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# Review of Status of Plant Disease Diagnosis in Sierra Leone

- Agrarian economy 70% of population in Farming
  - Trend initially subsistence but shifting towards commercial production
  - Consequently greater demand for diagnosis and disease management
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- Presently slowly recovering from a devastating war
  - Diagnostic facilities (infrastructure and equipment) brought down to almost zero
  - Prior to the war these facilities could have been rated as fair
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# Table 1. Pre-war facilities for diagnosis

<b>INSTITUTION</b>	<b>Pathogen types</b>	<b>Location</b>
Crop Protection Laboratory (CPL) – Min. of Agriculture	F,B,N	North Central
Institute of Agricultural Research (IAR)	F,B	South
Njala University College (NUC)	F,B,N	South
Rice Research Station, Rokupr (RRS)	F,B,N,V	North
Seed Multiplication Project (SMP)	F,N	North and West

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- Diagnosis was mostly by symptoms, growth habit, microscopic examination and biochemical tests
  - Viral detection mainly serological using polyclonal antibodies
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- Devastation of facilities varied amongst institutions
  - RRS and CPL most affected
  - RRS, IAR, NUC, SMP initiated rehabilitation of structures
  - CPL still to reoccupy its facilities and phytosanitary border post grossly ill-equipped
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- Basic equipment acquired by RRS, although some are still in transit include:
  - Autoclave
  - Microscopes ( stereo / compound)
  - Laminar flow hood
  - Refrigerator
  - Freezer
  - Dispenser
  - Hotplate
  - Magnetic stirrer
  - HR Screen-house
  - Glassware
  - Reagents/Chemicals
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Staff attrition remains a major problem. Plant Pathologists in place at the various institutions are as follows:

Table 2. Functional Plant Pathologists.

<b>INSTITUTION</b>	<b>Number</b>	<b>Qualification</b>
CPL	1	B.Sc
IAR	1	M.Phil
NUC	2	M.Sc
RRS	2	PhD
SMP	-	-

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# Manpower improvement crucial

- Logistical constraints limiting productivity includes
  - Irregular electricity supply
  - Inadequate water flow
  - Mobility/Accessibility
  - Access to References
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## Requirements for improving on diagnosis

<b>Institution</b>	<b>Requirements</b>
CPL	Infrastructure, equipment , manpower development ( recruitment and training)
Research Institutions and the University	Equipment support and staff development

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- Specialist training in the major disciplines of Plant pathology required are:
  - Fungi
  - Bacteria
  - Nematodes
  - Viruses
  - Molecular techniques training needs to be addressed
  - Training of Technicians in current techniques in their specific disciplines for maintenance of high professional standards
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## Conclusion

- Sierra Leone's capacity for plant pathogen diagnosis is weak and desperately needs to be improved on.
  - Improving this situation requires considerable resources to be committed for capacity building in the areas of infrastructure, equipment and manpower development.
  - Sierra Leone cannot achieve this alone and needs the support and assistance from stronger institutions at national and international levels.
  - The development of the plant pathogen diagnostic network will greatly facilitate this.
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