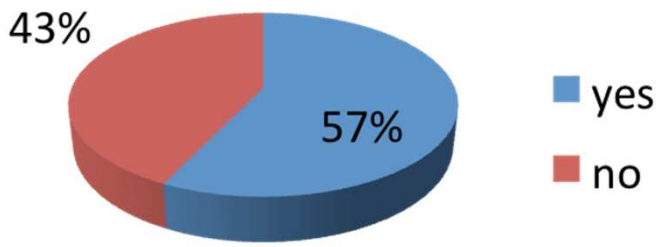
6. Map all laboratories in the country with geographic information system (GIS) technology.



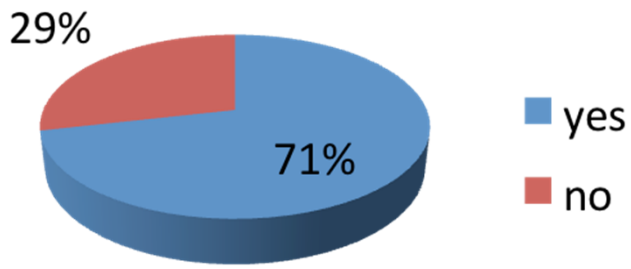
6.1 Calculate the number of additional testing facilities or specimen referral routes needed to ensure animal population access, especially by rural and vulnerable animal populations, to diagnostic testing and care facilities



7. Contain existing system vulnerabilities (e.g., laboratory commodity supply chain weaknesses)



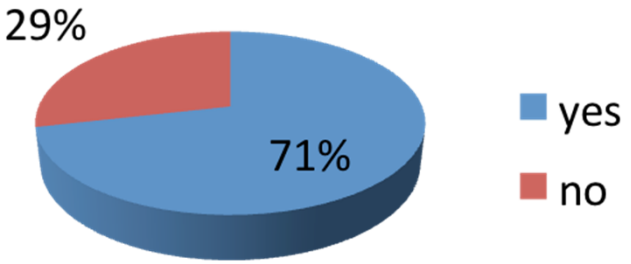
8. Develop national protocols to address specimen handling (safe and secure collection, packaging, transport, and disposal), controlled archiving, and import/export procedures.



8.1 Identify public-private partnerships that could support a more robust specimen transport system and/or use of mobile health technology for laboratory result reporting

- DHL, Air21, LBC
- Vietel telecom portal, VN post express, Airlines
- Not established currently developed online system, real-time reporting system
- One RLR1, One central lab(CD1L), Seven regional labs

9. Develop a complete toolkit of best practices, guidance, lessons learned and capacity building actions to offer to countries and to contribute to measurable progress



10. Identify performance measures.

10.1 Identify performance measure on target laboratories improvements, testing capacities, and result reporting pathways

10.2 Identify existing performance measures for laboratory-based disease surveillance.

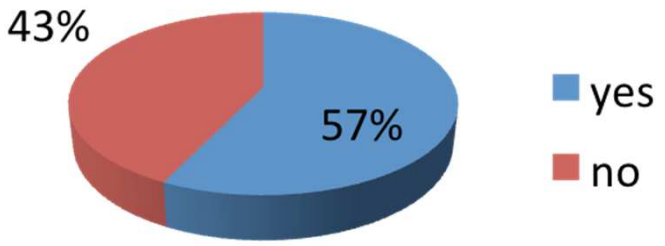
10.1 Identify performance measure on target laboratories improvements, testing capacities, and result reporting pathways

- Proficiency testing, Laboratory Quality Assurance and Biosafety
- Training, funding, sharing information
- Assay and sample turnaround time
- Encourage target lab to certify by ISO 17025
- Not yet established

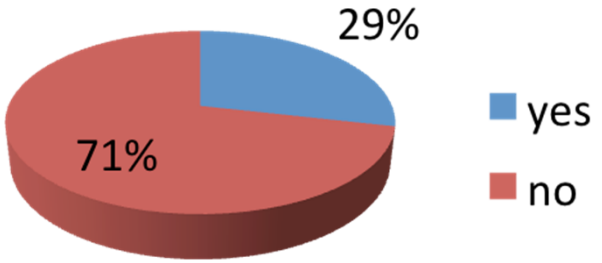
10.2 Identify existing performance measures for laboratory-based disease surveillance.

- Proficiency testing, develop SOP protocol
- Surveillance program(detailed sampling schedule, collected samples), epidemiology info., risk assessment
- Assay and sample turnaround time, ISO9001
- Using disease outbreak incidence
- Not yet established

11. Develop appropriate accreditation programs at the district and central levels



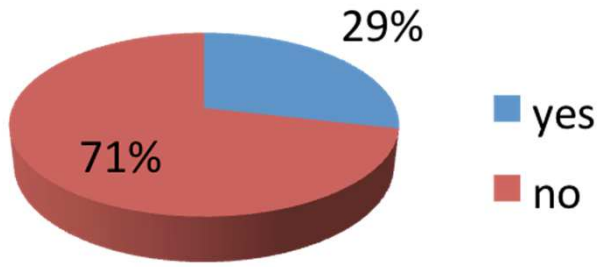
12. Develop a catalog of diagnostics, both currently available and in development, which may be of use to partners interested in incorporating new diagnostic capabilities



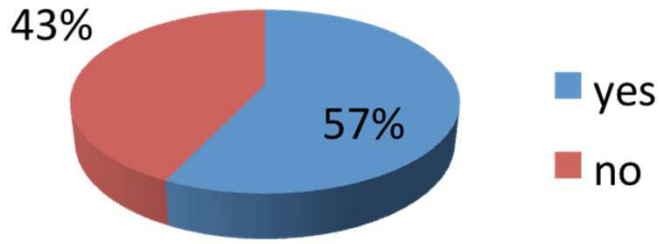
Monitoring and Evaluation Activities

1. Laboratory quality assurance:

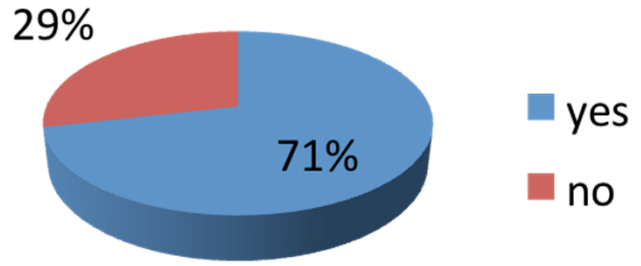
1.1 Train long-term laboratory assessors.



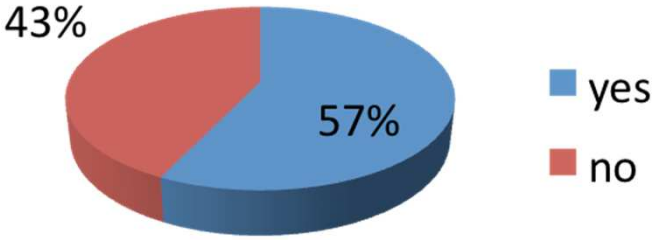
1.2 Conduct biannual proficiency panel testing on testing capacities defined by tier at each testing site.



2. Conduct proficiency testing for animal diseases with guidance from reference laboratories.



3. Monitor turn-around time and laboratory result reporting and ensure that they are within defined limits.



4. Review system performance during outbreaks or execute drills to assess performance of system improvements at least biannually.