



ACTION-PLAN

2020-2022



SEALAB
SOUTH-EAST ASIA LAB NETWORK





Australian Government



**This project is supported by the
Australian Department of Foreign Affairs
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Security**





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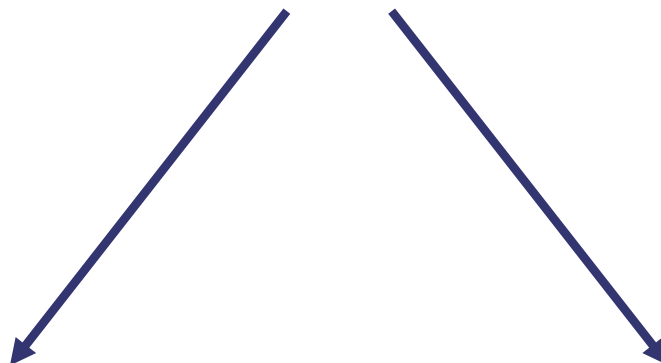
- Introduction of SEALAB Project
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Australian Government



Avoidance and containment of infectious diseases in the region



SEALAB project (Cambodia, Laos, & Myanmar)



SEALAB Project



2020-2023





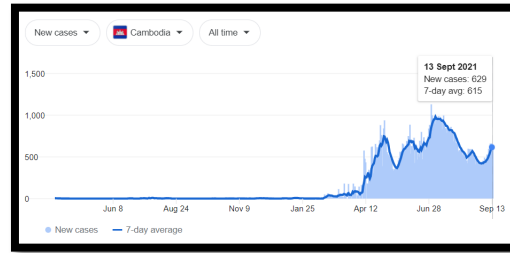
SEALAB Project 2020-2022

- **Objective:**

SEALAB aims at reinforcing national health system in Cambodia, Laos and Myanmar to enable them to respond to emerging infectious diseases, which are potentially pandemic, and/or zoonotic threats.

**Focus on laboratory systems:
Strengthening laboratories**





Strengthening the Laboratory System





Project logic of intervention

Strategy n ° 1

National and regional laboratory networks are functional

Strategy n ° 2

The national strategies and policies related to human (H) and animal (V) laboratories systems are updated in Cambodia, Laos and Myanmar

Strategy n ° 3

The laboratory network coordination at the national and international level for human (H) and animal (V) health is active

Strategy n ° 4

Laboratory workforces in Cambodia, Laos and Myanmar are reinforced

Strategy n ° 5

The quality management system in the laboratories (Human and Animal) are reinforced

Strategy n ° 6

Data management in the main laboratories (Human and Animal sector) are reinforced

Strategy n ° 7

The laboratory supervision and control in Cambodia, Laos and Myanmar is active





The Action-Plan

Its presentation is the main objective of the meeting today!

- The action plan is a detailed plan with specified actions that are needed to achieve the goals of SEALAB project.
- Furthermore, the action plan determines which resources are required to achieve the objectives and how and when these must be used.
- That means that our action plan will lead to a more concrete vision of implementation of the project.
- The advantage is that the various partners working on SEALAB project are on the same page.





Strategy n°1 :

National and regional
laboratory networks are
functional



OBJECTIVE 1.2 : National laboratory networks setup and coordination

- **OUTCOME :**

SEALAB project is implemented in collaboration with the institutional and technical partners and aligns to the national health policies and strategies.

- **ACTION PLAN : Networking activities**

1. Steering Committees

2. Presentation of the project action plan

3. Working Groups which members representing a cross section of leading decision-makers



OBJECTIVE 1.2 : Presentation of the project action plan and provision of appropriate tools

- **OUTCOME** : The project is adapted to each national specificity and needs and appropriate tools are available

Restitution of Lab System assessments analysis

IQLS has conducted an assessment of the Laboratory System in human health and veterinary systems to identify strengths and weaknesses of the systems and so to provide recommendations to implement SEALAB project.





CREATE SEALAB WORKING GROUP

- **Key functions of the WG**
 - Monitoring the progress and findings of the project;
 - Reviewing the national laboratory policy /strategic plan;
 - Proposing update
- **The WG is composed of health authorities, decision makers and key stakeholders a total of 12 to 15 permanent participants to facilitate constructive discussions.**



OBJECTIVE 1.3 Regional laboratory networks setup and coordination

OUTCOME : The laboratory system network H and V is functional

- Quality Champions will be identified in each participating lab in the framework of S.5 “Quality Management System”.
- All QChs from the 3 countries will be invited to attend the NRL annual workshop in Australia in 2022





Strategy n°2 :

The national strategies and policies related to laboratories systems are updated



OBJECTIVE.2.1 : Strengthening Laboratory Policy

OUTCOME : National action plans/policies H and V are updated and implemented in Cambodia

HUMAN HEALTH SECTOR

BACKGROUND

- A National Policy for Medical Laboratory Services was developed and endorsed by the MoH in September 2009. The latest strategic plan covers the period 2015 - 2020 but has not yet been updated from 2009.
- The Lab System and Data Management assessments conducted by IQLS has highlighted some priorities that need to be updated :
 - Laboratory system management,
 - Laboratory HR,
 - Quality, biosafety and biosecurity management,
 - Data management,
 - Laboratory supervision and control.



HUMAN SECTOR ACTION PLAN (Continued)

- IQLS, BMLS will plan virtual meetings with the objective of reviewing and updating the vision, mission, and objectives of the previous National Laboratory Strategic Plan.
- These meetings and collaboration should result in proposal for a revised plan, to be presented to the Working Group (S.1)
- The Working Group will discuss and amend the updates proposed to reach an agreement.
- FMX will organize a workshop bringing together all stakeholders with influence on the laboratory system to endorse the proposal.



BMLS will initiate/complete the process of approval and validation of the Updated National Laboratory Strategic Plan by relevant Authorities at the MoH.



ANIMAL HEALTH SECTOR

- **BACKGROUND:**

- The Veterinary Laboratory System is limited only at central level with NAHPRI (National Animal Health and Production Research Institute), RUA (Royal University of Agriculture), PNCA (Prek Leap National College of Agriculture) and KNIA (Kampong Cham National Institute of Agriculture) are not yet included in the laboratory system.
- There is a plan to establish 5 provincial laboratories under WB project, to perform basic testing.

- **ACTION PLAN**

- IQLS will organize 1 workshop with key stakeholders to define the laboratories tiered level network outlining minimum before setting up the 5 provincial labs.





ANIMAL HEALTH SECTOR (Continued)

BACKGROUND :

A draft of a National Strategic Plan for Veterinary Laboratory was issued in 2016 under support of OIE, but has never been finalized nor endorsed by Authorities

- SEALAB project will give opportunity to review and update this draft with online support of IQLS to a dedicated team from GDAHP/NAHPRI.

ACTION PLAN :

- The Working Group will discuss and amend the updates proposed to reach an agreement.
- FMX will organize a workshop bringing together all key stakeholders to endorse the proposal.





Strategy n°3 :

The Laboratory Network
Coordination at the
National and International
Level for Human and
Animal Health is Active



OBJECTIVE 3.1 Lab System Workshop for both H&V is active

OUTCOME: The laboratories systems H and V in Cambodia are structured and have improved to respond to outbreaks.

- **Activities planned to reach this objective:**
 - 1. ASSESSMENT OF LAB SYSTEM AND DATA MANAGEMENT
- **ACTIVITIES DONE :**
 - Assessment of the Data Management in the Human Health Sector
 - Assessment of the Lab System in Human Health Sector
 - Assessment of the Lab System in Veterinary sector
 - Assessment of the Data Management in the Veterinary Sector
- **ACTION PLAN :** Organize a ONE HEALTH national laboratory network meeting in Cambodia to reconstitute the outcomes and recommendations of the assessments performed by IQLS



2. SPECIMEN TRANSPORTATION SYSTEM

- **BACKGROUND :**

The COVID pandemic has revealed the weaknesses of specimen shipping to reference laboratories.

- **ACTIVITY PLANED :**

A component of SEALAB project aims at mapping laboratories and to assess the flow of samples within the country to propose a pilot transportation system to be experimented in 3 provinces for 6 months. Post-intervention analysis should outline a realistic and sustainable system.

- **ACTION PLAN :**

1. Survey :

The National Sample Transportation (NST) Survey will involve the national laboratory network including 10 national laboratories, 123 provincial hospital laboratories, and specialized/research laboratories .



SURVEY QUESTIONNAIRE

Project Title: Biological Sample Transportation Components

Survey Objectives: This survey aims at gathering some information to establish the biological sample transportation components (sample flow, transportation mapping, packaging, and transportation control system) within the national laboratory network in Cambodia.

Ethical Consideration: This survey was approved by BMLS/GDAHPP on the TOR for the consultancy to assess the current flow of specimens and mapping of the sample transportation.

All the information is confidential. If you have already completed this survey, THANK YOU VERY MUCH!

I. General Information

I.1. Surveyor:

I.2. Key Informant:, Position:

TeL (telegram):, Email address :

I.3. Date of Survey : (DD/MM/YY)

II. Laboratory Facility Information

II.1 What is your hospital laboratory name/laboratory name?



2. Laboratory Working Team

It is planned to set up a Laboratory Working Team to participate in the design of the pilot transportation system and to follow-up the progress of this component.

It is expected that all key stakeholders from Human Health sector and Animal Health Sector can participate in this LWT.

- At the end of the presentation, we would appreciate if all people interested to be involved in this LWT can give their name and their position in the chat box. They will be included in the invitation for the next meeting likely scheduled mid-October.



OBJECTIVE 3.2. Facilitate and strengthen the development of regional networks through countries

- **OUTCOME :** Development of knowledge and experience are sharing between the countries.
- **ACTION PLAN :**
 - Online participation in the 37th symposium on Infectious Diseases Testing 11-13 October 2021, organized by NRL in Melbourne, Australia.
 - FMX will survey regional symposium / conferences / workshops organized in the region when COVID restrictions are eased and select participants among lab professionals trained in the framework of SEALAB.



ICLS011 2022: 16. International Conference on Laboratory Safety
December 06-07, 2022 in Kuala Lumpur, Malaysia





Strategy n° 4

Laboratory workforces
are reinforced

OBJECTIVE 4.1. Development of training curriculum and material

- OUTCOME : Laboratory trainings material are available in Khmer language for H and V

Human Health Sector

ACTIVITY DONE :

3 steps to design the curriculum :

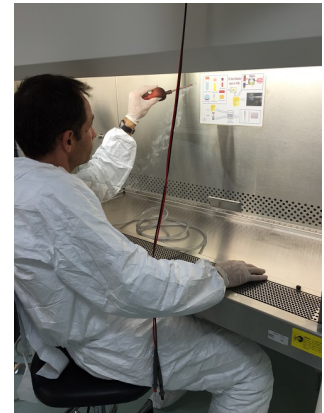
- Rather to offer a standardized curriculum, FMX listed 35 topics in various laboratory areas.
- This list was submitted to the lab technicians in the 5 participating hospitals to be completed according their needs.
- Finally each laboratory scored the topics proposed from priority to useless and the 13 modules with highest score are selected.

Apart from technical topics, it should be noted that:

- Preventive maintenance is a constant request from laboratories
- Development of knowledge translation between labs and practitioners is a critical issue

ACTION PLAN

Development of training materials is ongoing.



VETERINARY HEALTH SECTOR

ACTION PLAN : training materials to be developed

- Emerging diseases already circulating in the region which are primary concern for NAHPRI to capacitate veterinarians to identify and lab technicians to test.
- **Testing emerging zoonotic diseases**
 - Melioidosis, Leptospirosis, Q fever
- In addition to NAHPRI staff, this training will include 48 graduates from Cambodia Applied Veterinary Epidemiology Training (CAVET funded by DTRA); these veterinarians are field epidemiologists and disseminated in the 24 provinces.



ONE HEALTH

ACTION PLAN : training materials to be developed

- **NRL is working with BMLS for updating bio-safety and biosecurity guidelines according WHO new requirements.**
- **Specific focus on COVID testing.**

***A two-day workshop will be organized to deliver the training to all reference and hospital laboratories and to NAHPRI.**



OBJECTIVE 4.2 Organize trainings of trainers (TOT) for laboratory techniques

- **OUTCOME:** National expertise for laboratory capacity building is available.

ACTION PLAN for HUMAN HEALTH SECTOR Only

The context of travelling restrictions required BMLS to identify local experts/experienced lab technicians, engineers, epidemiologists, it is a great opportunity to create a sustainable training system in place of hiring trainers from abroad.

- Selected trainers will work with the external experts who drafted the modules to improve/amend/complete the training materials to make sure that it matches with the need in the laboratories and to reinforce ownership by the national trainers
- TOT will be organized from mid-October to December 2021; sessions of 2 hours/week



ACTION PLAN for HUMAN HEALTH SECTOR

Only (continue)

Key points :

- Trainers (having received ToT) will train Lab technicians for the selected topics. If necessary external experts will be hired (DMDP, IPC...)
- Technologists on Site (TOS) have been recruited and contracted to coordinate the collaboration with external expert, to arrange logistics of bench trainings and to assist trainers to deliver trainings.
- Identification of at least 10 trainees (or more) by the Lab Managers in collaboration with BMLS.
- Lab technicians will be trained by groups at the laboratory of one of the 5 selected hospitals. Necessary reagents will be provided .
- Trainings will be delivered along the Year 2022. The non-cost extension of SEALAB project allows to better split trainings for disturbing as less as possible the routine work of the laboratories especially by anticipating an overload of work is the COVID pandemic regularly resume
- A certificate will be delivered at the end of the course.



OBJECTIVE 4.3 Organize trainings for laboratory professionals

Training curriculum will be split in :

- Academic trainings

These trainings will be provided online with support of facilitators on priority topics identified by NAHPRI

- Practical trainings

IQLS will provide bench training and reagents.





Strategy n° 5 :

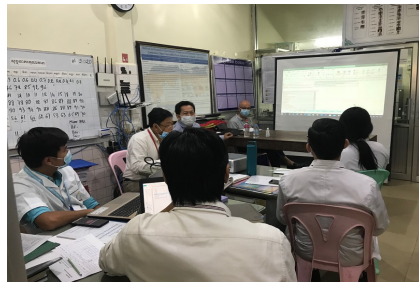
The quality management system in the laboratories (H and V) are reinforced

OBJECTIVE 5.1: Audit of the laboratories enrolled into the project

OUTCOME: QMS in H/V laboratories are respectively harmonized (for H labs and V labs) and have improved in the country

ACTIVITIES CONDUCTED

- From 11 November to 4 December 2020, NRL conducted virtual situational analysis of the capacity and QMS at each of the 5 human health laboratories, using the “WHO Laboratory Assessment Tool (LAT) Annex 2: Facility”.
- NAHPRI is the only operational veterinary laboratory and the QMS was assessed by IQLS as a part of the Veterinary Laboratory System.



One Health QMS training workshop



- Virtual QMS Training Workshop held on 26, 27 May and 2, 3, 4 June 2021

The objective of the training workshop was

- To cover the foundations of QMS and introduce continuous improvement concepts.
- To set the scene for the training and mentoring sessions that are to follow.

5 Hospitals' laboratory and NAHPRI participated in this high level and conceptual training.





OBJECTIVE 5.2: Developing and implementing trainings based on the QMS assessment findings

OUTCOME: QMS in H/V laboratories are respectively harmonized (for H labs and V labs) and have improved in the country

ACTION PLAN FOR HUMAN HEALTH SECTOR

- 5 Training sessions by NRL
- Every two months , August 2021 -August 2022
 - Topic 1 August 2021: Risk Management
 - Topic 2 October 2021: Internal Auditing
 - Topic 3 February 2022: Managing and resolving non-conformances: root cause analysis (RCA).
 - Topic 4 April 2022: Corrective and preventative actions: corrective action request (CAR) and identification of opportunities for improvement.
 - Topic 5 June 2022: Process mapping for planning and improvement.



NRL principles for training organization

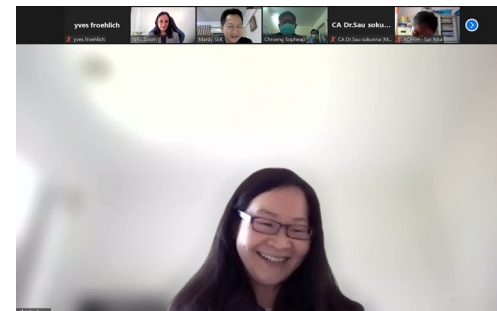
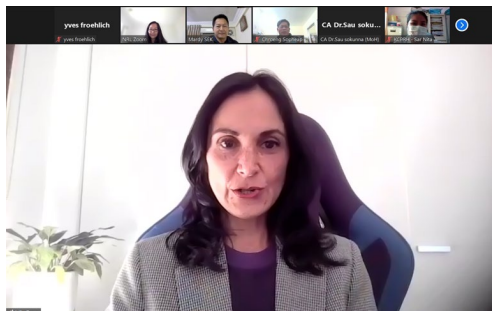
- 5 labs meeting in the one location (if possible) to create a network between staff from the different hospital laboratories, sharing similar goals and challenges, and their experience in their settings.

Once a strong network has been fostered, interactions and exchanges would continue once the project has finished, and provide a valuable means of support for each other on their continuous quality improvement journey.



NRL methodology to deliver online training

- Presentations delivery comprise of a mix of presentations, activities and group discussions.
- Question and Answer Sessions is held at the end of each day
- Pre- and Post-Training Questionnaires using an online polling tool, Poll Everywhere
- Evaluation of Training to ask participants for anonymous feedback on the trainer and training.



OBJECTIVE 5.2: Developing and implementing trainings based on the QMS assessment findings

OUTCOME : QMS in H/V laboratories are respectively harmonized (for H labs and V labs) and have improved in the country

ANIMAL HEALTH SECTOR

Background

- NAHPRI (formerly NAVRI) was assessed in 2015 with FAO Laboratory Mapping Tool
- QMS training was conducted by WSU (2019)

ACTION PLAN

- IQLS assessed QMS at NAHPRI as a part of Lab System in January 2021
- According reports NAHPRI identified some topics to be refreshed by IQLS :
 - Non-conforming work and corrective actions
 - Control of records
 - Internal audits
 - Measure traceability
 - Assuring quality of tests results



OBJECTIVE 5.5: Support professional development of quality managers

OUTCOME : Quality managers are autonomous to run QMS in each country

HUMAN HEALTH SECTOR

- Selection of Quality Champion (QCh) in each lab.
- After common training sessions, each hospital will have 2 one-on-one mentoring sessions for each topic to support the implementation and/or improvement of their respective processes.





ANIMAL HEALTH SECTOR

IQLS will support drafting necessary documents to develop a QMS

- **Documents to be developed**
 - Veterinary Laboratory Quality Policy
 - Laboratory Quality Indicators
 - SOPs to implement IQC and statistical analysis for quantitative analysis
 - SOPs for the appropriate monitoring and analysis of EQA results
- **GDAHP will assign a team to issue the documents**



OBJECTIVE 5.3: Support the development or scale-up of the national EQAAS programs.

OUTCOME : National EQAAS unit for H and V are established and functional for infectious and zoonotic diseases in the three countries

ACTION PLAN FOR HUMAN HEALTH SECTOR

- **NRL will deliver a 3-day high level virtual EQAS trainings to BMLS and NIPH to introduce EQAS concepts and help MoH to decide which lab should be supported for EQAS.**
- **Topics of the training :**
 - Identify laboratories participating in EQAAS and the analytes,
 - Identify organization to provide samples,
 - Develop a sample bank, for preparation of panels,
 - Data collections and database, data analysis,
 - Administrative process...



OBJECTIVE 5.4: Enrollment in international EQA

OUTCOME: Reference laboratories H and V comply to international standard to identify the 4 analytes

ACTION PLAN FOR HUMAN HEALTH SECTOR

- NRL or other provider will supply EQAS panels and perform a full EQAS training for new analytes selected by the 5 labs
- Training on how to select, test and use data from QC samples
- Training session on EQAS, the importance and process and link to the managing and resolution of non-conformance

4 analytes are selected by each lab





Strategy n° 6 :

Data Management in the
Main Laboratories (H and V)
are Reinforced



OBJECTIVE 6.1: Assessment of Data Management

OUTCOME: Data management assessment report are available and propose a plan of action in each country

IQLS has assessed data management at the central level in both human and animal health sector. These assessment were conducted online.

ACTION PLAN FOR HUMAN AND ANIMAL HEALTH SECTOR

- To assess if the LIMS are operational and respond to the needs
- To assess standardization/improvement needed for the LIMS in the 5 provincial hospitals to smooth data sharing with the central level





Specific support to HH Data Management

- **Support to BMLS :**
 - Finalization of SOPs for CamLIS software to provide instructions to maintain quality of data.
 - Support CamLIS SOP dissemination workshop
 - Training dedicated staff on data management and data analysis
- **Support to NAHPRI :**
 - Selecting, implementing and installing a LIMS for data capture
 - Building or strengthening a team for IT
 - Training dedicated on data management and data analysis



Trainings to be delivered by IQLS

Data management	Data analysis
<ul style="list-style-type: none">Entering the data into the computer system;	<ul style="list-style-type: none">Confidence intervals
<ul style="list-style-type: none">Checking the data for errors and inconsistencies (double entry with Epi-Info/ or using STATA...)	<ul style="list-style-type: none">Statistical tests
	<ul style="list-style-type: none">Statistical analysis plan
<ul style="list-style-type: none">Organizing the data into an appropriate form for analysis (re-coding)	<ul style="list-style-type: none">Analysis of proportions
	<ul style="list-style-type: none">Analysis of rates
<ul style="list-style-type: none">Archiving the data; interim backups, metadata, data sharing policy	<ul style="list-style-type: none">Analysis of mean value





Strategy n°7 :

The Laboratory
Supervision and Control is
Active

OBJECTIVE 7.1: Reinforce the relevant ministries to assess the laboratory System.

OUTCOME : The ministries in charge in each country have in-country capacities and expertise to supervise and control the H and V laboratories

ACTION PLAN

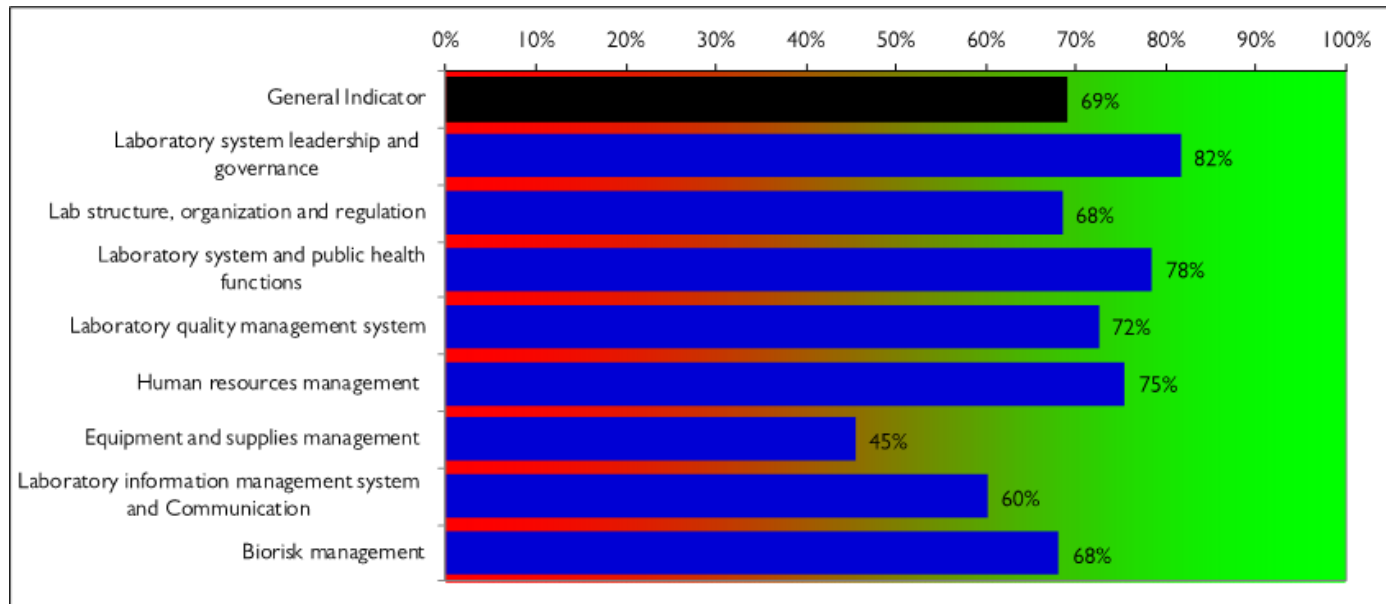
Laboratory System and QMS need to be assessed regularly and progress measured.

1. NRL will provide training for staff from HH and HA authorities on how to conduct laboratory assessments, using the LAT; it includes :



ACTION PLAN (Continued)

2. Trained personnel will conduct the Lab System assessment post-intervention of SEALAB project in collaboration with IQLS as a practical exercise.



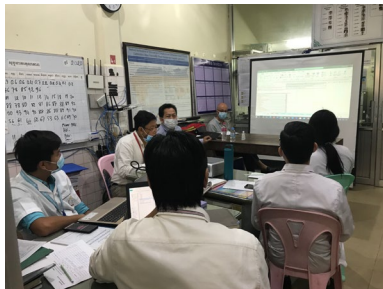
General scoring resulting of assessment in November 2020



OBJECTIVE 7.2: Support the ministries in charge to monitor QMS of laboratories.

OUTCOME: The ministries in charge perform autonomously in the H and V laboratories assessments

- This component will be redefined at the end of the operational phase of SEALAB project according to the progress to implement the Quality Management System.
- The principle is to mentor a team at BMLS to support the selected laboratories to continue improving their QMS and so to pave the way for accreditation.





THANK YOU!

Any comments or questions?