



MIINISTRY OF AGRICULTURE AND FORESTRY

**PRESENTATION ON PHYTOSANITARY SYSTEM
IN
SIERRA LEONE**

BY

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During the IPPC High Level Symposium in CHINA

SIERRA LEONE





Outline of presentation

- Background information on agriculture
- Organogram of Sierra Leone NPPO
- Phytosanitary legal framework
- Regulated pest list
- Overview of case surveillance – non – compliance and managing regulated pest list
- Emerging pest
- Opportunities
- Challenges
- Suggestion- international, regional and bilateral



Background information on agriculture

The Four priorities are:

- 1) Rice self-sufficiency,
- 2) Livestock development,
- 3), Crops diversification,
- 4) Sustainable forestry management and bio-diversity conservation.
- The enablers are:
 - 1) Improved policy coherence, Joint and strategic planning, coordination, research and resource mobilization.
 - 2) Make youth and women catalysts for agribusiness development,
 - 3) Invest in catalytic technologies ie mechanism, irrigation, water management, remote sensing feeder roads by government and private sector.



Situated on the West African coast bordering Guinea and Liberia, Sierra Leone covers 71,740 square km with a population of around 7.7 million people. Sierra Leone is among the low human development countries (ranks 184 out of 189, according to 2018 UNDP Human Development Report).

The climate is generally equatorial with distinct dry season (November – April), and wet season, (May-October). Sierra Leone has 5.4 million hectares of arable land of which about 2.0 million hectares is under cultivation .

The arable land comprises of upland and more fertile lowland areas. The Country Policy and Institutional Assessment (CPIA) score normally ranges from 1 to 6 .The rating for Sierra Leone has improved from 2.5 in 2005 to 3.0 in 2014 and currently at 3.2 with no change from the previous year .



The average rice yield is to increase from the current (official) 1.2 tons per hectare to 6.85 tons per hectare. In addition to staple crops, it is also important to invest in the diversification of the production (for example fruits and vegetables, legumes, etc.).

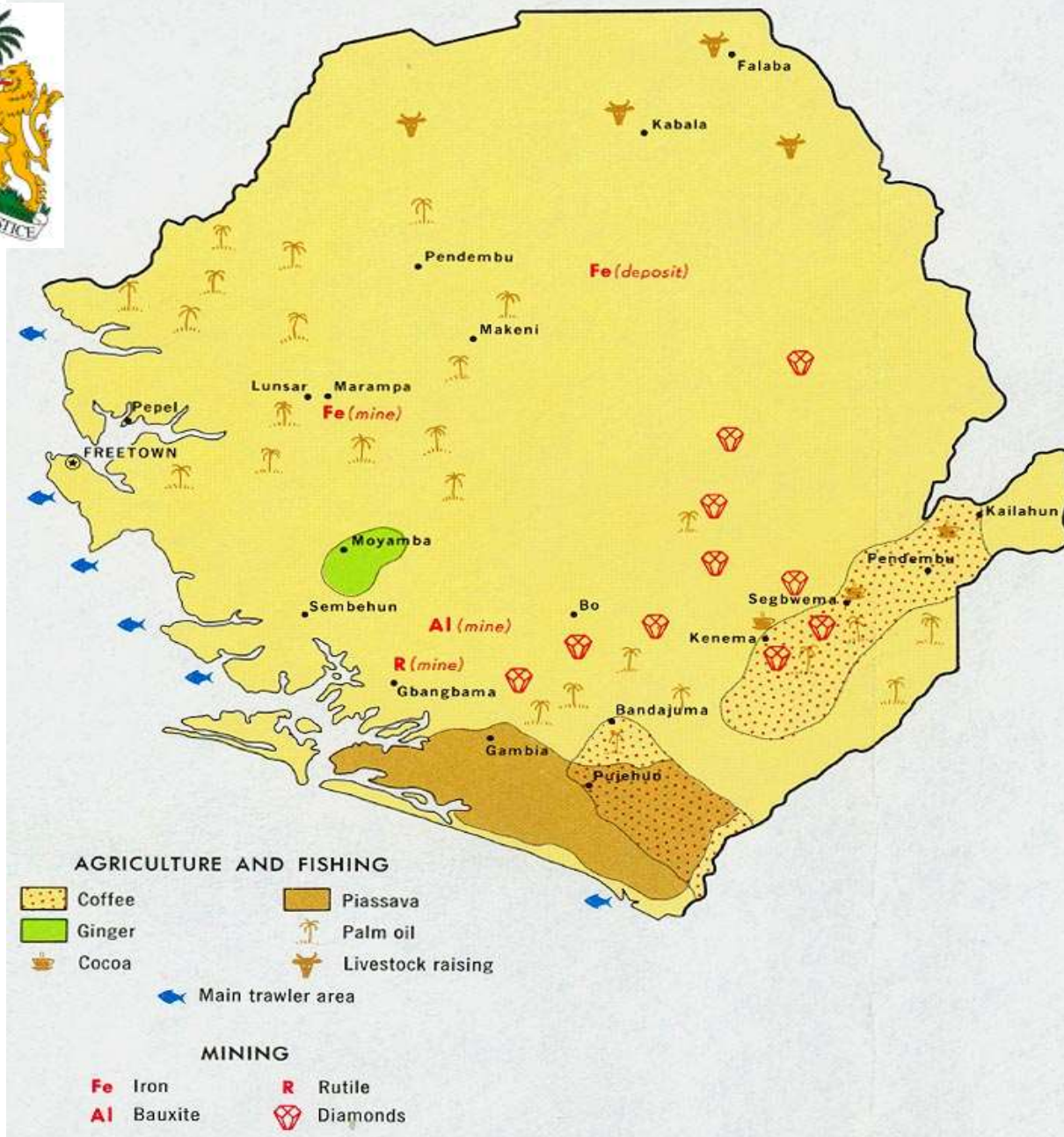
Agriculture contributes 60.7% of total GDP in recent times, and is the largest sector in the economy, employing around 60 % of the workforce

Women contribute significantly to the agricultural sector, providing an estimated 75 percent of the active labour force in food production, processing, preservation, marketing and preparation .

There remains a high level of informality within the agricultural sector, estimated to be up to up to 50% of the production and trade.

Besides, the sector is still facing challenges in terms of productivity and production, value chains structuring and market access, mitigation and adaptation to climate change effects.

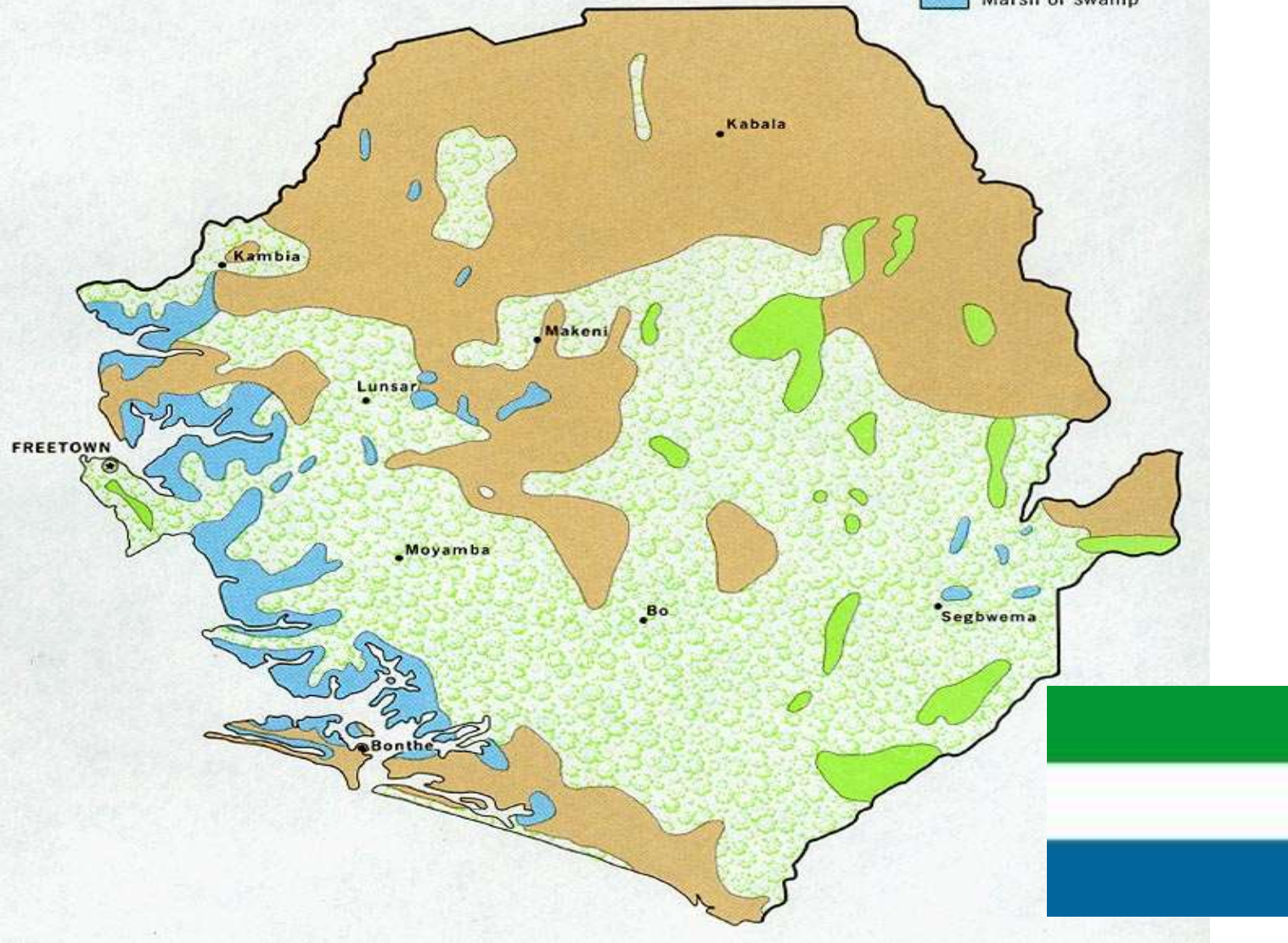
ECONOMIC ACTIVITY





VEGETATION

- Broadleaf evergreen forest
- Savanna
- Brush (secondary growth)
- Marsh or swamp





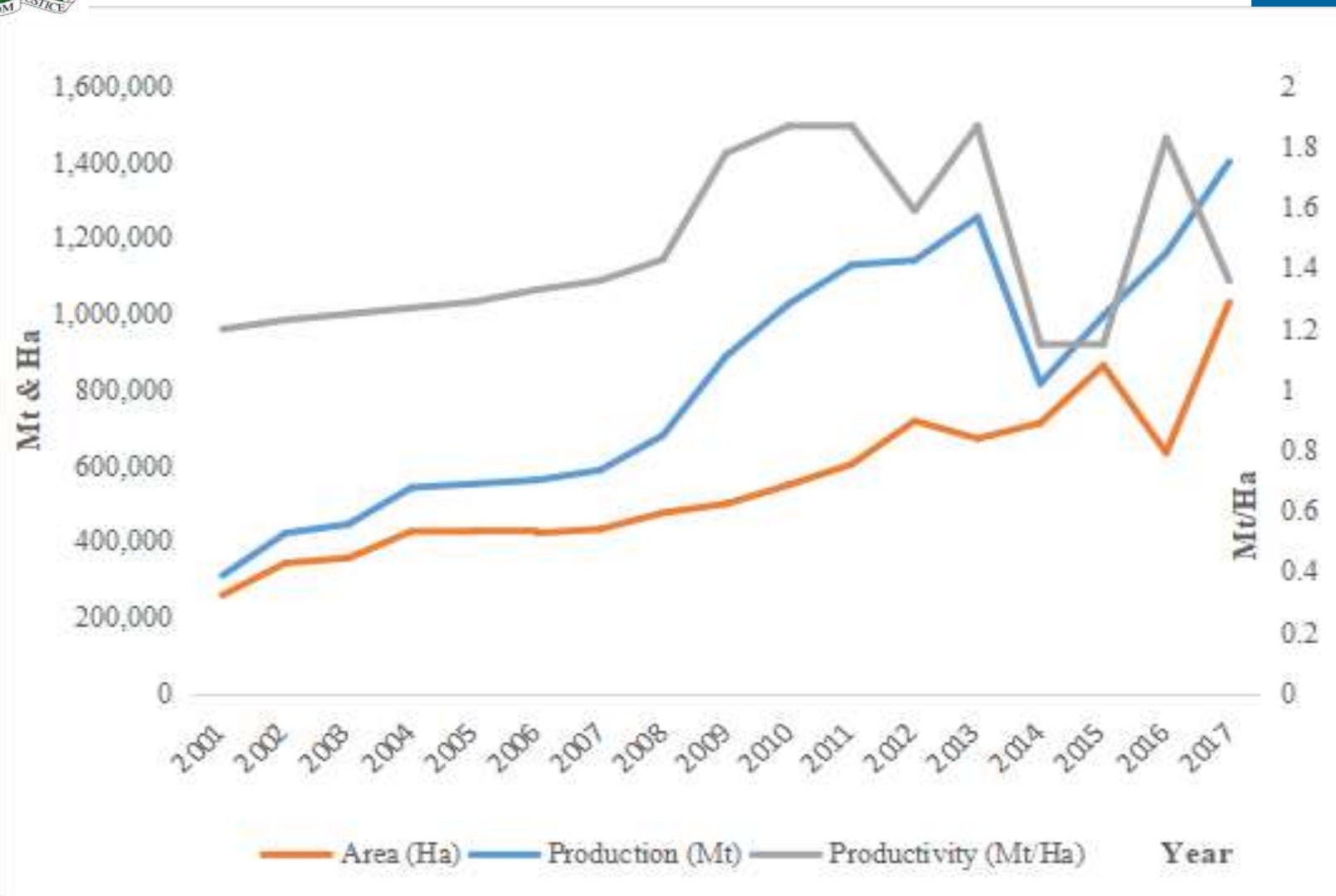
Annual Staple Crop Production Trends, '000 MT 2001-2018

Year	Paddy Rice	Maize	Cassava	Sweet Potato	Pulses/ Groundnut
2001	310.620	10.00	741.216	38.200	15.00
2002	422.065	10.03	895.817	45.450	28.00
2003	445.633	11.90	1,091.168	84.446	33.00
2004	542.000	12.49	1,758.004	153.196	40.00
2005	552.000	13.11	2,287.000	160.121	43.00
2006	562.000	16.24	2,973.100	168.129	48.00
2007	588.004	20.30	3,865.030	176.537	52.00
2008	680.097	22.85	4,058.288	180.068	58.00
2009	888.417	23.53	4,261.205	183.670	59.00
2010	1,026.671	44.46	4,697.992	187.344	70.00
2011	1,129.338	52.416	3,460.357	210.313	83.068
2012	1,141.417	39.237	3,585.172	220.829	84.748
2013	1,255.559	40.022	3,810.418	225.246	86.443
2014	816.503	20.812	2,316.811	138.207	22.882
2015	995.360	22.619	2,556.554	153.298	25.169
2016	1,160.646	12.554	3,073.121	169.375	66.308
2017	897,069	22.218	2,476,118	153.188	20.129
2018	919,585	22.981	2,538,269	157.033	20.634

Source: PEMSD/MAF



Trends in Rice Production and Productivity (2001-2017)



Source: MAF



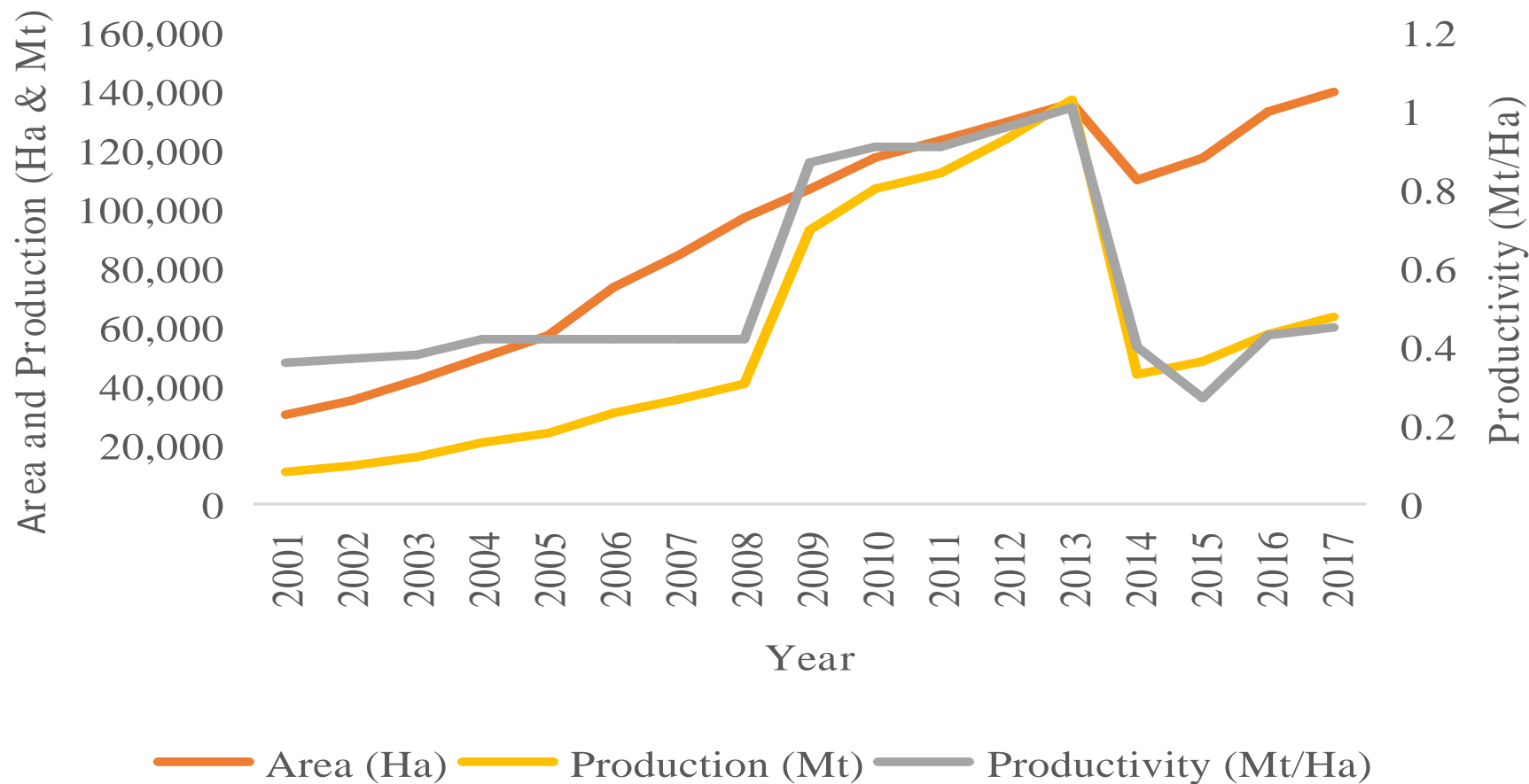
Trend in Rice Production and Productivity, 2001-2017

Year	Area (Ha)	Productivity (Mt/Ha)	Production (Mt)
2001	258,850	1.20	310,620
2002	343,142	1.23	422,065
2003	356,506	1.25	445,633
2004	426,772	1.27	542,000
2005	427,907	1.29	552,000
2006	422,556	1.33	562,000
2007	432,356	1.36	588,004
2008	475,592	1.43	680,097
2009	499,111	1.78	888,417
2010	549,022	1.87	1,026,671
2011	603,924	1.87	1,129,338
2012	717,872	1.59	1,141,417
2013	671,422	1.87	1,255,559
2014	712,498	1.15	816,503
2015	864,574	1.15	995,360
2016	936,774	1.24	1,160,646
2017	983,613	1.30	1,279,612

Source: PEMSD.



Trend in Cacao Production and Productivity, 2001-2017



Source: MAF



Trend in Cacao Production and Productivity, 2001-2017

Year	Area (Ha)	Productivity (Mt/Ha)	Production (Mt)
2001	30,333	0.36	10,920
2002	35,135	0.37	13,000
2003	42,105	0.38	16,000
2004	49,762	0.42	20,900
2005	57,226	0.42	24,035
2006	73,576	0.42	30,902
2007	84,578	0.42	35,523
2008	97,265	0.42	40,851
2009	106,992	0.87	93,083
2010	117,691	0.91	107,099
2011	123,576	0.91	112,450
2012	129,755	0.96	123,981
2013	136,243	1.01	137,333
2014	110,138	0.40	44,055
2015	117,550	0.27	48,461
2016	133,314	0.43	57,672
2017	139,980	0.45	63,583

Source: PEMSD



Production(Mt) of Key Agricultural Commodities

Year	Rice	Cassava	G/Nut	S/Potatoe	Maize	Sorghum	Sesame	Cocoa	Coffee	Cashew	Oil Palm
2,014	832,774	2,298,649	18,686	138,207	20,812	41,414	5,250	27,111	60,303	317	646,988
2,015	853,677	2,356,345	19,155	145,778	21,334	42,435	5,500	46,537	89,892	1,422	668,477
2,016	875,104	2,415,490	19,636	149,438	21,869	43,500	5,638	47,705	92,149	1,458	685,256
2,017	897,069	2,476,118	20,129	153,188	22,418	47,959	5,779	48,903	92,149	1,494	702,456
2,018	919, 585	2,538,269	20,634	157,033	22 981	49,162	5,924	50,130	96,833	1,532	720,087



Yield of Key Agricultural Commodities

Year	Rice	Cassava	G/Nut	S/Potato e	Maize	Sorghum	Sesame	Cocoa	Coffee	Cashew	Oil Palm
2,014	1.13	12.74	0.49	7.06	2.10	0.65	0.30	0.25	1.18	0.08	7.50
2,015	1.14	12.80	0.50	7.30	2.11	0.65	0.31	0.41	1.72	0.37	7.60
2,016	1.14	12.86	0.50	7.34	2.12	0.66	0.31	0.42	1.73	0.37	7.64
2,017	1.15	12.93	0.50	7.38	2.13	0.69	0.31	0.42	1.74	0.37	7.67
2,018	1.15	12.99	0.50	7.42	2.14	0.69	0.31	0.42	1.75	0.37	7.71



Area (Ha) of Key Agricultural Commodities

Year	Rice	Cassava	G/Nut	S/Potato e	Maize	Sorghum	Sesame	Cocoa	Coffee	Cashew	Oil Palm
2,014	735,616	180, 493	37,759	19,565	9,904	63,714	17,501	110,138	51,238	3,882	86,265
2,015	750,328	184,103	38,515	19,956	10,102	64,988	17,851	112,340	52,263	3,898	87,990
2,016	765,335	187,785	39,285	20,355	10,304	66,288	18,208	114,587	53,308	3,979	89,750
2,017	780,642	191,541	40,071	20,763	10,510	69,602	18,572	116,879	54,374	4,055	91,545
2,018	796,254	195,372	40,872	21,178	10,720	70,995	18,943	119,216	55,462	4,137	93,376



Point of entry



NAME OF CUSTOM BORDER POST	DISTRICT OF CUSTOM BORDER POST	Main point of entry
Freetown International Airport	Port Loko district	X
Gbalamuya Custom Post	Kambia	X
Sania	Bombali	
Dogolaya	Koinadugu	
Njagbema	Kono	
Jedenma	Pujehun	X
Koindu	Kono	X
Bendu	Kailahun	
Susan's Bay	Western Area	
Bailu	Kailahun	
Queen Elizabeth Quay	Freetown	



Main Export Crops



- ❖ Cocoa
- ❖ Coffee
- ❖ Oil Palm
- ❖ Vegetables
- ❖ Leafy vegetable
- ❖ Timbers

- ❑ Minor
 - ❖ Fruits
 - ❖ Cashew
 - ❖ Kola nut



Main Import Crops



- Rice
- Vegetable oil
- Flour
- Onion
- Fruit

Ministry and Division

Ministry of Agriculture and Forestry - MAF
Crops Division

NPPO

Crop Protection Services Unit

Sub-Units

Phytosanitary

Pesticide
Management

Pest and Disease
Management

District level

Phytosanitary
officers

District
Crop
Protection
offices

Operators

MAF /Projects/
District
Councils

Affiliation

Developing partners,
NGOs, INGOs and
bilateral agreement
with other countries

Sierra Leone
Research
Institute, other
units and
department in
MAF

Universities- Njala, FBC
and UNIMAK
Sierra Leone Seed
Certification Agency
Other Ministries and
agencies



Phytosanitary legal framework

- Agricultural Act 1974
- Phytosanitary policy 2009
- Plant protection and regulatory service policy – draft

- At international level,
 - ☐ The International Plant Protection Convention (IPPC),
 - ☐ The WTO-Sanitary and Phytosanitary Agreement (WTO - SPS)
 - ☐ The International Standards for Phytosanitary Measures (ISPMs)
- ECOWAS pesticide, pest and phytosanitary agreements and policies



Regulated Pest List

Names of Crops	Fungi	Bacteria	Viruses	Nematode	Weeds	Insects	Total
Maize	6	3	2		10	6	25
Sorghum	4	1	2		6	4	17
Rice	8	2	3	1	11	8	32
Groundnuts	4		2		10	3	19
Cowpea	4	3	1		8	5	21
Yam	2		1	1	6	6	15
Cassava	4	1	3		7	4	19
Onion true seed	4				5	2	11
Onion bulb	6		1		4	1	12
Tomato	5		2		4	3	14
Millet	4		2		10	5	21
Irish Potato	1	2	4	1	7	2	17
TOTAL	52	12	23	3	88	49	227



Overview of case of surveillance, non compliance and manage of regulated pest

We are having issues with non-compliance from some countries were in they smuggle pesticides and other plant products into the country without due procedures

The NPPO receives non-compliance notices from EU for the detection or interception of pests on export or absence or counterfeit of phytosanitary certificate, thus plans are on-going to revise our phytosaniatry documentations by adding security and identification features

- The Phytosanitary unit monitors and records all pests intercepted at the entry/exit points
- As a nation we conducts both detection and delimiting pest survey on major crops produced and pest of concern on rice, cassava, tree crops, vegetables
- The NPPO in collaboration with the universities and research institutes publishes research journal of trials and survey conducted by crop pest specialists.



Some Emerging Pest



- Fall Armyworm (*Spodoptera frugiperda*)
- *Bactrocera dorsalis* (Fruit fly),
- *Paracoccus marginatus* (Papaya mealybug),
- Banana bunchy top disease (BBTD)
- Maize Lethal Necrotic disease (*Fusarium oxysporium*)
- Cocoa black pod disease
- Variegated grasshopper- (*Zonocerus variegatus*)

Some Pest of Quarantine Concern

- Cassava Brown Streak Virus disease
- Fall Army Worm - *Spodoptera frugiperda*
- Southern Army Worm - *Spodoptera littoralis*
- *Thaumatotibia leucotreta* (False codling moth)
- Cashew powdery mildew - *Xanthomonas axonopodis* pv.
- Cocoa vascular streak dieback - *Oncobasidium theobromae*
- South American Leaf Miner (*Tuta absoluta*)



Opportunities for Sierra Leone

- Establishment of treatment facility for products (UV or heat)
- To conduct phytosanitary capacity evaluation (PCE)
- There is a strong political will encouraging investors in the agricultural sector and increasing our export to other international and regional markets
- Establishment of regional pest surveillance and management system for FAW and fruit fly for all Cps
- Creation of pest free area for key pests in order to meet up with International standards and requirement of other CPs and regions



Challenges

- Lack of quarantine labs
- Lack of fully equipped diagnostic lab and inspection tools
- Insufficient capacity building of inspectors
- Funding is a major challenge in strengthen this system
- We are still having challenge in the management of some pest thou we have been able to reduce their population – FAW, fruit fly, locust
- Weak Sectoral Policy, Regulatory and Institutional Framework
- Inferior food safety and quality standards along the production line
- Lack of initiative among exporters on the role of the NPPO and SPS market standards and their compliance before investing
- Limited awareness of value chain players on Phytosanitary measures, importance and benefits of compliance on trade and the country's economy



Challenges

- ❖ Climate change has led to change in pests status, increased incidence and pressure of quarantine and emerging pests;
- ❖ Very wide pest host range making management and surveillance activities very difficult with limited resource intensive.
- ❖ Shortage or inadequate human resource (numbers, skills and tools) to support routine inspections and man border posts.
- ❖ Lack of awareness among political and regulatory leadership on SPS issues , trade and the economy.
- ❖ Current research in effective and alternative pest control measures prioritizes traditional food and cash crops.
- ❖ Pest surveys are not usual conducted due to lack of resources



Suggestions- International

- Assisting LDC's (CPs) to conduct PCEs and assess their phytosanitary systems
- Assist countries to establish the infrastructure, training and capacity building. and implement e-phyto system
- Support LDC's (CP's) in establishing cold room facilities and quarantine lab



Suggestions- International

- Assist CP's to structure their phytosanitary systems and domesticate the IPPC strategic framework for 2020-2030.
- Provide guidelines for Cp's to update their phytosanitary and SPS regulations in conformity to IPPC recommendations, thus fulfilling National Reporting Obligation.
- Providing CP's with the required tools in the implementation of most ISPM



Suggestion- Regional



- Develop regional SOPs
- Harmonise policies and measures on SPS and phytosanitary
Develop regional regulated pests list
- Establishing diagnostic labs
- Establishing of SPS facilities and committee in member states
- Implementing an effective pest surveillance border control system
- Conduct regional PRAs



Suggestion- Regional



- Support for implementing specific surveillance programmes and contingency programmes for emerging high-risk pests such as FAW, Fruit fly etc
- Provision of seed health testing facilities and trainings is relevant tool in plant health regulation to ensure safe exchange of germplasm and trade in plants and plant products.



Suggestion- Bilateral

- Developing full national quarantine pests list
- Capacity building on PRA, quarantine and phytosanitary standards implementation
- Developing of PRA tools
- Establishing diagnostic labs
- Setting up of quarantine labs
- Assist countries to develop their policies relating to SPS and phytosanitary
- Provision of standard laboratories and scientific equipment for the identification of pest



Suggestion- Bilateral



- ❖ Train plant quarantine inspectors in the area of pest identification
 - Training opportunities for short courses, Masters and PhDs for phytosanitary inspectors, NPPO staff
 - Support research for effective on farm pest and value chain management systems to reduce pest incidence and awareness raising for stakeholders right from production
 - Support capacity of NPPOs to implement the key ISPMs



THE END



THANK YOU VERY MUCH

MERCI BEAUCOUP

MUITO OBRIGADO

SHUKRAAN JAZILAAAN

MUCHAS GRACIAS

ARIGATO

XIEXIE