The World Bank

Environmental & Social Systems Assessment

Animal Health System Support for One Health Program (AHSSOH) - P177671

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ABBREVIATIONS

AH	Animal Health
AHD	Animal Husbandry Department
AMR	Anti- Microbial Resistance
BMGF	Bill and Melinda Gates Foundation
BMWM	Bio-medical Waste Management
BMWTF	Bio-medical Waste Management Treatment Facility
CADRAD	Centre for Animal Disease Research and Diagnosis
CBWTF	Common Bio-medical Waste Treatment Facility
CHW	Community Health Worker
CPCB	Central Pollution Control Board
CSF	Classical Swine Fever
DAHD	Department of Animal Husbandry and Dairying (DAHD)
ESSA	Environmental and Social Systems Assessment
FBD	Food borne diseases
FMD	Foot and Mouth Disease
FSSAI	Food Safety and Standards Authority of India
GAHP	Good Animal Husbandry Practice
GDP	Gross Domestic Products
GHG	Greenhouse gases
GoI	Government of India
HCF	Health Care Facility
ICAR	Indian Council for Agriculture Research
IARI	Indian Agricultural Research Institute
ICMR	Indian Council for Medical Research
IDSP	Integrated Disease Surveillance Programme
IHIP	Integrated Health Information Platform
INFAH	Indian Federation of Animal Health Companies
ISO	International Organization for Standardization
IVA	Independent Verification Agency
KFD	Kyasanur Forest Disease
KPI	Key Performance Indicators
LHDCP	Livestock Health and Disease Control Program
LHDCS	Livestock Health and Disease Control Scheme
LIMS	Laboratory Information Management System

MoEFCC	Ministry of Environment, Forestry and Climate Change
MoFAHD	Ministry of Fisheries, Animal Husbandry and Dairying
MoHFW	Ministry of Health and Family Welfare
MVU	Mobile Veterinary Unit
NABL	National Accreditation Board for Testing and Calibration Laboratories
NADCP	National Animal Disease Control Program
NADRS	National Animal Disease Reporting System
NCDC	National Centre for Disease Control
NDDB	National Dairy Development Board
NLM	National Livestock Mission
NIVEDI	National Institute of Veterinary Epidemiology and Disease Informatics
OBC	Other Backward Castes
OH	One Health
OHSC	One Health Steering Committee
OHSU	One Health Support Unit
PDO	Program Development Objective(s)
PMU	Project Management Unit
PPP	Public Private Participation
PPR	*Peste des Petits Ruminants* disease
QAQC	Quality Assurance, Quality Control
RA	Result Areas
RDDL	Regional Disease Diagnostic Laboratories
RTI	Right To Information
SC	Scheduled Caste
SPCB	State Pollution Control Board
SPIU	State Program Implementing Unit
SSP	State Strategic Plan
ST	Scheduled Tribe
TSA	Technical Support Agency
VCI	Veterinary Council of India
VF	Veterinary Facility
VI	Veterinary Institutions
WB	World Bank

EXECUTIVE SUMMARY

1. **Environmental and Social Systems Assessment.** An Environmental and Social systems Assessment (ESSA) for the Animal Health System Support for One Health (AHSSOH) program has been completed in line with the World Bank guidance for Program for Results (PforR) financing operations. The ESSA assesses the key environmental and social (E&S) risks and impacts associated with the AHSSOH program interventions, and the gaps in existing institutional and operational systems and capacities to manage the E & S risks and impacts; and recommends measures for addressing the gaps and enhancing the overall environmental and social sustainability in the Animal Health (AH) sector. The ESSA process involved i) desk review of key reports, studies and guidelines associated with government programs[1]; ii) organization of workshops and meetings with key officials from the Department of Animal Husbandry and Dairying (DAHD) and Animal Husbandry Departments (AHDs) from the participating states of Assam, Karnataka, Maharashtra, Odisha, and Madhya Pradesh, along with other key stakeholder institutions; iii) consultations with other stakeholders. The assessment also benefitted from written inputs received from AHDs of the participating states, and Bank's ongoing experience with livestock-based livelihoods as well as AH service delivery among excluded communities.

2. **Consultations**. Two multi-stakeholder workshops were conducted during June 22-24, 2022, and included dedicated consultation with NGOs, CBOs, community resource persons (CRPs), and field level officials related to AH from all participating states, including representatives from tribal areas; and another consultation with key AHD officials and other stakeholder department officials. The consultation reconfirmed the gaps and measures identified in ESSA. The draft ESSA report was shared with the DAHD and the AHDs of the participating states for their comments and feedback. In addition, it was disclosed on the World Bank external website to seek further feedback and suggestions. The revised draft ESSA report will be disclosed on the DAHD website and the World Bank's external website prior to negotiations.

3. In addition, extensive consultations with government counterparts and their various state and field level officials took place during the Program identification and preparation missions.

4. **Environment and Social Benefits and Risks.** The AHSSOH Program will deliver significant environmental and social benefits through improved coordination pertaining to One Health, improved diagnostic infrastructure and capacity; increased preparedness to prevent and manage disease outbreaks; improved delivery of animal health services to communities; and improved community capacity to deal with AH, and in turn protecting the livelihood of the community/ farmers especially for the small and marginal farmers whose dependance are higher on livestock.

5. The key environmental risks relate to biosafety and Operational Health and safety concerns in labs and diagnostic facilities and the management of biomedical waste (including liquid, e-waste, pharmaceutical, carcass and other hazardous wastes) in the mobile veterinary units, laboratories, veterinary clinics, slaughterhouses, and wet markets/local markets in urban and rural areas. Temporary construction induced environmental impacts during physical upgradation of select laboratories and occupational health & safety concerns of workers/field staff (working in veterinary facilities & hazardous waste management activities), are other key environmental risks. The social risk of the proposed Program is Moderate. Upgradation of diagnostic, veterinary and market facilities will involve civil works for repair, maintenance, and renovation. These works will be within the existing physical footprint of facilities, and land acquisition, resettlement or involuntary resettlement impacts are not expected. Adequate safeguard measures will be implemented to mitigate any health and safety risks for laborers employed in these small-scale works. Managing worker health and safety risks in diagnostic facilities and waste management activities, as well as community health and safety risks associated with biomedical waste management are key social risks associated with the program. Other social risks relate

[1] This includes the LHDC, ASCAD, NADCP & NADRS.

to poor access to quality veterinary services in remote, hilly, and difficult to reach areas, including tribal areas, migratory routes/settlements and disaster-prone areas; lower access of women livestock farmers and small holders from vulnerable communities to AH and veterinary services; low levels of community awareness about, and engagement with, AH and zoonotic diseases; and e) weak capacity of frontline workers on OH/AH. Risk mitigation will include, among others: (i) occupational health and safety measures for workers, para-veterinarians, and communities; (ii) outreach to remote tribal pockets; (ii) community engagement and awareness building concerning AH/OH, including behavioral changes in communication approaches; and (iii) strengthening the coordination mechanism with other departments, Panchayati Raj Institutions (PRIs) and local governments. The overall E&S risk is rated 'Moderate'. given that most of the E&S risks could be effectively mitigated and managed through strengthening of existing E&S systems and capacities.

6. **Environmental and Social systems Assessment**: The provisions of the existing environmental legal and regulatory framework are adequate but require enabling institutional systems and technical capacity to ensure enforcement. While the provisions of the Biomedical Waste Management & Handling) Rules, 2016 – as amended up to 2019, and provisions of other relevant environmental Acts, such as, hazardous, solid, plastic and E-waste Rules 2016 require additional capacity building efforts. There are significant gaps in the operational compliances in veterinary facilities (like limited authorization to SPCBs, incomplete inventorization of VFs in participating states, limited registrations to a Common BMWTF, lapses in record keeping and reporting mechanisms, noncompliance to required bar coding system etc.) as per the requirement of Biomedical Waste Management & Handling Rules. The wastes generated during the services provided at the doorsteps of the beneficiary households/ villagers by the veterinary staffs, and the disposal of dead animals are often left to the community/ villagers and have no proper disposal mechanisms. Unchecked deep burial is being practiced in many areas of the participating states. Waste generated through MVUs are brought back for disposal at Vet hospital/ Dispensary – however, any organic waste/ animal waste is often openly disposed of by the villagers. Management of waste in slaughterhouses and wet markets is the responsibility of local municipalities and is mostly mismanaged and highly unorganized in the participating states. Women are more at risk for contracting any disease from animals, as the rural women provide most of the production labor, which includes managing animal fodder and nutrition, milking, animal health, manure management, and overseeing pen cleaning etc. along with generally taking care of the animals at home. Most of the states currently don't have any guideline or standard operating procedure (SoP) for occupational and community health and safety measures.

7. The existing legislative framework is adequate to ensure social sustainability and the protection of interest of marginalized and vulnerable population including women, the elderly, the differently abled, Scheduled Tribes (ST), Scheduled castes (SC), women headed households, informal sector workers (including domestic workers, laborers, and construction workers). It ensures (a) protection of the interest of all the vulnerable population as mentioned above, (b) non-discrimination based on religion, race, caste, and gender, and (c) transparency with right to information. While no personal data is collected during surveillance, the Government of India (GoI) and the State Governments including DAHD, and Ministry of Health and Family Welfare (MoHFW) and their state departments have experience in protection of personal data through its various surveillance programs through established standard operating procedures for data protection. The data protection would be also guided by India's upcoming Data Protection Bill which is soon expected to become the legislation. The building and other constructions workers related act, and the Occupational Safety, Health and Working Conditions Code, 2020 further strengthens the labor related framework and legislations. However, it requires enabling institutional, capacity, and regular monitoring to comply with.

8. The institutional mechanism of the AHDs at the state, district, and field level are well defined and are further supported by para vets and community volunteers such as *Gopal Mitra*, and *Pashu Sakhi* etc. at the field level to provide services at the doorstep. The mechanism for training AHD staffs at district and block level and the para vets, *Gopal Mitra*, and *Pashu Sakhi* etc. are well laid out. However,

they need strengthening and regular training on E&S aspects. While there are veterinary institutions even in remote areas and tribal areas in most of the participating states, in many cases they are not functional at full capacity as they lack having adequate number of doctors, and other technical staffs. This has been a common issue faced by most of the states. To further strengthen the provision of services in these areas is through mobile veterinary units (MVUs). All the Program participating states face staff shortage, and hence rely on para-veterinarians and community AH workers, mobile vet units (MVUs) and vet camps to cover tribal and underserved areas. The PforR seeks to increase the number of veterinary paraprofessionals and community health workers and provide them with required trainings (RA3 and R5). The animal vaccination drives are the key events when the consultations and awareness creation are being undertaken in most of the states. In addition, veterinarians, para vets, *Gopal Mitra*, and *Pashu Sakhi* do the communication on animal diseases and related precautions and practices. All the paraprofessionals and community workers are part of the local community, familiar with local customs, and speak local language/ tribal language. Under the proposed program, the RA 2 (veterinary service provision) and RA 5 (strengthening community level AH management) will streamline and strengthen the community engagement and stakeholder communication interventions through increased access of livestock farmers to quality veterinary services, scaling up the outreach through MVUs, capacity building of paravets, community service providers and livestock farmers, focus on women and livestock farmers in underserved aeras, community awareness campaigns, communication activities, outreach for and , MVUs, veterinary camps. These interventions are directly addressing the gaps that have been identified by Program participating states.

9. **Excluded Activities:** Activities causing high or substantial E&S risks and impacts are not financed under the current program. The Program will not Finance; (i) activities that could affect physical cultural resources; (ii) convert or encroach forests, notified wetlands or eco-sensitive areas; (iii) activities that could cause large-scale submergence beyond the drainage line; (iv) the conversion of common property resources, including grazing lands; (v) activities that could restrict minimum ecological flows of rivers and rivulets; (vi) activities that could cause land acquisition and/or involuntary resettlement; (vii) activities that could engage child and forced labor; (viii) the use Class I toxic pesticides; and (ix) the use or generation of hazardous materials or chemicals beyond permissible levels, as specified in Schedule II of the Hazardous Waste Handling and Management Rules of 2016. Construction of new Biosafety Level 3 (BSL 3) labs or upgradation of a BSL2 to a BSL3 labs will not be funded under the current program.

10. **Recommended E&S measures.** The ESSA recommendations focus on strengthening the national and state level systems and processes, institutional arrangements for implementation, management, and reporting of E&S aspects through recommendations to Program Action Plan (PAP) actions as well as recommendations that can be addressed through actions towards strengthening systems and processes in the Program Implementation Manual.

11. The key recommendations have been included in the Program Action Plan (PAP) are:

a. Appointment of Environment and Social Safeguards Nodal Officers in DAHD and 5 participating State AHDs, with clearly defined responsibilities for implementing and managing all recommended ESSA actions under AHSSOH program.

b. OH/AH specific E and S guidelines prepared and adopted (customized to AHD activities) for addressing measures with respect to; biosafety, biosecurity, waste management (biomedical, e-waste, liquid waste, other Hazardous wastes), occupational and community health and safety for department staffs, paraprofessionals, and community in general

c. Development of OH/AH training modules on core ES topics, Implementation of E&S trainings as per designed schedule for AHD staffs, field workers, communities, and beneficiaries.

d. The State Diagnostic and Strategy to include Environment and Social Modules/sections with a focus on (a) Sustainable Waste management in Veterinary facilities; (b) increased

coverage and quality of AH/Vet services in remote/ tribal areas, pastoralist and vulnerable communities; (c) service provision in areas cut-off due to natural disasters/flooding; (d) consultations with livestock groups, PRI representatives, women's federation; and (e) inclusive beneficiary targeting.

e. Conduct of annual audit of BMW & other waste(s) (including Liquid wastes), by a specialized agency, and compliance to recommended actions and audit observations.

12. The recommendations towards Program implementation manual (PIM) includes:

a. Safeguard Screening of facility upgradation sites and works with respect to E&S Safeguard aspects, and incorporation of essential E&S safeguard measures in design, construction and operation of diagnostic facilities/ laboratories and veterinary facilities.

b. Design and implementation of OH/AH focused communication products and campaigns facilitated by field officials, community workers and NGO partners targeting key stakeholders.

c. Participating states to coordinate with respective State Pollution Control boards on biomedical waste tracking and reporting in its veterinary facilities and diagnostic laboratories (including the adoption of mandated bar-coding systems). AHSSOH will leverage from the learnings of the Health Pandemic Preparation PforR.

d. Awareness building on various Grievance Redressal options available to citizens; Quarterly consolidation and reporting of grievances (received, resolved, pending) related to AH/OH and veterinary services.

e. DAHD to share E&S progress reports to the world bank, based on inputs from participating program states.

f. Laboratory Information Management System to have dedicated sections on Environmental and Social risk management.

g. Organization of knowledge events, workshops, trainings and exchange visits on E and S aspects, with necessary external partnerships as well as support from World Bank.

13. **Input to Program Action Plan (PAP)**. The table below presents the PAP actions with key responsibilities, timeline, and measures of completion.

Action Description	Responsibility	Recurrent	Frequency	Due Date	Completion Measurement
Appointment of Environment and Social Safeguards Nodal Officials in DAHD and the 5 State AHDs with key responsibility for implementing and managing all ESSA actions under AHSSOH program	DAHD/ AHDs in Participating state	No	One time	Within 3 months of effectiveness	Both Environmental Nodal Officers and Social Nodal Officers are appointed/ designated in DAHD and 5 AHDs
OH/AH specific E and S guidelines prepared and adopted customized to AHD activities addressing biosafety, biosecurity, waste management (biomedical, e-waste, liquid waste, other Hazardous wastes), occupational and community	DAHD/ AHDs in Participating state	No	One time	Within 12 months of effectiveness	OH/AH specific E&S guideline prepared by DAHD; and adopted by AHDs in the participating states.

Action Description	Responsibility	Recurrent	Frequency	Due Date	Completion Measurement
health and safety for department staffs, paraprofessionals, and community in general					
Development of OH/AH training modules on core ES topics, and preparation of E and S training schedule for AHD staffs, field workers, communities and beneficiaries	AHDs in Participating state	No	One time preparation of training modules; Training will be continuous process	Within 12 months of effectiveness	Online and in-person course modules available and part of the AHD training schedule
The State Diagnostic and Strategy to include Environment and Social Modules/ sections focusing on (a) Sustainable Waste management in Veterinary facilities; (b) increased coverage and quality of AH/Vet services in remote/ tribal areas, pastoralist and vulnerable communities; (c) service provision in areas cut-off due to natural disasters/flooding; (d) consultations with livestock groups, PRI representatives, women's federation; and (e) inclusive beneficiary targeting	AHDs in participating state	No	One time. To be updated along with state strategic plans	Within 12 months of effectiveness	Approved State Strategic Plans submitted to DAHD addressing key areas mentioned.
Conduct of annual audit of BMW & other waste(s) (including Liquid wastes), by a specialized agency, and compliance to recommended actions and audit observations	State AHDs	Yes	Yearly	First Audit to done within 12 months of effectiveness	Audits approved and submitted to DAHD

14. **Stakeholder consultations and disclosures**. Multiple rounds of stakeholder consultations, workshops and meetings were held with program officials from the Assam, Karnataka, Maharashtra, Madhya Pradesh and Odisha States, as well as officials from other agencies. The consultations and discussions focused on existing mechanisms, capacities, and practices concerning key environmental and social aspects in the AH sector. These interactions were conducted through a virtual mode, as In-person meetings were restricted due to COVID-19 travel restrictions/protocols. Two multi-stakeholder workshops were conducted during 22-24th June 2022 and included dedicated consultation with NGOs, CBOs, community resource persons (CRPs), and field level officials related to AH from all participating states and including from tribal areas; and another one with key AHD officials and other stakeholder department officials. The consultation reconfirmed the gaps and measures identified in ESSA. The draft ESSA report was shared with the DAHD and the AHDs of the participating states for their comments and feedback. In addition, it was disclosed on the World Bank external websites to seek further feedback and suggestions. The revised draft ESSA report will be disclosed on the DAHD website and the World Bank's external website prior to negotiation.

15. **Citizen engagement**. The AHSSOH Program will enhance public outreach and citizen's engagement in the animal health and veterinary services sector through: (i) behavior change, public awareness and information campaigns targeting livestock farmers, community AH workers, and other value chain actors on animal health-related issues; (ii) targeted outreach efforts to mobilize women, vulnerable farmers and other end users in extension activities and training programs, and increase their access to and use of veterinary facilities; (iii) annual satisfaction surveys of end-users of veterinary service provision; and (iv) strengthening of service standards on AH service delivery and existing grievance redress mechanisms.

16. **Grievance redress mechanism.** The AHSSOH program's participating states will leverage the existing country systems to receive, resolve and manage grievances, mainly through call centers and toll-free numbers. In Participating states, Grievances are received, tracked and resolved through online state portals as well as through departmental systems and district grievance mechanisms that vary across states. Citizens can seek information from the department through the Right to Information (RTI) Act. At the national level, the Centralized Public Grievance Redress and Monitoring System (CPGRAMS) is an online web-enabled system (https://pgportal.gov.in/) in association with the Directorate of Public Grievances (DPG) and the Department of Administrative Reforms and Public Grievances (DARPG) is also available to citizens for grievance registration and redressal. Most of the beneficiary groups and community in general uses call centers, CM's grievance portal and/or the manually written complaints at the local district offices of the AHDs. DAHD also has a separate unit to handle complaints submitted through CPGRAMS with a Joint Secretary rank officer overseeing the process. These channels – both at national level and at state level are functional and data on grievances received and resolved are tracked and reported on regular basis. While the grievance tracking, and escalation mechanisms do exist but are not well disseminated and well understood among many stakeholders. The AHSSOH Program will support the strengthening of GRM reporting systems and GRM related communication campaigns targeting beneficiary communities.

1 PROGRAM DESCRIPTION

1.1 Background and Context

17. India has one of the largest livestock populations in the world, with the sector significantly contributing to India's agricultural GDP. The livestock census (2019) estimates India's livestock population at 536 million[2]. Globally, India has the largest buffalo population, and the second largest cattle and goat populations. It also has also one of the largest poultry markets. The livestock sector contributes about 27 percent to agricultural GDP, which amounted to US$ 91.66 billion in 2019[3]. The sector employs 50 percent of the workforce engaged in agriculture and plays a significant role in the livelihoods of millions of people working in the rural economy. There are an estimated 70 million small-scale dairy farms in the country. Livestock is the main source of livelihoods for small and marginal farmers[4], contributing to food and nutrition security through the consumption of milk, eggs, and meat, as well as to farm incomes through the sale of livestock and livestock products. Furthermore, livestock is an important asset for many rural households, providing draught power, manure for agricultural production, and insurance against extreme weather.

18. In India, 68 percent of the workforce relies on farming and remains in close contact with domestic animals and poultry, thereby being frequently exposed to sick or infected animals. The high exposure between livestock, people and wildlife poses risks of disease outbreaks. There have been high incidences of endemic zoonotic diseases, including Rabies, Brucellosis, Toxoplasmosis, Cysticercosis, Echinococcosis, Japanese Encephalitis (JE), Leptospirosis, Scrub Typhus, Zoonotic Tuberculosis, and Kyasanur Forest Disease (KFD). Foot and Mouth Disease (FMD) outbreaks alone are estimated to result in about US$3.3 billion in annual losses through the high mortality of animals, low productivity, and income losses due to reduced export revenues. More recently, the African Swine Fever (ASF) outbreak in March 2020 killed more than 100,000 pigs in the northeastern states of Arunachal Pradesh Assam, and Mizoram. Zoonotic disease outbreaks have also been occurring at regular intervals in India. They include Leptospirosis (2005), the Avian Flu (2006, 2020), NIPAH (2018); SARS (2003), COVID-19 (2020) and the bubonic and pneumonic plague (1994).

19. Lack of awareness about good animal husbandry practices, poor waste management practices and weak food safety enforcement also contribute to disease outbreaks, causing significant economic losses. Globally, Asia and Africa have the highest burden of food-borne diseases, with India bearing the second largest cost of Food borne diseases (FBD) globally. Furthermore, FBDs disproportionately affect children under five years old and are one of the main drivers of stunting. Animal products (and fresh produce) are a major source of food-borne diseases and contribute significantly to the economic burden of FBDs. For example, pathogenic bacteria, such as Salmonella, are commonly found in meat, poultry, seafood and khoa in India. Similarly, E coli 0157 is commonly found in meat, milk, paneer, and ice cream. India has more than 1,176 slaughterhouses and 75 modern abattoirs, as well as hundreds of illegal slaughterhouses. The implementation of disease control mechanisms and food safety standards at critical risk points including slaughter facilities and informal cattle markets is poor contributing to FBD and animal disease outbreaks.

20. India is one of 17 mega-diverse countries, with 7-8 percent of recorded species on 2.4 percent of the earth's land area. While India has taken significant measures to protect its forest areas well (currently about 24 percent of India's geographic areas), the quality of forests is degrading in several pockets due to the continued extraction of firewood and open grazing practices by forest fringe livestock owners. These forest-fringe populations are exposed to increased risk of zoonotic diseases that jump to livestock and/or humans. The key issues in the wildlife sector that increase zoonotic disease transmission risks include a lack of

[2] This includes 192 million cattle, 109 million buffaloes, 74 million sheep, 148.2 million goats, and about 9 million pigs

[3] Trading Economics. www. radingeconomics.com. (2019).

[4] Bora, N. (2017). "Vulnerability of the Livestock Sector to Climate Change Condition: A Case of India". *International Journal of Environment, Agriculture and Biotechnology* (IJEAB). Vol. 2, Issue 1

systematic disease surveillance, inadequate veterinary capacity, lack of unified protocols with livestock and human health, and lack of a consolidated database on wildlife disease incidence.

21. The Department of Animal Husbandry and Dairying (DAHD) launched several schemes to strengthen animal health management. The implementation of the overall set of animal health management schemes has achieved some results. However, key challenges remain, including institutional strengthening to enhance the results orientation of such programs, and to adopt a One-Health approach. The key challenges include:

a) **Veterinary manpower shortages and low Capacities -** At the country level, a mere 34,500 field veterinarians are employed for field services as compared to a requirement of 67,000. There is a gap of around 50 percent in the number of available para-veterinarians. The existing veterinary technicians and field support staff (52,000 actively employed) meet less than 20 percent of the need on the ground. There is also a lack of epidemiology training and knowledge among veterinarians, as well as poor service provision capacity by paraprofessionals.

b) **Operational Health and Safety**: There is also lack of operational health and safety measures for the Veterinary staff/para vets/field workers, exposed to hazardous chemicals in laboratories and other veterinary facilities, and required biosafety measures are often inefficient/or completely absent.

c) **Diagnostic capacity.** There is a lack of a standardized sampling framework; training and incentives to field staff to collect and transport samples following proper handling protocols; few diagnostic facilities at the district level; and weak infrastructure and systems for last-mile veterinary service provision and disease diagnostics.

d) **Biomedical Waste Management**: The laboratories often lack environment infrastructure like Effluent treatment plants and access to a common Biomedical treatment facility. Most VFs are plagued with inefficient or poor biomedical waste management practice/systems.

e) **Disease surveillance and reporting challenges**. Gaps include lack of access to disease reporting systems by last-mile staff, and a lack of systematic training and poor incentives for staff to use such systems. Awareness among farmers about the need to report is also a challenge. There is weak coordination with the staff of the wildlife/forest department at the state level for integrating wildlife disease surveillance.

1.2 Government Program

22. The DAHD is implementing an overarching animal health management program, namely the Livestock Health and Disease Control Program (LHDCP). Its objective is to control animal diseases and zoonoses. The program was restructured in 2021 in line with the findings of the OIE PVS evaluation report (2018) and the recommendations of the PSCA (2021). The program consists of: (i) an umbrella Livestock Health and Disease Control Scheme (LHDCS) with sub-components targeting the upgrading of veterinary facilities, control of Classical Swine Fever (CSF) and Peste des Petits Ruminants (PPR); and (ii) the National Animal Disease Control Program (NADCP), with two sub-schemes for the control of Food and Mouth Disease (FMD) and Brucellosis (See Table 1). The key objectives of the LHDCP are to maintain a healthy, disease-free livestock population and prevent various zoonotic diseases. The NADCP seeks to control FMD and Brucellosis by 2025 with vaccinations, and to eradicate them by 2030. The program and schemes are strategically highly relevant. Firstly, they contribute directly to national development objectives of doubling farmer incomes, employment generation and entrepreneurship by improving animal health, and increasing livestock productivity and production. Secondly, they contribute to controlling zoonoses and increasing core capacity for animal disease management, thereby helping to reduce the threat of future pandemics. Thirdly, the program contributes to reducing emissions from livestock by improving animal productivity.

Table 1: LHDCP Schemes and Sub-Schemes

LHDCP Scheme	Brief Description
A. Livestock Health and Disease Control Scheme	
(i) Assistance to States for Control of Animal Diseases (ASCAD)	• Vaccinate against economically important diseases. • Control of emergent and exotic diseases. • Support for research innovation, publicity, awareness, and training. • Strengthen disease diagnostic laboratories and biological production units. • National Digital Livestock Mission (NDLM) - streamline reporting of animal diseases using a computerized system to record and monitor the livestock disease situation in the country. • Compensation to farmers for the culling of infected animals.
(ii)Establishment and Strengthening of Veterinary Hospitals and Dispensaries (ESVHD).	• Help states establish new veterinary hospitals, dispensaries, and Mobile Veterinary Units (MVUs), as well as strengthen/equip the existing ones.
(iii) *Peste des Petits Ruminant*s Control Programme (PPR).	• Vaccination of goat and sheep population against PPR.
(iv) Classical Swine Fever Control Program (CSF – CP)	• Vaccination against classical swine fever.
B. National Animal Disease Control Program (NADCP)	
(i) Foot and Mouth Disease Control Program (FMD-CP)	• Vaccination against FMD.
(ii) Brucellosis Control Program	• Vaccination against Brucellosis.

23. The government has shown a commitment to the LHDCP, and the program has achieved results. Achievements include: (i) the vaccination of 381 million cattle against FMD and the declaration of FMD-free zones in three states; (ii) the introduction of an animal disease reporting system (NADRS); (iii) immunization against other economically important diseases (including Brucellosis and PPR); and (iv) the initiation of a control program for classical swine fever in the northeastern regions. However, these achievements are constrained by the factors noted earlier, and gaps exist. The Government allocated approximately US$462 million from FY2017-18 to FY2020-21 covering all 29 states and 8 union territories. Budgetary allocations to the schemes have been increasing, and about US$140 million was spent in the fiscal year 2020-21. The budgetary allocation for the overall government program for 2021-26 is US$1.3 billion.

24. The restructured LHDCP focuses on building systemic capacity to prevent, manage, and respond to animal diseases. The program seeks to move from a focus on financing inputs to a focus on systemic capacity and outcomes. To do so, it focuses on six Results Areas (RAs) related to key challenges identified in the sector: strengthening institutional capacity for integrated animal health management and OH coordination; improving quality, coverage and access to veterinary services; strengthening disease diagnostic capacity and efficiency; developing and scaling up the use of digital disease surveillance platforms; enhancing community awareness and the adoption of the GAHP; and achieving comprehensive vaccination coverage against the most economically significant animal diseases. (See Table 2).

Table 2: LHDCP Results Areas (RAs)

	Measurable Results
I. Strengthen institutional and implementation capacity	
Strengthen planning, implementation, coordination, and monitoring capacity.	• Evidence-based strategic plans for program implementation focusing on priority diseases and high-risk geographic areas developed and implemented by states. • One Heath coordination framework established, and animal disease and Anti-Microbial Resistance (AMR) data are shared at the state and national

	levels.
II. Improve access to quality animal health care and better disease control and management	
Upgraded veterinary health and laboratory infrastructure for effective service provision.	• Upgraded animal health service infrastructure in 100 districts.
Functioning Mobile Veterinary Units (MVUs) providing services in remote locations.	• Increase in the number of women farmers and farmers in remote locations receiving doorstep services.
Enhanced capacity of veterinarians, para-veterinarians to provide quality services.	• Increased proportion of veterinarians, para-veterinarians trained under the updated OH framework.
III. Building capacity for better diagnostic systems	
Laboratory and diagnostic facility capacity upgraded at regional, state, district, and block levels.	• Upgraded infrastructure for regional and state laboratories, with relevant accreditation received.
Training of laboratory manpower in good practices.	• Good laboratory practices (GLP) adopted by laboratories.
IV. Consolidate and scale up animal health and disease surveillance using information technology (IT) systems	
Disease reporting under the NDLM is functional.	• The NDLM is rolled out in all districts. • Animal disease data is being regularly shared with the human health platform.
V. Increased adoption of the GAHP by farmers and other actors along livestock commodity value chains	
Training, extension systems and communication campaigns include the GAHP and enhancing coverage of farmers.	• Increased number of farmers adopting the GAHP, biosafety and biosecurity measures.
Training on handling practices for staff of identified livestock points, including livestock markets and abattoirs.	• Increased adoption of safe handling practices and disease screening and reporting at high-risk sites.
VI. Comprehensive vaccination coverage.	
Enhanced pace and coverage of vaccination.	• 100% coverage for all nationally important animal diseases.

25. **The Program will collaborate closely with development partners (DPs) on different aspects of program implementation.** The Bill and Melinda Gates Foundation (BMGF) in India is working on advancing the One Health Framework. It is funding the One Health Technical Support Unit (OHTSU) to support the Ministry of Fisheries Animal Husbandry and Dairying (MoFAHD) in developing technical capacity on One Health implementation. The OHTSU is anchored in the MoFAHD, and it will support the Program on OH coordination. In addition, the Program will collaborate closely with the International Livestock Research Institute (ILRI) on research and technical support, as well as with the Food and Agriculture Organization (FAO) and the World Organization for Animal Health (OIE). The DPs will contribute to the technical aspects, including undertaking required assessments. The World Bank Executed Food System 2030 Multi-Donor Trust Fund will provide technical support for analyses and implementation support to the program.

26. **Another Bank operation, the Transforming India's Public Health Systems for Pandemic**

Preparedness Program (PHSSP), which was recently approved[5]; complements the "One Health" framework proposed under areas of the AHSSOH. The PHSSP program aims to strengthen pandemic preparedness and response systems, as well as institutions in India. The PHSSP is anchored in the Ministry of Health and Family Welfare (MoHFW), and it will be implemented by various agencies of the MoHFW, including the Department of Health and Research, the National Center for Disease Control (NCDC) and the Indian Council for Medical Research (ICMR). The AHSSOH will also collaborate with the PHSSP on priority areas for One Health, including: (i) strengthening of the OH coordination mechanism among the MoHFW, the MoFAHD and the Ministry of Environment Forestry and Climate Change (MoEFCC); (ii) augmenting Anti-Microbial Resistance (AMR) data and investigations from the livestock sector into the National AMR Plan led by the NCDC; (iii) instituting disease surveillance data sharing mechanisms; (iv) the development of common national standards and standard operating procedures (SOPs) for priority zoonotic diseases; and (v) the promotion of joint research, including the identification of climate-related zoonotic disease hotspots. There are no overlaps in funding between the PHSSP and AHSSOH PforR Programs. Table 3 summarizes the keys features and OH coordination measures of the AHSSOH and PHSSP programs.

Table 3: PHSSP and AHSSOH One Health Coordination Measures

	Results Areas	**Linkages to strengthen One Health**
PHSSP, $500 million, 2022-2027	1. Expanding an Information Technology (IT) enabled surveillance system and One Health coordination 2. Enhancing Bio-security Capacity 3. Transforming Core Public Health Institutions and Research Agencies	▪ Sharing of disease surveillance data between animal and human health sectors. ▪ Increased coordination in the detection of zoonotic diseases of human importance through increased sentinel surveillance sites. ▪ Standardized SOPs and joint investigation of hot spots. ▪ Joint training needs assessment and training of human, livestock and wildlife health personnel. ▪ Promotion of joint research platforms to identify priority zoonotic diseases of human importance and develop hotspot maps.
AHSSOH, $82 million, 2023-2028	1. Strengthening Institutional Capacity for Implementation and Coordination of the One Health (OH) Framework 2. Enhancing Diagnostic Capacity for Effective and Timely Disease Diagnosis 3. Increasing Access to Quality Veterinary Services 4. Enhancing surveillance capacity for effective animal disease reporting and monitoring 5. Increasing Community Awareness of Animal Disease Management Practices and Zoonoses	

1.3 Program Development Objective

27. The program development objective (PDO) is to increase the quality and coverage of animal health services for livestock farmers and improve One Health coordination in participating states. The PDO will be measured by the following indicators:

- Laboratories operating under improved quality assurance and quality control procedures
- Livestock farmers with increased access to improved animal health services (disaggregated by gender).

[5] P175676: $500 million, approved June 28, 2022. https://projects.worldbank.org/en/projects-operations/project-detail/P175676.

- Digital disease surveillance system operating at the participating state level
- One Health joint actions covering animal, wildlife and human health implemented
  (i) Functioning OH platforms established in each Program participating state.
  (ii) Joint coordination plan for identified state zoonotic diseases and AMR.
- Number of livestock farmers adopting biosecurity measures (disaggregated by gender).

1.4 Program Beneficiaries

28. The targeted program beneficiaries include farmers, and particularly women, who account for over 75 percent of production labor. They are most at risk and are often excluded from training and services; as such, they will benefit from enhanced GAHP skills and risk communications. Market actors, such as butchers, will benefit from increased capacity to reduce public health risk. The Animal Health Veterinary Departments (AHVD) will also support training and risk communications capacity. Thus, consumers will benefit from reduced public health risks from consuming livestock products.

1.5 Key Result Areas

29. **The PforR will support five Results Areas (RAs):** (i) Strengthening Institutional Capacity for Implementation and Coordination of the One Health Framework; (ii) Enhancing Diagnostic Capacity for Effective and Timely Disease Diagnosis; (iii) Increasing Access to Quality Veterinary Services; (iv) Enhancing Surveillance Capacity for Effective Disease Reporting and Monitoring; and (v) Increasing Community Awareness of Animal Disease Management Practices and Zoonoses. The detailed descriptions of the RAs and their associated activities follow.

30. **RA 1 – Strengthening Institutional Capacity for Implementation and Coordination of the One Health (OH) Framework.** RA1 supports a shift from individual schemes focusing on input provision to a result-based approach that focuses on effective management and prevention of animal diseases, establish functioning coordination mechanisms for specific One Health action areas and improve institutional capacity to implement effective animal health management. RA 1 will support improved capacity across the nodal national and state-level institutions responsible for livestock, wildlife, and human health. It will also conduct a detailed diagnostic exercise and develop State Strategic Plans (SSPs) for animal health and zoonoses management, as well as for the State's One Health framework. These SSPs will form the basis for Program financing and implementation in the participating states. In addition, RA 1 is expected to strengthen joint planning, surveillance, and implementation of integrated disease management strategies, including clear, measurable goals.

31. **Activities under the RA1 include**: (i) conducting a diagnostic assessment to identify disease risks, capacity constraints, quality, and capacity utilization of existing animal health infrastructure; (ii) developing SSPs that prioritize interventions and investments based on a risk-based approach, including strengthening the states' One Health frameworks; (ii) training and capacity building for staff (with state-level targets for female staff) in the stakeholder departments and agencies; (iii) developing national quality standards, including animal health service provision, the mapping and benchmarking of animal health infrastructure, and manpower and training facilities against such standards; (iv) establishing One Health Steering Committees (OHSCs) for OH coordination across different Ministries to operationalize coordination mechanisms for selected OH actions; and (v) implementing joint research platforms with national and international institutions concerning specific aspects of One Health. The diagnostic assessment will also assess gaps and identify investments needed to strengthen compartmentalization, restrictions on animal movement and quarantine systems to manage disease spread. l. Under RA 1, the Program will help support states in specific areas of OH to demonstrate and operationalize it. These OH areas include:

a. Anti-Microbial Resistance (AMR). This will include research concerning microbial residues and resistance in animal-sourced products; the development of AMR State-level action plans; AMR training; and data and information sharing between human and animal health agencies to strengthen the coordination with the National AMR Action Plan led by the NCDC under the Ministry of

Health and Family Welfare (MoHFW).

b. Identification and mapping of emerging disease risk hotspots, including climate-sensitive zoonotic diseases in each participating state.

c. Implementation of joint actions concerning selected priority and zoonotic diseases by state and joint investigations of disease outbreaks in the participating states.

d. Establishment of coordination between the Food Safety and Standards Authority of India (FSSAI) and the veterinary and animal husbandry departments at the national and state levels.

e. Formalization of agreements and protocols for the sharing of diagnostic facilities, as well as for the testing of wildlife disease diagnostics and surveillance between the Ministry of Fisheries Animal Husbandry and Dairying (MoFAHD) and the Ministry of Environment Forestry and Climate Change (MoEFCC).

f. Joint training needs assessment and delivery of training to animal, wildlife, and human health personnel under the relevant Program RAs in the states.

32. These activities complement the human health and One Health institutional capacity building program activities under PHSSP the strengthening of epidemic response, disease surveillance and training of public health workers.

33. **RA 2 – Enhancing Diagnostic Capacity for Effective and Timely Disease Diagnosis.** RA 2 aims to strengthen the diagnostic capacity for animal diseases at the district, state, regional and national levels to facilitate timely, quality diagnosis and effective responses to disease outbreaks. Activities under RA 2 include: (i) the physical upgrading of diagnostic facilities at the district, state, regional and national levels; (ii) the development and adoption of service standards for faster, more accurate disease screening; (iii) the adoption of best practice protocols and accreditation of laboratories with the relevant national and international standards; (iv) the development and implementation of a laboratory information system for effective information and data sharing; (v) the enhancement and the availability of economical, kit-based diagnostics to increase last-mile diagnostic service provision; and (vi) training and capacity building of laboratory staff, field-level veterinarians, para-vets and forest department staff (including training in field epidemiology). Joint training and improving diagnostic effectiveness are key OH elements related to diagnostics. The Program will also support the state disease diagnostic laboratory in establishing an epidemiological unit, as well as in building the capacity of the unit to conduct disease surveillance and epidemiology with support from national and international institutes.

34. **Physical upgrading of diagnostic facilities at the district, state, regional and national levels**. The specific upgrading activities will be informed by a detailed needs assessment/diagnostic (under RA 1) regarding infrastructure, manpower, capacities, current level utilization, as well as potential needs based on emerging challenges and state requirements. A technical agency will be hired to assess the laboratories in each state and develop a strategic road map for strengthening diagnostic capacities. Laboratory upgrading will include the installation of appropriate disposal facilities for laboratory waste (for example, sharps, cultures, tissues, blood, animal products, glassware, and so on). The Program will also support each state in strengthening at least one laboratory to conduct food (of animal origin) safety tests for surveillance purposes with support from the FSSAI.

35. **Adoption of best practice protocols and accreditation of laboratories with relevant national and international standards.** The diagnostic assessment under the guidance of the National Accreditation Board for Testing and Calibration Laboratories (NABL) will evaluate the laboratory system and protocols followed in the laboratories from the point of sample collection to results communications. It will also review the existing standards. Regarding the nodal referral, that is, the state-level laboratories, the Program will aim to obtain the NABL's accreditation with the International Organization for Standardization (ISO) 17025/2017 standards. For laboratories below the nodal referral level (that is, those at the district and block levels), the Program will aim for the laboratories to adopt service standards and protocols to obtain quality assurance quality control (QAQC) certification. The laboratories will be supported in implementing a

systematic process for procurement of lab consumables to avoid scarcity and to improve optimal utilization. In addition, the Program will support the development of best practice Standard Operating Procedures for various laboratory functions, training, and technical assistance interventions and support implementation capacity to increase adoption of these SOPs and reduce biological/ chemical risks and hazards.

36. **Improving efficiency of laboratories and diagnostic services offered.** The Program will support developing and implementing a laboratory information management system (LIMS) to enhance effective information sharing and timely communication of results. In addition, the Program will support increased adoption of low-cost economical kit-based diagnostics to extend the speed and effectiveness of diagnostic services in remote areas. The program will conduct a baseline assessment of time taken from sample collection to communication of test results to the referring entity for a set of five national priority diseases as part of the SSP and target continuous improvement in this metric over the life of the program, achieving an overall reduction of 30% by the end of the program period. The Program will make significant investments in periodic training and capacity building of laboratory staff across several areas including SOPs, handling biological samples from wild animals and standard biosafety and biosecurity protocols. The Program will aim to create a cadre of lab staff for each state so that laboratory personnel are transferred from one laboratory to another laboratory, and not to non-laboratory assignments. Lastly the Program will seek to enhance the participation of women in technical job roles and as laboratory scientists as part of diagnostic capacity-building interventions.

37. **RA 3: Increasing Access to Quality Veterinary Services.** This RA aims to increase the access of livestock farmers to quality veterinary services. The activities under RA 3 include: (i) upgrading of veterinary hospitals and dispensaries to meet minimum national standards; (ii) scaling up of the use of the MVUs for last-mile service provision, with a particular focus on women farmers and rearers; (iii) an increase in services in underserved locations; (iv) developing model veterinary hospitals and model livestock markets in a cluster of districts through upgradation of existing facilities; and (v) capacity building of para-vets and community health workers through induction and refresher training. This will help to increase the strength of the workforce, as well as the quality of services. RA 3 will also support adoption of solar energy systems to power veterinary facilities, MVUs and model livestock markets, and develop and incorporate training modules linking the impacts of climate change and heat stress on animal health to relevant stakeholders.

38. **RA 3 will target training, equipping, and certifying women para-vets and Community Health Workers (CHWs).** As community para-veterinary workers, the women will play a critical role in the provision of last-mile livestock services. This RA will also assess gaps in existing service provision to women farmers and rearers. As such, it will add service provision options, for example, flexible timing, home delivery of services, and village-level support networks. The Program will introduce innovative approaches to bolster service delivery and quality monitoring. These include field tests, hand-held reporting devices, call-centers, tele-medicine, and innovative animal health service provisions to beneficiaries. In addition, the Program will support the development of national standards and guidelines for animal health service delivery, including for veterinary hospitals and other dispensaries. Under this RA, the Program will mobilize women paraprofessionals and offer targeted training programs to them with the objective of increasing the proportion of women animal health trained and accredited animal health professionals to 50 percent in participating states.

39. **AHSSOH will support the LHDCP program in mobilizing private sector participation in veterinary and diagnostic service provision, and online service delivery to livestock farmers.** The ASSOH Program seeks to support increased private sector participation in veterinary, diagnostic and food safety service provision through: (i)supporting public-private partnerships (PPPs) with private sector agencies for the deployment of MVUs in participating states; (iii) supporting DAHD to roll out the National Digital Livestock Mission (NDLM) and (iii) supporting market assessments of veterinary and diagnostic service provision. The NDLM targets increasing private sector participation in provision of animal health services and knowledge dissemination through digital applications. The program will support setting data standards that foster market development and on-boarding of private sector farmer-facing software applications; and scaling up the use of *Livestock,* a unique ID system linked to ear tagging of animals intended to support farmer-facing software and services application development. This will include creating

incentives for private sector players to operate call centers and MVUs on a fee-for-service model.

40. **Market development for veterinary and animal health diagnostic services are hampered by**: (i) the lack of clear regulations and standards for such services; (ii) the public sector through state AHDs and Regional Diseases Diagnosis Laboratories (RDDLs) being the single largest provider of such services; (iii) the unwillingness of farmers to pay for improved services due to a lack of awareness and financial constraints; and (iv) due to the economic incentives above, a private sector focus on commercial value chains (such as poultry) instead of smallholder farmers that make up the bulk of livestock rearers. The Program will support DAHD in (i) undertaking a market assessment identifying policy and regulatory changes needed to spur market-based service provision in these areas; (ii) assessing opportunities for closer collaboration and data sharing between private and public animal health service providers, and (iii) increasing the use of low-cost diagnostic kits for major diseases, thus spurring private sector development of such kits.

41. **RA 4- Enhancing surveillance capacity for effective disease reporting and monitoring.** RA 4 aims to strengthen the surveillance of animal diseases, including zoonoses. It will also operationalize OH in disease surveillance. The activities under RA4 include: (i) developing integrated information technology platforms and mobile applications for disease reporting, that would be aligned with and able to feed information into human disease reporting platforms; (ii) integrating wildlife disease surveillance in the National Digital Livestock Mission (NDLM); (iii) the training and onboarding of forest department staff to disease-reporting platforms; (iv) capacity building of animal, human and wildlife health, specifically to strengthen joint disease surveillance in high-risk locations and protected areas; and (v) strengthening the capacity of the FSSAI to test animal-sourced products, as well as initiating coordination with the DAHD to promote food safety in animal products. Integrating wildlife disease surveillance into the NDLM directly contributes to OH, given the significant origin of zoonoses from the animal and wildlife sectors. Also, improving surveillance will contribute to early detection and prevention. The World Bank, in partnership with technical institutions, will provide technical support to DAHD to use the improved surveillance data to inform decision making on allocation of budgets and adjusting implementation strategies for priority diseases.

42. **Developing integrated IT platforms and mobile applications for livestock and wildlife disease reporting**, **surveillance, and epidemiology**. The Program will support the implementation of NDLM, an integrated, IT-based disease surveillance system and regular disease reporting (using IT platforms and mobile applications). This will help to achieve timely disease reporting and monitoring. Designed by the Principal Scientific Advisor's (PSA) Office, the NDLM will be rolled out in a phased manner with a pilot in one of the participating states informing subsequent rollout in the other participating states. The Program will provide support for integration of wildlife disease reporting linking critical data across animal health services including disease diagnostics, treatment, animal identification and vaccination status into the NDLM database. Support for development and rollout for NDLM is predicated on enabling data sharing and linkages with the human heath disease surveillance system, the Integrated Health Information Platform (IHIP), and efforts will be made for both systems to have similar back-end software to assure efficient data sharing.

43. **Strengthening forecasting for priority animal diseases**. The Program will provide support for building the capacity of states to use disease forecasts to target interventions. The Program will support building the capacity of the Indian Council of Agricultural Research (ICAR) National Institute of Veterinary Epidemiology and Disease Informatics (NIVEDI), specifically on epidemiology, disease forecasting and disease economics modeling. This will be done through support for training and partnerships with global experts and technical institutions. High-quality data is essential to conducting useful disease forecasting and analysis of the economic burden of animal diseases, including zoonoses. However, disease underreporting is a challenge. The ICAR-NIVEDI factors in 60-70 percent of underreporting predictions in its disease forecasting. The Program will support states in establishing epidemiological units responsible for supplying data at regular intervals to the Central Epidemiological unit, the ICAR-NIVEDI, as well as for sharing the epidemiological reports with other departments, including the Health Department, the Forestry Department and the FSSAI. An assessment concerning the key factors and disincentives that contribute to disease under-reporting at the field level will be done to inform disease reporting scaling up interventions.

44. **Capacity building of animal, human and wildlife personnel to strengthen disease surveillance**, **monitoring, and epidemiology.** Key personnel will be trained in planning, designing, and implementing epidemiological studies, as well as in data analysis and reporting. District- and block-level staff under the Veterinary and Wildlife Departments will also receive training to improve their knowledge and skills regarding field epidemiology, biological sample collection, data, and information collection for disease surveillance, monitoring, and epidemiology. The program will support joint routine surveillance in high-risk areas identified in the SSPs. Further, capacity building in data entry, data cleaning and statistical analysis is also important to make optimal use of the collected data. The field staff who perform biological sample collection will receive training covering methods for different types of biological samples collection, proper sample handling and storage, as well as personal protective measures to avoid zoonotic transmission and spread. Training will include proper disposal of biomedical waste in the field and to the laboratory for disposal. The Program will share resources with the Wildlife and Forestry Department to ensure the collection of biological samples from wild animals, as well as domestic animals in the fringe areas of forestry. The biological sample collection from the live animal markets, the smuggled animals (wildlife) markets, and aggregation points would help in investigating food safety and zoonoses.

45. **RA 5 - Increasing Community Awareness of Animal Disease Management Practices and Zoonoses.** RA 5 aims to increase community awareness about animal disease management practices by farmers and other value chain actors, with a focus on high-risk areas identified in the SSPs. This will help to minimize the risks of zoonoses. The main areas of support include: (i) conducting community awareness campaigns about zoonotic diseases, disease prevention and reporting requirements with a specific focus on pregnant women and young mothers; (ii) building the capacity of livestock farmers to maintain the GAHP necessary to strengthen biosecurity and biosafety measures at the farm level; and (iii) improving disease management capacity and practices in high-risk sites — including livestock markets, abattoirs, slaughterhouses, and informal markets. Training will include guidance and awareness building about food hygiene, with a focus on women. This will help to increase food safety at the household level. RA 5 will also contribute to OH by reducing the risks of zoonoses and AMR at the community level. In addition, RA 5 will support specific behavior change, awareness and information campaigns tailored to women farmers, as well as laborers vis-a-vis disease management including zoonoses. It will also support training on the GAHPs, including biosafety measures, good practices in food hygiene and food safety.

46. **Capacity building at the farm level will include training farmers on biosecurity measures to minimize disease spread**, **as well as animal health management practices**. These will include the use of ethno-veterinary medicine, knowledge and awareness about AMR, proper manure management, as well as other practices that promote animal health and nutrition. These measures will help to reduce the risks of disease outbreaks. Good practices for the other value chain actors will include: (i) training and building the knowledge of butchers, market operators, other retailers, slaughterhouse workers and owners, and transporters concerning hygienic product handling practices; and (ii) training in the use of low-cost and safer equipment, as well as other interventions to improve food safety in selected markets. In addition, awareness campaigns will include risk communications about wildlife and animal meat consumption and trade.

47. **The intermediate outcomes of implementing activities under these RAs include**: (i) RA1 – efficient disease management, planning, OH coordination and AMR management capacity; (ii) RA2 – increased accuracy and timely disease diagnosis through the adoption of best diagnostic practices and protocols, as well as better data and information; (iii) RA3 – increased access to animal health services for farmers through strengthened capacity of animal health professionals; (iv) RA4 - effective disease surveillance and increased capacity to prevent and detect disease outbreaks; and (v) RA 5 – improved awareness of disease management and reduced risks of zoonoses.

1.6 Government Program and Bank Financed Program

48. The Program will be implemented over a period of five years (that is, from FY2022-27). The US$164 million Program Boundary supported by the AHSSOH PforR focuses on aspects of the LHDCP concerning the building of systemic capacity for animal health management and OH coordination. It supports

interventions for institutional capacity building, systems development, and improving the quality and coverage of diagnostic and veterinary services. It will be financed in the amount of US$82 million by the International Bank for Reconstruction and Development (IBRD) and a US$82 million by the GoI. A detailed breakdown of financing across the disbursement-linked indicators (DLIs) is provided in Table 6 and the expenditure framework in Table 5 and *Annex* 3.

49. **The Program for Results focuses on building systemic capacity for animal health management and OH coordination; as such, it will enhance the impact of the larger government program expenditures.** To achieve this, the AHSSOH program is supporting a fundamental shift in the nature of the MoFAHD' s support architecture through the LHDCP. This includes strengthening the capacity of participating states to implement the LHDCP as an integrated program with clearly defined outcomes rather than a set of animal health schemes. It will also adapt the program to focus on priority diseases and high-risk geographies based on state context. In addition, the AHSSOH will support the capacity of the DAHD to implement and monitor the LHDCP at the national level.

50. **The PforR adds value to the LHDC Program** through (i) directly addressing the key identified gaps on animal disease diagnostics, surveillance, and in animal health service delivery; (ii) investing in specific activities to strengthen preventive measures of animal diseases and zoonoses management, including increasing knowledge and training on biosecurity and GAHPs; (iii) improving One Health coordination mechanism and addressing selected OH issues in participating states, and by (iv) addressing food safety and conducting risk-based assessments in livestock product value chains, which will create knowledge and data to support evidence-based interventions and policies on animal disease and zoonoses management.

Table 4: LHDCP and PforR Program Scope

	Government Program ("p")	**Program Supported by the PforR ("P")**	**Reasons for Non-alignment**
Objective	Improving animal health outcomes through enhancing support to states and implementing disparate animal health interventions as a unified program.	Strengthening institutional capacity, quality of technical services and coverage to achieve enhanced animal health and OH outcomes in participating states.	The Bank will support a subset of the government program.
Duration	*2021-2026*	*2022-2027*	The restructured LHDCP has been in place since 2021. The PforR will support the strengthening and scaling up of the program in participating states.
Geographic coverage	National	Five participating states selected based on criteria including livestock population and disease risks. (Assam, Karnataka, Maharashtra, Odisha, and Madhya Pradesh).	Concentrating investments and demonstrating an approach and impact which can then be replicated through the national program in other states.
Results Areas	See Table 2 for RAs 1-6.	The PforR will support the LHDCP RAs 1-5.	RA 6 concerning vaccination coverage is not being supported directly. Government financing is in place for procurement and supply of vaccines. The PforR will support implementation capacity for enhanced delivery of the vaccination programs through RAs 1-5.

	Government Program ("p")	Program Supported by the PforR ("P")	Reasons for Non-alignment
Financing	National Program: US$1.3 billion	US$164 million.	PforR Contribution – US$82 million.

Table 5: Program Financing

Source	Amount (US$ Million)	Percentage of Total
International Bank for Reconstruction and Development (IBRD)	125.00	50
Ministry of Fisheries, Animal Husbandry and Dairying, Government of India (GoI)	82.00	50
Total Program Financing	**164**	**100.00**

51. **Table 6 summarizes the US$164 million Program portion of the LHDCP supported by the PforR by expenditure allocation.** It encompasses expenditures corresponding to the five core RAs of the Program, and these expenditure categories are mapped to specific DAHD budget line items (refer to Table 2 in *Annex* 3).

Table 6: The Program Expenditure Framework

Expenditure Categories Summarized from Budget Heads/Objects	
Publicity and awareness	2.02
Training and capacity building	8.03
Consultancies and professional services	9.64
Surveillance and monitoring of important livestock and poultry diseases	6.13
Upgrading disease diagnostic laboratories	94.85
Upgrading veterinary facilities and scaling up the use of MVUs	36.61
Program management costs	3.76
Program Administration Costs (Establishment Exp/Secretariat Services/Only DAHD)	2.96
Total	**US$164**

1.7 Geographic Scope

52. The PforR will be implemented in the states of Assam, Karnataka, Maharashtra, Odisha, and Madhya Pradesh. These states hold about 138.8 million livestock, which amounts to 26 percent of India's total. Madhya Pradesh is the third leading state in total livestock population in the country. Maharashtra, Assam, and Odisha are among the top ten cattle population states holding a total of 34.8 million cattle. Maharashtra is a major poultry producing state. Together with Karnataka, Assam, and Odisha, it is among the top ten poultry states, holding 207.9 million poultry. The five participating states hold approximately 31 percent of India's dog population of 9.4 million dogs. The five states constitute about 29 percent of India's forest cover, and forests account for 39 percent of the total area of Odisha. There is a sizable wildlife

population in the participating states, and Maharashtra and Assam have among the highest cases of poaching, and illegal trafficking of wild animals is high in Odisha. The rate of animal disease incidence is high in these Participating states. Using the incidence of nine selected priority diseases in states reported by the Integrated Disease Surveillance Project (IDSP) (2019 through 2020), the participating states reported the most incidences.

53. The states were selected based on a set of criteria, including livestock population, disease risks and commitment to conduct a diagnostic exercise, as well as the development of a State Strategic Plan (SSP) clearly listing outcome goals. The AHSSOH program implementation in these states will generate learning and best practices for national program implementation in other states.

1.8 Institutional and Implementation Arrangements

54. The Program will be implemented through the DAHD's existing institutional modalities and systems, which will be strengthened through Program support. The Program will be implemented by the DAHD at the national level, and by the state Animal Husbandry Departments (AHDs) in each of the five participating states. Three RDDLs in Assam, Karnataka, and Maharashtra will also serve as the Implementing Agencies (IAs) under the program, directly receiving funds from the DAHD for facility management, and diagnostic and training services related to their own operations.

55. A Program Steering Committee (PSC) headed by the Secretary of Animal Husbandry with corresponding One Health departments and agencies (including human health, environment/wildlife, and food safety) will be established to oversee the Program at the national level. The National Program Implementation Unit (NPIU) will consist of the existing staff of the DAHD, headed by the Joint Secretary of Animal Health. The existing One Health Support Unit (OHSU) will provide support to manage technical aspects of the program at the national level. The DAHD will hire additional technical staff to strengthen capacity in specific areas including procurement, as well as implementation and oversight of the environmental and social framework. participating states will be required to submit a Letter of Undertaking (LOU) to the Ministry of Fisheries Animal Husbandry and Dairying (MoFAHD), confirming their readiness to participate in accordance with the Program design and procedures laid out in the Program Implementation Manual (PIM). At the state level, a One Health Coordination Committee will be established. It will correspond to the national PSC, which will also serve to oversee implementation of the State Strategic Plans at the state level. A State Program Implementing Unit (SPIU) will be hired in each of the five participating states to assist the AHDs in implementing the Program. The DAHD will also hire an Independent Verification Agency (IVA) to verify disbursement-linked results (DLR) achievements.

56. A two-pronged approach is proposed to manage both technical aspects and overall program implementation. The One Health technical aspects of the Program will be led by the Animal Husbandry Commissioner, while the program implementation, including the administrative aspects will be led by the Joint Secretary of Livestock Health. The implementation design will assure effective linkages and communication between both the technical aspects and the coordination elements of the program. A Program Steering Committee (PSC) will be led by the Secretary of DAHD will oversee and guide the overall program.

1.9 Borrower's Previous Experience

57. The Department of Animal Husbandry and Dairying (AH&D) is one of the Departments of the newly created Ministry of Fisheries, Animal Husbandry & Dairying[6]. The Department of Animal Husbandry and Dairying (AH&D) renamed as Department of Animal Husbandry, Dairying & Fisheries (DADF) was one of the Departments in the Ministry of Agriculture and came into existence w.e.f. 1st February 1991, by converting two divisions of the Department of Agriculture and Cooperation namely Animal Husbandry and Dairy Development into a separate Department. The department is currently responsible for matters relating to Delhi Milk Scheme (DMS) and National Dairy Development Board (NDDB). Between 2012 – 2019,

[6] Created vide Cabinet Secretariat's Notification No.1/21/7/2019-Cab dated 17.06.2019 published in eGazette S.O.No.1972(E). – Reference - https://dahd.nic.in/about-us/about-department

World Bank supported the National Dairy Support Project that aimed at increasing the productivity of milch animals and improve market access of milk producers in project areas. The project covered about 40,000 villages across 14 major dairying states (Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal). In 2014, four additional states were added to the NDSP: Uttarakhand, Telangana, Jharkhand and Chhattisgarh, bringing the total states participating in the project to 18. It is expected that cross fertilization of learnings in the implementation/processing of WB's environment and social safeguards in the aforesaid project can be utilized by the Department of Animal husbandry & Dairying (DAHD) for the current program.

58. Being a comparatively new department formed only in the year 2019, it does not have any direct prior experience of working with the World Bank or other multilateral/international donor agencies. More recently (on 23rd September 2021), the Department of Animal husbandry & Dairying (DAHD) signed an MoU with the Bill & Melinda Gates Foundation (BMGF) to support India's livestock sector. Under this MoU a One Health Technical Support Unit (OHTSU) has been established within the Department to support the Government of India in developing India's National One Health Platform. Within this unit a team of professionals including an Epidemiologist, Program Managers for Lab Capacity Development, Veterinary, Communications, Benchmarking, a Monitoring and Evaluation Manger, Event Manager and state wise consultants amongst others have been housed within the department. One of the key objectives of this partnership is to Build convergence with World bank Program and support its overall implementation on behalf of the department. The unit is also mandated to bring in international best practices from lead organizations working in the field of One Health thus enhancing the capacity of the Borrower. Although there are no dedicated Social and Environment Specialist currently, they do have provisions for appointing consultants and the current staff are well qualified to undertake related environmental monitoring and evaluation works.

59. In addition, the Program will collaborate closely with the International Livestock Research Institute (ILRI) on research and technical support, as well as with the Food and Agriculture Organization (FAO) and the World Organization for Animal Health (OIE). The DPs will contribute to the technical aspects including undertaking required assessments. The World Bank Executed Food System 2030 Multi Donor Trust Fund will provide technical support that will provide analytical and implementation support to the program.

60. Another World Bank project under preparation: Transforming India's Public Health Systems for Pandemic Preparedness PforR is focused on strengthening pandemic preparedness and response in MOHFW agencies. Its scope will include: (i) key public health agencies, i.e., the ICMR, the NCDC and divisions within MOHFW (DH and IH); (ii) three select results areas from activities being implemented by the three key agencies. With a larger - convergent agenda of improved animal and public health systems in the country, it is expected that the learnings from the two Programs can be leveraged as the implementation phase begins.

61. The above is indicative of improved borrower capacity to deal with the environmental and social aspects of the proposed program and can be further strengthened through appointment of dedicated professionals in proposed NPIU (National Program Implementation Unit) for management of Environmental and Social components of the Program.

62. While the AHDs in the participating states - Maharashtra, Karnataka, Assam, Odisha, and Madhya Pradesh have limited experience of Bank's procedures and requirements, the State Government in these states have decades of experience with World Bank programs. The DAHD and the State AHDs will be engaging qualified E and S specialists either from within the existing talent pool or from the market. The E and S Managers will use the existing technical and operational expertise that exists within the departments, with training and resource agencies and NGOs.

2 ENVIRONMENTAL AND SOCIAL SYSTEMS ASSESSMENT

2.1 Environmental Context

63. **The AHSSOH PforR will support five Results Areas (RAs)**: (i) Strengthening Institutional Capacity for Implementation and Coordination of the One Health Approach; (ii) Enhancing Diagnostic Capacity for Effective and Timely Disease Diagnosis; (iii) Increasing Access to Quality Veterinary Services; (iv) Enhancing Surveillance Capacity for Effective Disease Reporting and Monitoring; and (v) Increasing Community Awareness of Animal Disease Management Practices and Zoonoses.

64. The proposed Program will help build national capacity in Implementation and Coordination of the One Health Approach including enhanced surveillance and diagnostics capacities. The program will be complimented by other parallel Bank-financed Programs, particularly the **Bank operation - Transforming India's Public Health Systems for Pandemic Preparedness Program (PHSSP) which is currently under negotiation, and it complements the "One Health" framework proposed under areas of AHSSOH.** The PHSSP program aims to strengthen pandemic preparedness and response systems, and institutions in India. PHSSP is anchored by the Ministry of Health and Family Welfare (MoHFW), and it will be implemented by different agencies of the MoHFW, including Department of Health and Research, National Center for Disease Control (NCDC) and the Indian Council for Medical Research (ICMR). AHSSOH will collaborate with PHSSP around priority areas for One Health such as: (i) strengthening of OH coordination mechanism among MoHFW, MoFAHD and the MoEFCC; (ii) augmenting Anti-Microbial Resistance (AMR) data and investigation from the livestock sector into the National AMR Plan led by NCDC (iii) sharing of disease surveillance data; and (iv) development of common national standards and standard operating procedures (SOPs) for priority zoonotic diseases, and (v) promotion of joint research including the identification of climate related zoonotic disease hotspots.

65. Animal diseases are a major driver of reduced animal productivity and increased emission intensity. The OIE estimates that, on average, 20 percent of animal productivity losses globally can be attributed to animal diseases. Improved animal health contributes to greater gains in efficiency and productivity, which in turn helps to reduce the GHG intensity of livestock farming. India has the largest cattle population in the world, but it has among lowest beef consumption of any country. Thus, cows live longer and emit more methane over their lifetimes. But while the livestock sector is a major source of GHG emissions, it is equally a potential part of the solution to help reduce GHG emissions because there are practical entry points for mitigating climate change.

66. The PforR' s contribution to greenhouse gas (GHG) emission reductions will be derived from improving animal productivity through enhanced health and disease management, as well as the training of livestock farmers on GAHPs, thus helping to reduce methane emissions. The GAHPs supported through the program will include: (i) better health management of livestock and disease management practices, which will improve animal productivity, thereby helping to reduce emissions; (ii) better manure management practices and use of manure for biogas to reduce emissions; and (iii) other climate-smart related activities that are relevant in specific cases and areas of the program.

67. **Although the proposed program activities are expected to have overall positive Environment, Health and Safety impacts**, associated system level environmental context of the program include; i) increased generation of biomedical wastes in enhanced diagnostic facilities and laboratories, ii) risks related to lack of biosafety measures and protocols in labs and diagnostic facilities, iii) unsustainable handling/management of biomedical waste (including liquid, pharmaceutical, carcass and other hazardous waste) in the mobile veterinary units, laboratories, veterinary clinics, slaughterhouses, and wet markets/local markets in urban and rural areas, iv) occupational health and safety risks of workers involved in diagnostic facilities and other waste management activities.

68. With the objectives of providing increased access to veterinary services, enhanced disease surveillance capacity care and improved diagnostic facility the biomedical waste generation is also projected to grow during the program activities. The current waste management systems of the veterinary sector will

require substantial investments to sustainably handle, store, manage and dispose the biomedical (also liquid and e-wastes) wastes, while also ensuring the operational health and safety of its staff/field workers.

69. While there is no clear assessment of bio-medical waste generated from Animal health care facilities, on the human health care aspects alone, as reported by State Pollution Control Boards (SPCB), about 619 tons/day of biomedical waste was generated during the year 2018-2019 by 3,22,425 numbers of Healthcare Facilities. Out of 619 tons/day of biomedical waste only 544 tons/day of biomedical waste is treated and disposed of by 202 CBWTFs and 18,015 nos. of captive treatment facilities installed by Healthcare Facilities. Biomedical waste of about 74 tons/day might get disposed of through deep burials located at isolated places.

70. At the national level, installed capacity of 1200 MT/day to treat biomedical waste appears adequate as against the 814 MT/day biomedical waste generated, in terms of installed capacity utilization, there are variations across different states.

Table 7: Status of capacity utilization of existing CBWMTFs of these 5 states is as under

Sr No.		*SPCB*	*CPCB reference*	*Installed Capacity (Tonnes/day)*	*Capacity Utilized (Tonnes /day)*	*%age capacity Utilized*
1		**MPCB**	CPCB Annual report 2020	130.9	62.3	47.6
2		**KSPCB**		108.4	36.3	33.5
3		**OSPCB**		14.9	17.4	116.8
4		**ASPCB**		7.2	6.2	86.1

71. COVID-19 placed extra strain on the national capacity for treating biomedical wastes. An analysis of COVID-19 biomedical wastes data from CPCB across 10 states responsible for generating maximum wastes revealed that substantial quantities of biomedical waste was generated, due to single use gloves, coveralls, masks, swabs, diagnostic kits etc. The total wastes across the 10 states ranged from 2451.5 to 4633.6 Tons/day during early pandemic (June to December 2020). These ten states contributed to 74.14 % to 89.22 % of the total Covid-19 BMW generated during this period.

Table 8: BMW Management during Covid-19 pandemic (Early pandemic June-Dec 2020)

Name of state / UT	June 20 TPD	July 20 TPD	August 20 TPD	Sept 20 TPD	Oct 20 TPD	Nov 20 TPD	Dec 20 TPD	No. of CBWTFs engaged
Maharashtra	524.82	1180	1359	524.82	542.31	609	629.3	29
Gujarat	350.8	306.1	360.0	622.9	545.9	423.5	479.6	20
Delhi	333.4	389.6	296.1	382.5	365.9	385.5	321.3	2
Tamil Nadu	312.3	401.3	481.1	543.8	524.2	300.8	251.2	8
Madhya Pradesh	224.6	56.1	106.6	339	308.4	208.7	249.5	13
Uttar Pradesh	210	307.5	408.9	507.2	478.1	316.7	276.5	18
West Bengal	195	136.4	235.1	434.8	486.8	330.8	279.1	6
Kerala	141.3	291.3	588.1	494.1	642	600.3`	542.5	1
Karnataka	84	540.3	588	168	218	211	218	26
Haryana	75.3	184.2	210.7	278.3	238.5	239.4	209.9	11
Covid-19 BMW generated by 10 states	2451.5	3795.1	4633.6	4295.3	4350	3625.7	3456.8	134
Source: Data from monthly report on state-wise generation of Covid-19 related BNW in states / UTs on CPCB website								

72. In the Annual report for 2019, CPCB has considered the compliance of identified 12 Key Performance Indicators (KPIs) to assess States with respect to effectiveness in monitoring and ensuring compliance and implementation of BMWM Rules, 2016. The monitoring of Veterinary institutes was one of the KPI parameters. As per the BMW 2016 rules all veterinary facilities need to get an authorization from respective state pollution control board and register with a common biomedical waste treatment facility if available within 75kms. This compliance was also scrutinized by CPCB in its report and the results of the participating states presented a grim situation. Amongst the participating states, it was reported that only 29% of Veterinary institutes have authorization from SPCB in Maharashtra, while Odisha and Assam have 0 and 3% respectively. Karnataka is amongst the forerunners with 92% of its Veterinary institutes having an authorization from SPCB. Rampant and unsustainable deep burial[7] being practiced by many states is another challenge to be addressed under this program.

73. Based upon the findings of the ESSA, some program actions are proposed to augment national/state capacities and systems, primarily of the implementing organizations, for managing potential environmental risks. The details of recommendations are provided in Chapter 6.

2.2 Social Context

74. India has one of the largest livestock populations in the world, with the sector significantly contributing to India's agricultural GDP. The livestock census (2019) estimates India's livestock population at 536 million. The livestock sector contributes about 27 percent to agricultural GDP, which amounted to US$ 91.66 billion in 2019. The sector employs 50 percent of the workforce engaged in agriculture, and it plays a significant role in the livelihoods of millions of people working in the rural economy. There are an estimated 70 million small-scale dairy farms in the country. Livestock is the main source of livelihoods for small and marginal farmers, contributing to food and nutrition security through the consumption of milk, eggs, and meat, as well as to farm incomes through the sale of livestock and livestock products. Furthermore, livestock is an important asset for many rural households, providing draught power, manure for agricultural production, and insurance against extreme weather.

75. Livestock production, particularly the dairy sector, is important for food and nutritional wellbeing of communities in India, it supports livelihoods of many farmers, and contributes to the economy of the country. Dairying has become an important secondary source of income for millions of rural families and has assumed the most important role in providing employment and income generating opportunities particularly for women and marginal farmers. About 80 million rural household are engaged in milk production with very high proportion being small & marginal farmers and landless. The animal husbandry and dairy sector plays a significant role in supplementing family incomes and generating employment in the rural sector. Income from animal husbandry accounts for about 29.4 percent of the total farm income in 2019[8]. The sector employs 50 percent of the workforce engaged in agriculture and it plays a significant role in the livelihoods of millions of people working in the rural economy. Livestock is the main source of livelihoods for small and marginal farmers[9], contributing to food and nutrition security through the consumption of milk, eggs, and meat, as well as to farm incomes through the sale of livestock and livestock products. Majority of the livestock (~87.7 percent) is owned by farmers of small and marginal and semi-medium farmers[10].

[7] CPCB has established guidelines on deep burial practices. It is recommended to undertake deep burial as per these guidelines only if a CBMWTF Is not available within a range of 75Km of the facility. CBMWTFs are to be established and operated by respective SPCBs.

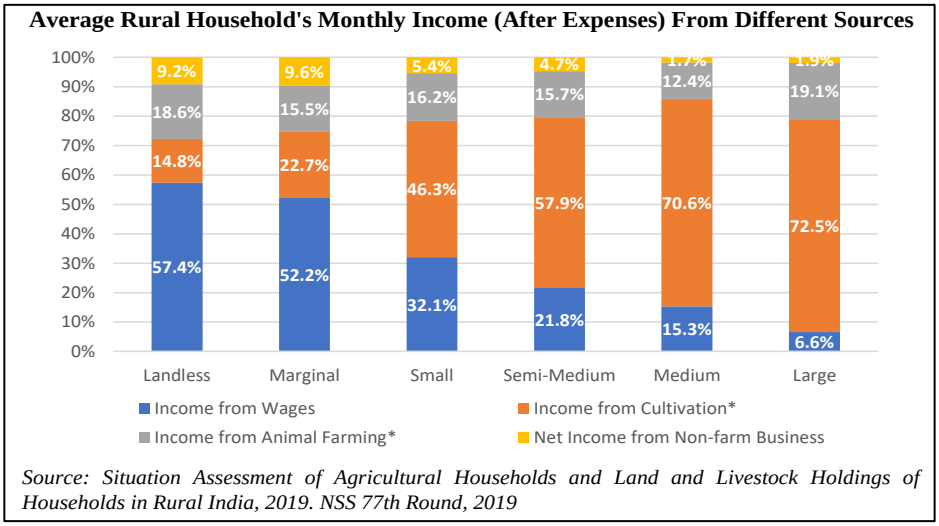
[8] Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India, 2019. NSS 77th Round, 2019. Ministry of Statistics and Programme Implementation, Government of India

[9] Bora, N. (2017). "Vulnerability of the Livestock Sector to Climate Change Condition: A Case of India". International Journal of Environment, Agriculture and Biotechnology (IJEAB). Vol. 2, Issue 1.

[10] https://www.infah.org/animal-health/animal-husbandry#

76. Livestock holding in general and milch animal holding, is more equitable than land holding. About 86% of the total farmers are small and marginal, they together own about 47.34% of farmland whereas own about 75.24% of milch animals[11]. Small land base encourages farmers to practice dairying as an occupation subsidiary to agriculture which provides year-round income and generates gainful employment in rural areas. Therefore, it is an important economic incentive for the landless, small & marginal farmers particularly women who contributes large proportion of labor to take up dairying as a source of livelihood. Average monthly income from livestock ranges from 12.4% to 19.1% for different types of farmers. It's contribution to average monthly income after out-of-pocket expenses gradually decreases with size class of farmer and inversely proportion to increase in agricultural income except for large farmers.

Figure 1: Rural Monthly Income



Source: Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India, 2019. NSS 77th Round, 2019

77. Scheduled Castes (SCs) and Scheduled Tribes (STs) are the most disadvantaged socio-economic groups in India. According to Census 2011, SC, and ST population account for 18.5% and 11.3% of India's rural population. The five program participating states (i.e., Assam, Karnataka, Maharashtra, Madhya Pradesh, and Odisha) account for a fifth of India's rural population, and about 16% of SC and 27% of ST population of rural India. The ST population is particularly high in Odisha (~26%), Maharashtra (~15%) and Assam (~14%).

78. The type of livestock ownership varies across social groups with SC and ST owning more of Ovine and poultry birds compared to OBC and other castes owning buffalos. In case of owning buffalos, it is higher among OBC and Other castes and lower among SCs and STs and is somewhat inversely proportion to owning Ovine and poultry birds.

[11] DAHD Annual Report 2019-20

Table 9: Livestock Ownership Among Different Social Groups

Livestock/ Poultry	ST		SC		OBC		Others	
	% Household Owning Livestock	Average No. of Livestock per 100 HHs	% Household Owning Livestock	Average No. of Livestock per 100 HHs	% Household Owning Livestock	Average No. of Livestock per 100 HHs	% Household Owning Livestock	Average No. of Livestock per 100 HHs
Cattle								
In-milk	14.00	18.50	12.30	15.40	17.60	24.00	19.50	26.30
Young stock	23.70	45.00	15.30	22.00	20.40	32.30	20.10	29.90
Others	24.50	52.80	8.50	46.50	12.10	20.50	10.80	18.10
Buffalo								
In-milk	5.80	8.20	6.00	7.30	13.20	18.20	13.20	19.00
Young stock	7.00	10.30	8.40	12.20	14.50	23.30	12.00	19.40
Others	3.30	6.40	3.80	5.10	6.70	9.90	5.50	8.20
Ovine and Poultry Birds								
Ovine and other mammals	43.20	280.90	21.60	141.30	18.90	218.40	16.20	123.40
Poultry Birds	28.10	211.80	8.20	53.30	7.60	169.50	9.60	97.30
Others	0.40	1.80	0.10	0.20	0.10	0.50	0.20	7.60

Source: Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India, 2019. NSS 77th Round, 2019

79. The targeted beneficiaries include farmers, and particularly women, who account for over 75 percent of production labor. They are most at risk and are often excluded from training and services. Women face multiple barriers in accessing animal health services; thus, targeted interventions are needed to address these barriers as they are most at risk of zoonoses. The following three gender gaps were identified as relevant to the Program Boundary. First, rural women provide over 75 percent of production labor, which includes managing animal fodder and nutrition; milking; animal health; manure management; and overseeing pen cleaning. Yet, women face many constraints, including a lack of awareness and access to veterinary and extension services (especially to distant veterinary facilities), as well as to training interventions. Second, women scientists also face limited leadership opportunities. As a result, gender disparities in management roles are noteworthy in the sector. For instance, whereas 56 percent of scientists working in animal health laboratories are women, only 43 percent of laboratory managers are women (World Organization for Animal Health (OIE) 2012). Third, pregnant women and women frontline workers are highly vulnerable to zoonoses exposure since they oversee managing regular livestock activities. The risks for pregnant women extend to miscarriages, as well as stillbirths due to inadequate information, exposure, and the consumption of raw food. Veterinarians and para-vets are also more at risk of zoonoses — and over 70 percent of veterinary students are female. These gaps and constraints highlight the need for greater capacity development in terms of awareness and training, as well as appropriate biosafety and biosecurity practices.64) In India, 68 percent of the workforce relies on farming and remains in close contact with domestic animals and poultry, thereby becoming frequently exposed to sick or infected animals. The high exposure between livestock, people and wildlife also poses risks of disease outbreaks. With climate change and more interaction of the human population with wildlife, these threats are intensifying — especially given the projected growth in the demand and production of animal-sourced products in India, combined with the importance of the livestock sector for the livelihoods of the poor.

2.3 Objectives of ESSA

80. This Environmental and Social Systems Assessment (ESSA) has been prepared by a World Bank ESSA Team for the proposed India Animal Health System Support for Improved One Health (AHSSOH), in accordance with the requirements of the World Bank Policy for Program-for-Results Financing. The PforR Policy requires that the Bank conducts a comprehensive ESSA to assess the degree to which the PforR Program promotes environmental and social sustainability and to ensure that effective measures are in place to identify, avoid, minimize, or mitigate any environmental, health, safety, and social impacts. Through the

ESSA process, recommendations to enhance environmental and social management outcomes within the program are developed, which subsequently become a part of the overall Program Action Plan.

81. The main objectives of this ESSA are to: (i) identify the Program's environmental, health, safety, and social effects; (ii) assess the legal and policy framework for environmental and social management, including a review of relevant legislation, rules, procedures, and institutional responsibilities that are being used by the Program; (iii) assess borrower's institutional capacity to manage the potential adverse environmental and social impacts; (iv) and to recommend specific actions to address gaps in the Program's environmental and social management system. The ESSA also describes the extent to which the applicable government environmental and social policies, legislations, program procedures and institutional systems are consistent with the six ESSA 'core principles' and recommends actions to address the gaps and enhance performance during Program implementation. These six core principles are listed below and further defined through corresponding Key Planning Elements in this report:

(a) Core Principle 1: Environmental and Social Management: Environmental and social management procedures and processes are designed to: (a) promote environmental and social sustainability in Program design; (b) avoid, minimize, or mitigate against adverse impacts; and (c) promote informed decision making related to a Program's environmental and social effects

(b) Core Principle 2: Natural Habitats and Physical Cultural Resources: Environmental and social management procedures and processes are designed to avoid, minimize, and mitigate any adverse effects (on natural habitats and physical and cultural resources) resulting from the Program.

(c) Core Principle 3: Public and Worker Safety: Program procedures ensure adequate measures to protect public and worker safety against the potential risks associated with: (a) construction and/or operations of facilities or other operational practices developed or promoted under the Program; and (b) exposure to toxic chemicals, hazardous wastes, and otherwise dangerous materials.

(d) Core Principle 4: Land Acquisition: Land acquisition and loss of access to natural resources are managed in a way that avoids or minimizes displacement, and affected people are assisted in improving, or at least restoring, their livelihoods and living standards.

(e) Core Principle 5: Indigenous Peoples and Vulnerable Groups: Due consideration is given to cultural appropriateness of, and equitable access to, Program benefits, giving special attention to the rights and interests of indigenous peoples and to the needs or concerns of vulnerable groups.

(f) Core Principle 6: Social Conflict: Avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.

2.4 Methodology

82. The ESSA has relied on desk review of existing information and data sources, complemented by workshops, bilateral meetings with relevant officials, and broader consultations with key stakeholders from Karnataka, Maharashtra, Assam, Odisha and Madhya Pradesh. The desk review involved reviewing existing reports, guidelines, websites and other documents of the DAHD, Ministry of Statistics and Programme Implementation, Ministry of Rural Development, State Departments/ Directorates of Animal Husbandry, Research Laboratories, World Bank as well as studies and reports prepared by various experts.

83. The desk review was accompanied by workshops, consultations and state-specific meetings aimed at understanding the environmental and social issues, impacts as well as opportunities associated with the Program interventions. The Department of Animal Husbandry and Dairying had nominated nodal officers for each of the participating states to lead the respective state level consultation process and these nominated officers were also the chief point of contact during the preparation of ESSA. These virtual interactions were aimed at capturing field experiences, implementation issues and challenges, institutional mechanisms and capacity gaps related to E & S aspects, and high priority areas of support for the Program. Consultations were carried out with AHDs from the participating states to understand key regulations, the current systems and procedures both at state level and at district level. Consultations with other key institutional stakeholders

included Wildlife Division of Ministry of Environment, Forest and Climate Change (MoEFCC), Indian Council for Agricultural Research (ICAR), National Center for Disease Control (NCDC), Veterinary Council of India (VCI), and with non-governmental organizations (NGOs) involved in One Health program in the participating states and at national level.

2.5 Report Structure

84. The World Bank team and the DAHD and AHD officials worked closely in the conduct and completion of the ESSA process. The ESSA report was prepared by the World Bank team. The report has been structured around the following chapters:

Chapter 1: Program Description
Chapter 2: Environmental and Social Systems Assessment
Chapter 3: Potential Environmental and Social Impacts
Chapter 4: Assessment of Environmental and Social Systems
Chapter 5: Stakeholder Consultations and Disclosure
Chapter 6: Recommendations
Annexures

85. The findings, conclusions and recommendations expressed in this document are those of the World Bank ESSA team. These findings and recommendations have been discussed with Department of Animal Husbandry and Dairying (DAHD) and used in formulation of an overall Program Action Plan (PAP) with key measures to improve environmental and social management outcomes of the Program.

3 POTENTIAL ENVIRONMENTAL AND SOCIAL EFFECTS

3.1 Environmental Benefits

86. The proposed program is expected to scale up positive environmental benefits in the animal health sector, with improved diagnostic and surveillance capacities. It will help improve quality of veterinary health services covering aspects of better environmental hygiene and sustainable waste management. Along with overall improvement in the institutional capacity of implementing agencies to implement One Health approach at National level and for the participating states, it is expected that laboratory management systems and practices for Biomedical Waste Management and occupational health and safety of staff will be improved as a part of this Program.

87. The proposed program offers several opportunities to enhance overall systems and build technical capacities of the Veterinary staff/para – vets/ field workers in reducing threats and risks of environmental pollution and infection. It will pave way to create more sustainable bio medical waste management systems in various veterinary institutes in the pilot states and provide support to undertake infrastructure improvements for reducing environmental footprints, reduce public health risks by providing staff training for efficient waste management and ensuring personal safety from occupational hazards. The program will not only improve integrated reporting on waste generation and management but will also lead to joint actions and collaboration activities covering animal, wildlife, and human health sectors under a common one health framework.

3.2 Social Benefits

88. The proposed Program will improve institutional capacity for addressing animal health management along with improved diagnostic and veterinary services that will eventually benefit a large number of farmers and animal rearers in rural India especially in the five participating states. Improved diagnostic capabilities, timely diagnosis of diseases, quality veterinary services and improved surveillance is expected to contribute to livelihood of farmers mainly the small and marginal farmers who own more than 87 percent of the livestock and whose dependence on livestock is generally higher for their livelihood.

89. The Program will also protect the livelihood and food security of the farmers as well as other and other livestock value chain actors by increasing community awareness about animal disease management practices including ways to minimize the risks of zoonoses. This will further help in protecting the livestock assets and reducing the economic losses. Program will have overall positive impact on the rural economy as the Animal husbandry sector employs about 55 percent of the workforce engaged in agriculture and contributes more than 25 percent of the total value of output in agriculture, fishing & forestry sector.

90. The Program will target and benefit women through specific interventions. Under RA 2, women laboratory scientists will be supported for diagnostic capacity-building interventions. Gender-disaggregated assessments to evaluate the impact of training will also be undertaken as part of the Program. The Program will target women as 50 percent of the beneficiaries in the training of animal health professionals. Activities under RA 3 will target training, equipping, and certifying women para-vets and Community Health Workers (CHWs). As community para-veterinary workers, the women will play a critical role in the provision of last-mile livestock services. This RA will also assess gaps in existing service provision to women farmers and rearers. As such, it will add service provision options, for example, flexible timing, home delivery of services, and village-level support networks. Under this RA, the Program will mobilize women paraprofessionals and offer targeted training programs to them with the objective of increasing the proportion of women animal health trained and accredited animal health professionals to 50 percent in participating states.

91. Activities under RA 5 will aim at increasing community awareness about animal disease management practices by farmers and other value chain actors, with a focus on high-risk areas identified in the SSPs. This will help to minimize the risks of zoonoses. The main areas of support include: (i) conducting community awareness campaigns about zoonotic diseases, disease prevention and reporting requirements

with a specific focus on pregnant women and young mothers; (ii) building the capacity of livestock farmers to maintain the GAHP necessary to strengthen biosecurity and biosafety measures at the farm level; and (iii) improving disease management capacity and practices in high-risk sites — including livestock markets, abattoirs, slaughterhouses, and informal markets. Training will include guidance and awareness building about food hygiene, with a focus on women. This will help to increase food safety at the household level. RA 5 will also contribute to OH by reducing the risks of zoonoses and AMR at the community level. In addition, RA 5 will support specific behavior change, awareness and information campaigns tailored to women farmers, as well as laborers vis-a-vis disease management including zoonoses. It will also support training on the GAHPs, including biosafety measures, good practices in food hygiene and food safety.

92. The AHSSOH Program will enhance public outreach and citizen's engagement in the animal health and veterinary services sector through: (i) behavior change, public awareness and information campaigns targeting livestock farmers, community AH workers, and other value chain actors on animal health-related issues; (ii) targeted outreach efforts to mobilize women, vulnerable farmers and other end users in extension activities and training programs, and increase their access to and use of veterinary facilities; (iii) annual satisfaction surveys of end-users of veterinary service provision; and (iv) strengthening of service standards on AH service delivery and existing grievance redress mechanisms. The Program will introduce innovative approaches to bolster service delivery and quality monitoring. These include field tests, hand-held reporting devices, call-centers, tele-medicine, and innovative animal health service provisions to beneficiaries.

3.3 Potential Environmental Risks and Adverse Effects

93. It is expected that the activities proposed under the AHSSOH program will not have any significant/irreversible Environment and Social Impacts. The proposed activities (with a physical footprint) are not expected to take place in and/or around natural/sensitive habitats or be in areas of high biodiversity value, or affect any areas protected for physical cultural resources.

94. Nonetheless some activities supported under the Pfor4 can have potential negative impacts and risks associated with upgradation/extension activities of select Laboratories, rehabilitation and upgradation of operational veterinary facilities, possible hazards due to improper management of biomedical waste and lack of trained manpower at implementing agencies to deal with potential environmental risks. Broadly the Environmental risks associated with the program can be summarized under two heads.

i) Risks related to Construction activities and
ii) Risks associated with operations of veterinary facilities.

Table 10: Level of Concern with Potential Environmental Impacts and Risks associated with Construction Activates

i) Construction related activities under the program

S.N	Environmental Issues	Potential Program Activities (and potential adverse impacts on Environment)	Level of Concern
1	Dust, noise, general solid waste, wastewater	Physical construction works with respect to upgradation of veterinary facilities will cause dust, noise, wastewater and general solid waste related concerns in/around respective sites. Health and Safety issues for on-site construction workers (including Covid related safety concerns)	**Level of concern: Low** Such effects are site-specific and can be effectively mitigated by measures such as water spray, dust-net, site-fencing, vehicle cleaning; proper construction waste management measures and use of low-noise equipment. Prohibition of construction during nighttime, construction site settling tanks and effluent discharge municipal sewers, and collection and

		Given the location of the works, the visitors, (particularly the inpatients) may be exposed to noise and dust during construction/rehabilitation of the structures within the facilities.	transportation of general solid waste in a timely manner. The construction contract should include relevant clauses to address these issues and include provisions to ensure workers health and safety (including covid safe practices.) The contractor shall be supervised regularly to avoid such potential impacts.
2	Social disturbance, including influx of workers, traffic safety and congestion, construction safety, Covid Safety	Veterinary facilities may be in/around inhabited urban area, and the construction/upgradation of structures or rehabilitation works will be within the boundary of these facilities. The safety of the patients, visitors and staff will be affected by the transportation of materials and the construction activities.	**Level of concern: Low** Given the limited scale of construction/upgradation activities, no significant influx of labor is anticipated during construction. Necessary clauses to ensure workers safety and good construction practices to be included in the construction contracts. The contractor shall be supervised regularly to avoidsuch potential impacts.

Table 11: Level of Concern with Potential Environmental Impacts and Risks associated with Operational Aspects

ii) operation and use of Veterinary facilities

S.N	Environmental Issues	Potential Program Activities (and potential adverse impacts on Environment)	Level of Concern
1	Infections, hygiene, odor from BMW within Veterinary facilities	Quantum of Bio-medical solid and liquid waste is likely to increase with expansion of services & proper waste management in veterinary facilities/hospitals. For facilities below District levels, while the quantity will increase, the composition of the bio-medical solid & liquid waste will not change substantially.	***Level of concern: Moderate*** In many districts level veterinary facilities, biomedical waste is collected and handled by medical workers, and temporarily stored at designated places and treated at common biomedical waste treatment facilities (privately operated). Most of facilities even at district level are not authorized by the state pollution control board and hence the required environmental compliance cannot be monitored officially. There is a need to strengthen BMWM systems including waste categorization, waste management plan, trainings and reporting.
2	Infections and pollution from untreated liquid BMW released from veterinary facilities	Most veterinary facilities are not treating liquid wastes before releasing into the municipal drains or release into the open environment. This has adverse impacts and risks with respect to contamination of surface	***Level of concern: Substantial*** New ETPs and upgrading of some of theolder ones (as necessary) is required for ensuring that treated effluent will meet applicable standards.

		water, groundwater, streams and wetlands.	The flow and composition of the medical wastewater needs to be monitored occasionally. A robust strategy is required to address this risk.
3.	Exposure to radiation	Use of medical imaging or radiotherapy equipment (where applicable or being planned), if not well managed or protected, can lead to radiation exposure and/or radiation contaminated materials (including liquids, paper, medical gloves), resulting on concerns for public and community health. The risk is higher in urban areas where such equipment is available.	***Level of concern: Moderate*** Procedures and guidelines for managing the radiation impacts and risks are well established at national level (NACO Operational Guidelines). For radiation contaminated wastes, specific requirements on collection, separation, storage, packaging, transport, and final disposal need to be in place before its disposal to a TSDF (Facility for treatment, storage & disposal of Hazardous wastes)
4	Air emissions:	Emissions for Diesel Generator sets are likely to pollute the surrounding environment in addition to causing noise pollution.	***Level of concern: Moderate*** Energy footprint can be substantially lowered by switching veterinary facilities to solar power systems. Noise & air pollution –Can be addressed by providing sufficient chimney height and acoustics

3.4 Potential Social Risks and Adverse Effects

95. The upgradation of diagnostic, veterinary and market facilities will involve civil works for repair, maintenance and renovation. These works will be within the existing physical footprint of facilities, and land acquisition, resettlement or involuntary resettlement impacts are not expected.

96. Physical construction works are likely to cause dust, noise, wastewater and solid waste related concerns in/around respective sites. However, these effects are expected to be small scale and site specific and could be effectively mitigated. Civil work contracts will include various risk mitigation measures to protect the health and safety of labors, workers and visitors. Managing workers health and safety risks in diagnostic facilities and waste management activities, as well as community health and safety risks associated with biomedical waste management are key social risks associated with the program.

97. Risks of labor influx, traffic congestion, worker and community safety are expected to be low, given the limited scale of construction/upgradation activities. Necessary clauses to ensure workers safety and good construction practices to be included in the construction contracts. Health risks to lab officials and waste workers from biomedical wastes at veterinary facilities will need to mitigate through effective safeguards.

98. Other social risks relate to a) poor access to quality veterinary services in remote, hilly, and difficult to reach areas, including tribal areas, migratory routes/settlements and disaster-prone areas; b) lower access of women livestock farmers and small holders from vulnerable communities to AH and veterinary services; low levels of community awareness about, and engagement with, AH and zoonotic diseases; and c) weak capacity of frontline workers on OH/AH. Risk mitigation will include, among others: (i) occupational health and safety measures for workers, para-veterinarians, and communities; (ii) outreach to remote tribal pockets; (ii) community engagement and awareness building concerning AH/OH, including behavioral changes in communication approaches; and (iii) strengthening the coordination mechanism with other departments, Panchayati Raj Institutions (PRIs) and local governments.

3.5 Environmental and Social Risk/Benefits Matrix

99. The component-wise environmental and social effects of the program, including the potential benefits, risks and impacts are presented in the table below.

Table 12: Environmental and Social Risks and Benefits

Component and Sub-Components	Potential Activities	Potential Environmental and Social Risks/Benefits
Results Area 1: Strengthening Institutional Capacity for Implementation and Coordination of the One Health (OH) Framework		
Conducting a diagnostic assessment to identify disease risks, capacity constraints, quality, and capacity utilization of existing animal health infrastructure	• Development of ToR for diagnostic assessment • Contracting agency/ institution for undertaking diagnostic assessment • Undertaking Diagnostic Assessment and sharing the assessment with states	Environment and Social Risks • The diagnostic assessment should include indicators/ elements of assessing and addressing E&S risks and designed monitoring indicators. The recommendations if not suitably reflected in the State specific Strategic Plan for animal health, may lead to deteriorated management of E&S risks in future projects
Developing SSPs, which will include the states' One Health frameworks	• Preparation of State specific Strategic Plans (SSPs) for Animal health management by each of the participating states	Environment and Social Benefits • It provides opportunity to integrate E&S aspects for environmental and social risk management in veterinary services/operations.
Training and capacity building of staff at stakeholder departments	• Conducting training need assessment • Identify training institutions • Development of training modules • Identify stakeholder department staffs for training • Development of training calendar • Undertaking training	Environment and Social Benefits • It provides opportunity to integrate training on E&S aspects for environmental and social risk management in veterinary services/operations.

Component and Sub-Components	Potential Activities	Potential Environmental and Social Risks/Benefits
Developing national quality standards, including animal health service provision, the mapping and benchmarking of animal health infrastructure, and manpower and training facilities against such standards.	• Development of National Standards for veterinary and diagnostic service provision including for infrastructure, human resources, and capacity building • Assess and benchmark veterinary infrastructure, manpower and training facilities against the national standards • Identify gaps and potential measures for meeting national standards	• The Environment and Social related risks in AH sector could remain unaddressed if the required mitigation measures are not included in the national standards for veterinary and diagnostic services. • Training of manpower/facility staff to implement good practices and national standards will lead to overall improvement in the sustainable management of veterinary and diagnostic services. • Many states also lack in having enough MVUs to serve the remote, hilly and difficult to reach areas in an equitable manner and may have access to services related risks. In some cases, even if the veterinary centers are there in these areas, they lack human resources.
Establish One Health Steering Committees (OHSCs) to operationalize coordination mechanisms for selected OH actions	• Identifying technical thematic areas for working groups • Establishing technical working groups	
Implementing joint research platforms with national and international institutions concerning specific aspects of One Health	• Developing joint research platforms with national and international institutions on One Health.	• No specific E&S risks. In fact, it adds to benefit in enhancing institutional capacity towards detection of any disease outbreaks and response mechanism.
Results Area 2: Enhancing Diagnostic Capacity for Effective and Timely Disease Diagnosis		
Physical upgradation of diagnostic facilities at the district, state, regional and national levels, and the	• Gap identification based on physical and technical assessment of existing diagnostic facilities at district,	Environment and Social Risks

Component and Sub-Components	Potential Activities	Potential Environmental and Social Risks/Benefits
development and adoption of service standards for faster, more accurate disease screening	state and national level based on national standards being developed. • Developing physical and technical up-gradation plan for the district, state and national diagnostic facilities. • Contracting for physical and technical upgradation. • Physical and technical upgradation of diagnostic facilities at district, state and national level.	• The physical upgradation/construction activities may involve temporary environmental (pollution related) impacts like dust, noise, general solid waste, wastewater • Need for any clearing and cutting of trees etc. (if required) • Occupational health and safety risks for workers (including covid related risks) may emerging during civil works. • Risks emerging from improper handling, transportation, and disposal of bio-medical wastes from the diagnostic facilities. • Occupational risks to the staff of veterinary facilities being exposed to hazardous chemicals, contaminants and infectious materials • Risks of land acquisition and physical relocation and displacement are minimal, since though the program does not anticipate any land acquisition. •
Adoption of best practice protocols and accreditation of laboratories with relevant national and international standards	• Identifying gaps and developing measures including systems and process, and capacity towards adoption of best practices. • Gap assessment for accreditation of laboratories • Designing measures to fulfill the requirement based on gap assessment for accreditation of laboratories including physical, technical and capacity requirements for accreditation.	Environment Benefits • Best practices adopted for accreditation of laboratories will lead to safer and more sustainable practices in all laboratory operations (addressing any environmental concerns and staff EHS issues; also,

Component and Sub-Components	Potential Activities	Potential Environmental and Social Risks/Benefits
	• Undertaking necessary measures towards accreditation of laboratories.	application of additional green and sustainable practices where possible)
Developing and implementing a laboratory information system for effective information sharing	• Creation of Laboratory information database • Designing and developing mechanism and protocols for data sharing	• No specific E&S risks
Enhancing the availability of economical, kit-based diagnostics to enhance last-mile diagnostic service provision	• Assessing potential areas for promoting economical, kit-based diagnostic services • Developing institutional mechanism • Training frontline staffs including para medics and community health workers	Environment and Social Risks • Environmental risks may emerge from increased use and improper disposal of used diagnostic tools and chemicals • Overall, this will enhance social benefits, however non-availability of diagnostic kits in remote, hilly and difficult to reach areas can lead to risk of exclusion.
Training and capacity building of laboratory staff, field-level veterinarians, para-vets and forest department staff (including field epidemiology). Joint trainings and improving diagnostic effectiveness are key OH elements	• Conducting training need assessment • Identify training institutions • Development of training modules • Identify laboratory staff, field-level veterinarians, para-vets and forest department staff (including field epidemiology) staffs for training • Development of training calendar • Undertaking training	Environment and Social Benefits • Training on E&S aspects will lead to more environmentally sustainable and socially responsive diagnostic and surveillance operations
Result Area 3: Increasing Access to Quality Veterinary Services		
Upgrading of veterinary hospitals and dispensaries to meet minimum national standards	• Gap assessment for upgrading veterinary hospitals and dispensaries to meet minimum national standards	Environment and Social Risks • The physical upgradation/construction activities may involve temporary

Component and Sub-Components	Potential Activities	Potential Environmental and Social Risks/Benefits
	• Designing and developing measures including physical, technical and human resource capacity to meet minimum national standards • Undertaking measures for upgrading veterinary hospitals and dispensaries.	environmental (pollution related) impacts like dust, noise, general solid waste, wastewater • Need for any clearing and cutting of trees etc. (if required) • Occupational health and safety risks for workers (including covid related risks) may emerging during civil works. • Risks emerging from improper handling, transportation, and disposal of bio-medical wastes from the diagnostic facilities. • Occupational risks to the staff of veterinary facilities being exposed to hazardous chemicals, contaminants and infectious materialsRisk for relocation and resettlement is minimal since land acquisition for physical upgradation and construction is not expected. Environment Benefits • Best practices adopted to meet minimum national standards will lead to safer and more sustainable practices in veterinary hospitals and dispensaries (addressing any environmental concerns and staff EHS issues, also additional good-green practices where possible) • • Health and safety risks to adjoining communities (including covid related risks)

Component and Sub-Components	Potential Activities	Potential Environmental and Social Risks/Benefits
		may emerge during upgradation activities and related civil works (if any).
Scaling up the use of mobile veterinary units (MVUs) for last-mile service provision, with a particular focus on women farmers and rearers	• Need assessment for MVUs for last mile services in each of the districts and states • Developing plan for additional MVUs to be deployed along with necessary human resources • Procurement of MVUs • Training of human resources to be deployed in MVUs • Deployment of MVUS • Designing and implementation of IEC focusing on women farmers and rearers for making optimal use of MVU services	Environment Risks • Environmental risks may emerge from improper disposal of bio-medical wastes from MVUs. Social Risks and Benefits • Overall, this will enhance social benefits, however even if the MVUs are there but not enough staffs, then non-availability of last mile services in remote areas may lead to risk of exclusion.
An increase in services in underserved locations of program areas	• Enhance services in hilly, remote and difficult to reach areas, and other underserved areas.	Social Risks and Benefits • Overall, this will enhance social benefit by ensuring that underserved areas and tribal areas are served properly.
Development of model veterinary hospitals and model livestock market in a cluster of districts	• Identifying locations and existing veterinary hospitals and livestock markets for developing them as ‘models’ • Need assessment of select veterinary hospitals and livestock markets. • Designing measures for veterinary hospitals and livestock markets to be demonstrated as ‘models’ • Developing select veterinary hospitals and livestock market as model veterinary hospitals and model livestock market.	Environment and Social Risks • The development of model veterinary hospitals and model livestock market may involve temporary environmental (pollution related) impacts like dust, noise, general solid waste, wastewater • Need for any clearing and cutting of trees etc. (if required) • Necessary permissions may be required if the development activity has a physical footprint

Component and Sub-Components	Potential Activities	Potential Environmental and Social Risks/Benefits
		in proximity to any eco-sensitive area or designated physical cultural resources. • Occupational health and safety risks for workers (including covid related risks) may emerging during civil works. • Risks emerging from improper handling, transportation, and disposal of bio-medical wastes from model veterinary hospitals and model livestock market. • Occupational risks to the staff of veterinary facilities being exposed to hazardous chemicals, contaminants, and infectious materials • Risk of resettlement and relocation of people from civil works is minimal, since land acquisition is not expected for physical upgradation works. • Health and safety risks to adjoining communities (including covid related risks) may emerge during development activities and related civil works (if any). Environment Benefits • Best practices adopted in "model" veterinary hospitals and "model" livestock market will lead to safer and more sustainable (addressing any environmental concerns and staff EHS issues, also additional good-green practices where possible)

Component and Sub-Components	Potential Activities	Potential Environmental and Social Risks/Benefits
		•
Capacity building of para-vets and community health workers through induction and refresher training to increase the strength of the workforce and to enhance the quality of services	• Identifying training institutions • Development of training modules • Identify para-vets and community health workers training • Development of training calendar • Undertaking training	No specific E&S risks Environment and Social Benefits • Training on E&S aspects will lead to more environmentally sustainable and socially responsive veterinary services (diagnostic and surveillance operations)
Result Area 4: Enhancing surveillance capacity for effective disease reporting and monitoring		
Developing integrated information technology (IT) platforms and mobile applications for disease reporting, that would be aligned with and able to feed information into human disease reporting platforms	• Assessment of existing IT systems and platforms for disease reporting and its integration to human health disease reporting system • Developing protocols for disease reporting and information sharing • Identifying and developing IT solutions including Apps etc. for disease reporting and its integration with human health disease reporting system • Providing necessary training and capacity building for staffs managing and handling digital solutions • Developing and implementing IT solutions for disease reporting	Environment Risks • Environmental risks may emerge from improper disposal of E-waste (increased use of IT equipment) Social Risks • No identified social risks
Integrating wildlife disease surveillance in the National Digital Livestock Mission (NDLM); and the training and onboarding of forest department staff into disease reporting platforms	• Identifying necessary measures for integrating wildlife diseases into National Animal Disease Reporting System (NADRS) • Coordinating with Forest Department for using NADRS platform	• No specific E&S risks

Component and Sub-Components	Potential Activities	Potential Environmental and Social Risks/Benefits
	• Building Forest department staffs on disease reporting on NADRS	
Capacity building of animal, human and wildlife personnel to strengthen disease monitoring in high-risk locations and protected areas	• Undertaking training need assessment for disease monitoring in high-risk locations and protected areas • Identifying training institutions • Development of training modules • Identify para-vets and community health workers training • Development of training calendar and undertaking training	• No specific E&S risks
Strengthening capacity of FSSAI to test animal-sourced products and initiating coordination with DAHD to promote food safety in animal products	• Strengthening capacity of FSSAI for product food testing • Initiating coordination with DAHD towards promoting food safety	• No specific E&S risks
Result Area 5: Increasing Community Awareness of Animal Disease Management Practices and Zoonoses		
Conducting community awareness campaigns about zoonotic diseases, disease prevention and reporting requirements with a specific focus on pregnant women and young mothers	• Designing communication and community engagement strategy and tools • Designing campaigns for communications and citizen engagement • Hiring of communication agency to help develop communication materials and undertake communication campaigns • Implementation of communication campaigns and citizen engagement activities	No Environmental Risks Social Benefits • Overall, it will benefit in garnering community support along with building their capacity to identify and take necessary actions towards disease reporting • Orienting women livestock rearers/farmers, including pregnant women and young mothers will have preventive health benefits
Building the capacity of livestock farmers to maintain good animal husbandry practices	• Identifying institutions/ civil society actors to help undertake the same at farm level	No Environmental Risks

Component and Sub-Components	Potential Activities	Potential Environmental and Social Risks/Benefits
(GAHP) necessary to strengthen biosecurity and biosafety measures at the farm level	• Designing and implementing community/ farmers capacity building measures through communication campaigns, community engagement tools, focused training sessions etc. towards GAHP • Monitoring and reporting.	Social Benefits • Overall, it will benefit in garnering community support and building community/ farmer's capacity towards GAHP
Improving disease management capacity and practices in high-risk sites, including livestock markets, abattoirs, slaughterhouses, and informal markets	• Identifying training institutions • Development of training modules • Identify target stakeholders at high-risk sites including community members/ farmers, para-vets and community health workers etc. • Development of training calendar and undertaking training	Environmental and Social Benefits • Training on E&S aspects will lead to more environmentally sustainable and socially responsive operations in livestock markets, abattoirs, slaughterhouses, and informal markets

3.6 Indirect and Cumulative Impacts

100. **The PforR will be implemented in Maharashtra, Odisha, Karnataka, Madhya Pradesh, and Assam.** These states hold about 138.8 million livestock, which amounts to 26 percent of India's total livestock. Madhya Pradesh is the third leading state in total livestock population in the country. Maharashtra, Assam, and Odisha are among the top ten cattle population states holding a total of 34.8 million cattle. Maharashtra is a major poultry producing state. Together with Karnataka, Assam, and Odisha, it is among the top ten poultry states, holding 207.9 million poultry. The five Program States hold approximately 31 percent of India's dog population of 9.4 million dogs. The five states constitute about 29 percent of India's forest cover, and 39 percent of the total area of Odisha. There is a sizable wildlife population in the Program states, and Maharashtra and Assam have among the highest cases of poaching, and illegal trafficking of wild animals is high in Odisha. The rate of animal disease incidence is high in these participating states. Using the incidence of nine selected priority diseases in states reported by the Integrated Disease Surveillance Project (IDSP) (2019 through 2020), the participating states reported the most incidences.

101. Cumulative environmental impacts relate primarily to generation of additional biomedical wastes in these states. On an individual veterinary facility and laboratory level, biomedical waste generated might not be significant and mostly manageable through program interventions, but on an aggregate basis, considering the huge cattle population and environmental sensitivities in the participating states, this could overwhelm the existing capacity, particularly for facility level storage and transport to final disposal site.

102. Some positive cumulative impacts are also anticipated. Efficient and functional laboratory services is likely to have a positive impact on improving the emergency response and thus shortening the duration and severity as well as spread of disease outbreaks. By helping in keeping the health of workforce healthy and functional, the indirect adverse impacts on non-emergency and routine essential veterinary services, would be prevented.

103. Continuous training and learning opportunities are expected to build cumulative capacity across the states veterinary sector and sustainable management of biomedical wastes and improved operational health and safety systems will lead to strengthened biosecurity and biosafety provisions.

4 ASSESSMENT OF ENVIRONMENTAL AND SOCIAL SYSTEMS

4.1 Program Assessment

104. As mentioned earlier, the PforR Policy of the Bank requires the proposed Program to operate within an adequate environmental and social management system that can manage environmental and social effects (particularly adverse impacts and risks) identified during the ESSA process. This includes:

a) an adequate legal and regulatory framework and institutional setting to guide environmental and social impact assessment and the management of environmental and social effects, and
b) adequate institutional capacity to effectively implement the requirements of the system including staffing, resources and process and practices in place

105. This section assesses whether the program's environmental and social management systems are consistent with the core principles and key planning elements contained in the PforR Policy and whether the involved institutions have the requisite capacity to implement the requirements of these systems. Both elements (e.g., program systems and capacity) are necessary towards ensuring that the environmental and social effects identified in Chapter 4 of this document. Through this analysis, the ESSA team has identified some gaps, which can be addressed through actions recommended under Chapter 7 of this report. A detailed analysis of the proposed program with respect to the core principles laid out in PforR policy/ ESSA guidance is presented in the Annex 4.

106. A program system is constituted by the rules and "arrangements within a program for managing environmental and social effects[12], "including institutional, organizational, and procedural considerations that are relevant to environmental and social management[13]" and that provide "authority" to those institutions involved in the program "to achieve environmental and social objectives against the range of environmental and social impacts that may be associated with the Program[14]." This includes existing laws, policies, rules, regulations, procedures, and implementing guidelines, etc. that are applicable to the program or the management of its environmental and social effects. It also includes inter-agency coordination arrangements if there are shared implementation responsibilities in practice[15].

107. Program capacity is the "organizational capacity" of the institutions authorized to undertake environmental and social management actions to achieve effectively "environmental and social objectives against the range of environmental and social impacts that may be associated with the Program." This ESSA has examined the adequacy of such capacity by considering, among other things, the following factors:

a) Adequacy of human resources (including in terms of training and experience), budget, and other implementation resources allocated to the institutions.
b) Adequacy of institutional organization and the division of responsibilities among institutions.
c) Effectiveness of inter-agency coordination arrangements where multiple agencies or jurisdictions are involved; and
d) The degree to which the institutions can demonstrate prior experience in effectively managing environmental and social effects in the context in projects or programs of similar type and magnitude.

[12] Drawn from Program-for-Results Financing: Interim Guidance Notes on Staff Assessments, "Chapter Four: Environmental and Social systems Assessment Interim Guidance Note," Page 77, paragraph 1

[13] Ibid, page 82, paragraph 12

[14] Ibid., Page 77, paragraph 2, and page 82 paragraph 12.

[15] Based "Chapter Four: Environmental and Social systems Assessment Interim Guidance Note," Program-for-Results Financing: Interim Guidance Notes on Staff Assessments

4.2 Institutional Arrangement and Gaps

108. The AHSSOH program will be implemented by the Department of Animal Husbandry and Dairying (DAHD), Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD) at the national level, officials of the Animal Husbandry Departments (AHDs) in the participating states.

109. The State Animal Husbandry departments are headed by a Commissioner/ Director level officer who is assisted by Additional Directors/ Joint Directors, who in turn are assisted by Deputy Directors or District Animal Husbandry officers at the district level. At the Block/Taluka level, the Block Animal Husbandry Officer or Livestock or Veterinary Officers are responsible for program implementation. In the district and blocks, Senior Veterinary Surgeons, Veterinarians, and Veterinary Assistants function in various veterinary institutions. Most participating states reported shortage of staff/officials, including veterinarians/ veterinary graduates. While there are veterinary institutions even in remote areas and tribal areas in most of the participating states, in many cases they are not functional at full capacity as they lack having adequate number of doctors, and other technical staffs. In some of the states MVUs also face challenges of having adequate number of staff.

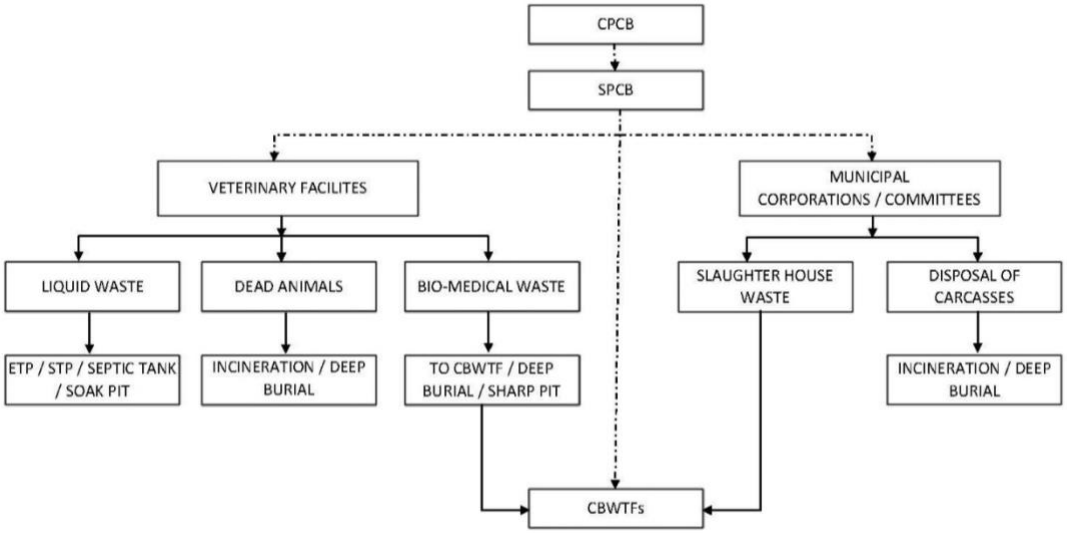
110. For effective delivery of veterinary services to farmers, the Para-veterinarians (paravets) play an important role in providing 'minor veterinary services' to farmers, especially services related to animal health, nutrition, breeding and other veterinary and extension services. They are named differently in different regions like Paravets, *Multipurpose AI Technicians in Rural India (MAITRI)* workers, *Pashu Mitra, Gopal Mitra, Prani bandhu, Prani Mitra, Pranisebee* etc. These community-based animal health workers are skilled professionals who have undertaken training in artificial insemination, first aid, administration of medicines and vaccines, assisting veterinarians in surgical, medical and gynecology treatments, etc. Each paravet provides breeding and minor veterinary services to farmers in about 5-8 villages. They are further assisted by Field Extension workers, often a women woman (*Pashu-Sakhi*), who serve from 2-3 villages. Paravets continue to serve a large gap in extension services and have enabled more people to access extension and advisory services to protect their livestock.

111. In context of environment segment of the current program the regulatory structure at the Government level is the Ministry of Environment, Forest and Climate Change (MoEFCC), which is the nodal agency in the administrative structure of the Central Government for the planning, promotion, co-ordination and overseeing the implementation of India's environmental and forestry policies and programs. The wildlife division of MoEFCC is the responsible authority for looking into animal wildlife conflict aspects of the one Health approach.

112. In addition, for better coordination & monitoring purposes, the ministry has 18 regional offices all over India. Further, the ministry has established 21 Subordinate offices /Institutes / Boards / Authorities / autonomous organizations spread all over India covering all aspects of Environment.

113. The Central Pollution Control Board (CPCB) is the agency for monitoring & regulating the various laws enacted by the MoEFCC. Biomedical Waste Management (BMWM) is the most critical area under the environment context of the current PforR. **Below is the institutional ecosystem under which the BMW operations of veterinary facilities would work in all the participating states.**

Figure 2: Institutional Ecosystem for BMW Operations of Veterinary Facilities



114. CPCB is located at New Delhi and has 6 regional offices. The CPCB regulates all aspects of Environmental pollution (including BMW and other forms of waste management) all over the Country and oversees the function of state pollution control board(s) or SPCB(s) / Pollution Control Committee(s), which have been established in all states /Union territories respectively. The CPCB has formulated various guidelines to supplement the rules enacted by MoEFCC. In addition, The CPCB has formulated various guidelines to supplement the rules enacted by MoEFCC. In addition, CPCB acts as a bridge between various SPCB(s) and MoEFCC and compiles all statistics/data from different states for further submission to MoEFCC. Although the State Pollution Control Boards are mandated to oversee the biomedical waste management of state's veterinary units and supervise the work of statewide network on Common Biomedical Treatment Facilities (CBMWTF), the capacity of these organizations is often low for required technical supervision. Again, veterinary services are mostly on low priority in these organizations, and it does not have dedicated divisions. SPCBs in pilot states also lack in required human and budgetary resources to deliver their mandates on BMW management.

115. The State Animal Husbandry Departments (AHDs) also do not have any dedicated environment safeguards or social safeguards officer, due to which the critical tasks of BMW management and issues with respect to operational health and safety of workers as well as communities are dealt by other technical/non-technical staff members. Availability of dedicated budget is also a major constraint in participating states (Maharashtra expressed the need for an expanded budget head for BMWM, while Odisha mentioned requirement of additional funds for laboratory upgradation[16]). Additionally, lack of a clear environment strategy at state level, absence of mandated written protocols for Veterinary Facilities, and inadequate technical capacities/systems at the state AHDs often lead to inefficient overall coordination and management of the hazardous wastes being generated at state's veterinary facilities.

116. **Implementation Arrangement** - For the current P4R Program, a Program Steering Committee (PSC) headed by the Secretary of Animal Husbandry with corresponding One Health departments and agencies (including human health, environment/wildlife, and food safety) will be established to oversee the program at the national level. The National Program Implementation Unit (NPIU) will consist of the existing staff of the DAHD, headed by the Joint Secretary of Animal Health. The existing One Health Support Unit (OHSU) will provide support to manage the program at the national level. The DAHD will **hire additional technical consultants to strengthen capacity** in specific areas including

[16] Information as received during state wise (virtual) consultation workshop organized on 23rd and 24th February 2022.

procurement, **as well as implementation and oversight of the environmental and social risk mitigation interventions**. Participating states[17] will be required to submit a Letter of Undertaking (LOU) to the Ministry of Fisheries Animal Husbandry and Dairying (MoFAHD) confirming their readiness to participate in accordance with the Program design and procedures laid out in the Program Implementation Manual (PIM), which also includes key ESSA recommendations as mentioned in Section-6 of this report on strengthening environmental and social systems.

117. At the State level, a One Health Coordination Committee will be established. It will correspond to the national PSC, which will also serve to oversee implementation of the State Strategic Plans at the State level. A State Program Implementing Unit (SPIU) will be hired in each of the five participating states to assist the AHDs in implementing the program. The DAHD will hire an Independent Verification Agency (IVA) to verify DLR achievements. The appointment of dedicated officers for environment and social oversight at national level and state level PIUs are expected to provide for the required implementation capacities of the program.

4.3 Legal and Regulatory System

118. India has specific policy, legal and regulatory provisions directly relevant to the activities being carried out under the program. ESSA has reviewed these national and state specific laws and regulations relevant to managing the environmental and social effects of the proposed program.[18]. Annex-3 lists legal instruments that manage the biomedical and other wastes, pollution prevention, labor related aspects relevant to the program. While the provisions of the existing environmental and social legal and regulatory framework are adequate, they are constrained by inadequate institutional mechanisms and technical capacity to ensure optimum and timely enforcement. The National Health-Care Waste Management Plan - Guidance Manual Published by World Health Organization (WHO) is a relevant framework for the current program activities.

119. The key legislations that guide the environment context of diagnostic facilities under the program include.

i). **Bio medical waste Management Rules, 2016** (amended 2019),
(*additional Guidelines published by CPCB include; Guidelines for Management of Healthcare Waste as per Biomedical Waste Management Rules, 2016, Guidelines for handling of BMW for utilization – 2019, Guidelines for Environmentally Sound Management of Mercury Waste Generated From the Health Care Facilities -2012, Guidelines for Bar Code System for Effective Management of Bio-medical Waste, Guidelines for Disposal of Bio-medical Waste Generated during Universal Immunization Programme (UIP), Guidelines for Monitoring Compliance of Common Biomedical Waste Treatment Facilities by State Pollution Control Boards / Pollution Control Committees, Guidelines for Imposition of Environmental Compensation Charges against Healthcare Facilities and Common Biomedical Waste Treatment Facilities, Guidelines for Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients)*

ii) **Construction and Demolition Waste Management Rules**, 2016,

iii) **Plastic Waste Management Rules**, 2016, amended 2018,

iv) **Hazardous and Other Wastes (Management & Transboundary Movement) Rules**, 2016, amended 2019,

[17] The states selection is based on the livestock population size (states with high livestock population); forest cover, animal disease risk incidence (high disease burden and risk of outbreaks); states participating in Zoonosis outreach Program with dedicated fund to strengthen animal health management related and commitment to improve animal health outcomes and willingness to implement the One Health Framework in animal disease and zoonoses management.

[18] Covering protection of rights and interests of backward, scheduled caste (SC) and scheduled tribe (ST) and other marginalized communities, citizen engagement, livelihoods, inclusion, gender, labor and other sector related laws and policies.

v) **E-Waste Management Rule**s, 2016, amended in 2018.

vi) Additionally, the National Aids Control Organization (NACO) issued by Ministry of Health & Family Welfare provides holistic operational guidelines on Quality Assurance, Equipment Selection and maintenances, lab safety, employee protection and biosafety & infection control.

120. All the participating states have adopted the laws of Central Govt as described above. Further, these states have created State Pollution Control Boards (SPCB)s at the state level for implementation / monitoring of these laws. In addition, some states like Karnataka, Maharashtra and Odisha have enacted laws for Ground Water development /Control and have created departments viz. Directorate of Ground water Development, Ground Water Surveys and Development Agency.

121. The key legislations that guide the social aspects under the program are mentioned below. The existing legislative framework is adequate to ensure social sustainability and inclusion of marginalized and vulnerable population including the SC and ST population, labor welfare, and gender and inclusion but requires strengthening of institutional capacity for better compliance. The key social legislations and provisions assessed include:

e) Constitutional provisions under Articles 15,16 and 46
f) Provisions as per Fifth and Sixth Schedule Areas in the Constitution of India
g) Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act 1989 and further Amendments 2018
h) Minimum wages Act, 1948
i) The Building and Other Constructions Workers (Regulation of Employment and Conditions of Service) Act, 1996 and the associated Central Rules, 1998
j) National Building Codes of India 2016
k) The Occupational Safety, Health and Working Conditions Code, 2020
l) The Child and Adolescent Labour (Prohibition & Regulation) Act, 1986; and Notification of the Child Labour (Prohibition and Regulation) Amendment Act, 2016 and Rules 2017
m) The Right to Information Act 2005; and rules by the respective states
n) The Rights of Persons with Disabilities Act, 2016
o) The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013; and
p) Criminal Law (Amendment) Act, 2013 - Sexual Offences.

122. The building and other constructions workers related act, and the Occupational Safety, Health and Working Conditions Code, 2020 further strengthens the labor related framework and legislations. However, it requires enabling institutional, capacity, and regular monitoring to comply with.

4.4 Existing Environmental and Social Practices in Participating States

123. Lack of Biosafety and Biocontrol measures, poor or inefficient biomedical and liquid waste management in VFs and Diagnostic facilities, Unsustainable deep burial practices and compromised Workers Health and Safety are key environmental issues in the participating states

124. A state wise summary of the key concerns/challenges is given in the table below[19];

[19] These findings/inputs are from the participating state workshops conducted between January and February 2022.

Table 13: State-wise Summary of Key Environmental Concerns

	Participating States	Biosafety and Bio Control Measures	Bio-Medical and Liquid Waste Management	Workers Occupational Health and Safety
1	**Assam**	• No uniform SOP for Biosafety and Bio Control measures in state laboratories • No SOPs, guidance or protocols on BMW management • No dedicated officer for Bio-Safety and Bio Control measures • Training on Bio-Safety and Bio Control measures is urgently required • Uniform SOPs required at all levels of vet facilities in the state • Need Standardized protocols for BSL-1, BSL-2, BSL-3 labs	• On-site deep burial being practiced in most VFs. Only one CBMWTF currently operational at Guwahati (it is not receiving waste as per its design capacity) • Liquid waste – most labs in the state are now moving to molecular treatment methods, leading to huge toxic/hazardous liquid waste production. Grave concern for the state • Uniform SOP for Liquid waste management is required • A dedicated trained officer for Biomedical and Liquid Waste Management is needed • Need trainings on managing/maintaining labs equipment • Disposal of COVID related waste is a rising concern	• Ad-hoc trainings are being undertaken • Assistance to States for control of animal diseases (ASCAD) scheme under implementation • Need proper SOPs for Workers/Staff Health and Safety • Regular Medical checkup for staff is not being done • COVID-19 Precautions like masks, sanitization, PPE kits etc. are being observed. No fixed SOP.
2	**Karnataka**	• Basic SOPs in place • Trainings being undertaken • Three well equipped BSL-3 Labs with efficient and qualified scientists • But need more labs in all remaining 17 districts[20]	• Efficient mechanism for BMWM in place • BMW handed over to authorized CBMWTFs (private operators) • Liquid waste handled in campus • SOPs in local language available • Some ad hoc trainings being undertaken	• SOPs for EHS Safety measures in place • Trainings, Guidelines and Equipment for EHS are in place
3	**Maharashtra**	• Stringent Rules being implemented for Bio-Safety and Bio Control measures • There is a 3-level task force (state/regional/district) which conducts monthly reviews • Under PHD a State Communicable Disease Control Committee has been formed which undertakes quarterly reviews	• BMW waste management under control of SPCB. There are more than 30 private authorized vendors for CBMWTF in the state • Liquid waste management is a very big challenge. Liquid waste is being disinfected mostly onsite. • BSL2 and BSL3 labs need upgradation • There are budget constraints in BMWM • 3 tier lab system – also western region's RDDL in Maharashtra	• EHS measure well in place for all veterinary labs • SOPs and trainings on EHS are in place • Medical checkup for workers is a major gap • Need guidelines and protocols for medical checkup of workers • Covid safety protocol is currently in place

[20] The current PFR is not funding construction of new labs in participating states.

	Participating States	Biosafety and Bio Control Measures	Bio-Medical and Liquid Waste Management	Workers Occupational Health and Safety
		• Agriculture Skill Council of India: ASCI undertaking trainings (including one package on Bio-Safety and Bio Control measures) • Key concern is the very low community awareness on Bio-Safety and Bio Control measures	• 7 Labs – one for each of the 7 revenue regions • 34 District Polyclinics • Labs need upgradation and are in process of getting SPCB authorization • District labs need financial assistance for infrastructure upgradation • SOPs present for all labs, but regular training programs are required in BMWM	
4	**Odisha**	• Need laboratory infrastructure upgradation • SOPs for Biosafety and Bio Control measures are in place • Currently the state has only BSL 2 labs. Proposal to establish a BSL3 lab • Third party identified for implementation of Biosecurity measures • Proposal to establish a RDDL • Systematic trainings required at all levels on Biosafety and Bio Control • SOPs need to be revisited/updated and standardized for all labs • Target based capacity building needs at all levels	• Budget constraints for lab upgradation • Very few DDDLs registered with SPCB • Need SOPs and training on BMWM • Network of CBMWTF very poor. • Many facilities are also treating waste within their campuses	• Annual trainings on EHS being done at district level • COVID vaccination done for front line workers • Trainings on lab-EHS measures being undertaken • Deficiency in worker health checkup facilities • Need training in biosafety measures
Source: Based on State level consultations, 2022				

125. Acknowledging the need to address poor compliance of BMW rules 2016 (amended in 2019) in Indian states, and to review the compliance status in veterinary facilities, CPCB in the July 2020 inspected 85 veterinary hospitals. The below observations/shortcomings were found as per the sample inspections.

- Majority of veterinary Hospitals have not obtained authorization obtained from prescribed authority
- The Hospitals have not registered with the CBWTFs for treatment and disposal of BMW generated in their veterinary hospitals
- No segregation of waste at source is practiced through separate color-coded collection bins
- No proper records are being maintained about waste generation, collection, transportation, treatment and disposal
- Awareness has not been created for the waste handling staffs through display of Posters & charts

- No record is available regarding immunization of workers involved in handling of bio-medical waste as per rule 4(h) and conduction of regular health checkups to these workers as per rule 4(m)
- No committee has been formed to review and monitor the activities related to bio-medical waste management
- No wastewater treatment facility is available, and the wastewater generated is disposed into public sewer.
- Annual report in Form -- IV is not submitted to the prescribed authority

126. After the above survey, in view of non-compliance, letters were also issued to the Principal Secretary, Department of Animal Husbandry of all states, requesting to take immediate action to ensure effective compliance to BMWM Rules, 2016 by the veterinary hospitals located in their states. Due to onset of COVID after March 2020, no major progress has been made on the above shortcomings/compliance issues. The same was also validated during the (focus) state level workshops organized in February 2022 by the World Bank team.

127. The state wise summary of the key social concerns/challenges is given in the table below.

Table 14: State-wise Summary of Key Social Concerns

	Participating States	Community Health and Safety	Community Engagement	Coverage of Remote Areas and Tribal Communities
1	**Assam**	• Municipal bodies manage slaughterhouses markets and have their own veterinary staffs – no linkages/coordination with AHD. • While slaughterhouses and livestock markets are targeted for CHS, the Wet markets are not. • Limited convergence between Animal health and human health departments and staff • Low awareness about CHS among veterinary staffs, paraprofessionals, community workers, and community in general. • Carcass disposal is improper – need mechanism for strengthening. • Dead animal often disposed off in rivers and water bodies – eaten by dogs, foxes, wild animals – risk of diseases spreading across –	• Veterinarians, para vets, and *Pashu Sakhi* undertake initial communication. • Current mechanism for awareness creation is based on visitors in the animal health/vaccination camps. Systematic approach to communication and awareness creation is weak. • Participation of PRI members, producer groups, livestock groups is needed. • No NGOs are involved – though there are some who are working on animal health – they can be involved for awareness generation. Also, no funding is provided to NGOs from AHD.	• There is shortage of Vet doctors and staff to service remote, difficult to reach areas, and tribal pockets. • AH being state subject, all hospitals, dispensaries, sub-centers are under AHD even in Schedule V & VI areas • Some Forest villages are difficult to reach and remain underserved. • NGOs will be helpful in awareness creation/ training, but disease management and outbreak controls are responsibility of Vet dept and Doctors – however initial linkages will help.

	Participating States	Community Health and Safety	Community Engagement	Coverage of Remote Areas and Tribal Communities
		community awareness is also low on these things.		
2	**Karnataka**	• Carcass management is left to villagers • No SOP or guidelines on CHS • Municipal bodies manage slaughterhouses/ urban Wet markets and have their own veterinary staffs – no linkages/ coordination with AHD or awareness on their practice and approach. • Low awareness about CHS – need to create awareness among staffs, para vets and community. • No engagement/ coordination with ANM, AWW on human health	• Awareness done during vaccination drives/ campaigns. • Village based training and awareness will be useful, including involving PRIs. • There has been some engagement with PRIs/ PRI members for imparting training and awareness. • Mass media (print, radio etc.) is also used on awareness creation om diseases, outbreaks etc. and have developed communication materials to be used by para vets, MAITRI workers. •	• Adequate number of Veterinary institutions are functional across the states, however areas in coastal belt and Western Ghats need more attention
3	**Maharashtra**	• Carcass disposal is done by villagers – they generally bury • There is no SOP or guidelines on CHS. • Municipal bodies manage slaughterhouses/ urban wet markets and have their own veterinary staffs. However, the coordination is weak between AHD and Municipal bodies. • Limited convergence between Animal health and human health departments and staffs.	• Call centers are providing guidance to livestock owners and villagers. Toll free number (1602) is used for community engagement with support of dedicated staff to address community concerns. • Good coordination with human health and wildlife dept. • District level campaigns are undertaken for awareness generation and monitored through HQ. Livestock and poultry farmers provided training through existing training modules. NGOs also support in these district level campaigns. • No regular engagement with PRIs but they are involved during IEC campaigns at district and block level.	• Inadequate staff poses some challenges to service remote tribal areas, where paraprofessionals are utilized to provide services. • State has adequate number of Vet institutions (4889), but there are gaps in providing service in remote and tribal areas– MVUs work better in these areas given geographic spread. • CM Pashu swasthya yojna started - under which 350 MVUs are sanctioned of which 72 have started operations. • Under Zilla parishad also there are Vet clinics - but these don't have enough doctors. • In remote areas/ tribal areas many of the milk

	Participating States	Community Health and Safety	Community Engagement	Coverage of Remote Areas and Tribal Communities
			• Some guidelines on zoonotic diseases are also being circulated among veterinary staffs, paravets, production centers for awareness creation. • Communication materials - e.g., leaflets, poster etc. – are for circulation to para vets, *Pashu Sakhi*, and to community members. • State level training institute at Pune provides training to Vet staffs, para vets and other stakeholders in livestock sector including on zoonotic diseases. National Institute of Occupational Health (NIOH) is also involved	federations also provide animal health services – though systematic reporting by them on disease outbreaks is not worked out. • As per 1984 act – one vet for 5000 livestock population is supposed to be there - which is a gap not only in Maharashtra but across the country – because of which most of the remote/ tribal areas are underserved. • Many NGOs also working in tribal areas supporting treatment, deworming etc. – no formal linkages set up – also their training program are different and no linkage with State AHD.
4	**Odisha**	• No SOP/ Guideline on community health and safety • Waste generated through MVUs (mainly through vaccination and treatment – syringes etc.) are brought back for disposal at Vet hospital/ Dispensary, however, any organic waste/ animal waste is disposed off on site. • No set protocols for disposing animal carcasses. • No Training program on CHS either to para-vets/ *Gopal Mitra/ Pashu Sakhi*/ and other community workers. • limited awareness about CHS among Veterinary hospital/ dispensary staffs – and poses a major	• Engagement with SHGs or training them is mainly for poultry/ goatery units for livelihood support through para vets, VS etc. • *Gopal Mitra* undertakes initial engagements with community during First aid, AI, and other services, but are few in numbers and not every GP has them. • Some IEC/ communication awareness materials are available at Vet offices – but in limited numbers – distribution of awareness materials/ leaf lets is rare. • Inadequate measures/ mechanism for Citizens' engagement and resource allocation. NGOs are not utilized by the department. •	• MVUs provide services at farm level and in remote areas. • Dispensaries and Vet institutions are there in remote areas – but shortage of staff is the biggest challenge

	Participating States	Community Health and Safety	Community Engagement	Coverage of Remote Areas and Tribal Communities
		concern for zoonotic diseases. • ASHA and AWW play a role in disseminating information on animal health and diseases to para-vet centers/ Vet institutions • There is need for training on CHS aspects, food production and hygiene management.		
5	**Madhya Pradesh**	• No SOP/ Guideline on community health and safety • Carcass management, Wet markets, Slaughterhouses, Zoonotic disease and other animal disease outbreaks in the state are major concerns • Animal markets, slaughterhouses, wet markets, and Carcass disposal are supposed to follow local administration guidelines. However, these are not uniform and may lack in detailing out clear protocols and standards	• Veterinary officers visit markets, Animal/poultry farms for physical examination of animals and poultry. IEC camps are also organized in concerned areas/ community for awareness generation. • Community Engagement is primarily through health camps, awareness camps and vaccination drives. These are supported with posters, electronic media & distribution of pamphlets, leaflets etc. • No proper guideline for engaging communities on one health; also, shortage of budget and manpower • Communication is done during village level camps, apart from this there are mass communication through audio-visual, TV and radio • Dedicated call center provides guidance and resolves grievances (*Pashudhan Sanjeevani* Helpline 1962). This has attended over 10 lakh calls from farmers and provided treatment to more than 5 lakh cows in the state, with about 85% satisfaction rate.	• Veterinary hospitals, dispensaries, AI centers/ AI sub centers are located in tribal and remote areas to provide services. In addition, special component schemes like SC/ST plans are also running in these areas to provide AH related benefits. However, these areas suffer from manpower, transport and budget deficiencies. • More NGO engagement in remote areas will help address inclusion of tribal and communities living in remote areas

	Participating States	Community Health and Safety	Community Engagement	Coverage of Remote Areas and Tribal Communities
			• NGOs like JK trust, BAIF, and CBOs like Madhya Pradesh Women Poultry Producers Company Pvt Ltd (MPWPCL) are also working in state • Apart from strengthening CE activities it is important to collaborate with Forest and Health departments for better outcome on OH.	
Source: Based on State level consultations, 2022				

128. Given most of the health care services are provided at the community member's/ farmers doorstep within the community, and where community is also involved in caring and taking care of animals, it is important that community is aware about the risks involved and take proper care of the same. In most cases the wastes generated during the services provided by the veterinary staff, and disposal of dead animals are left to community members/villagers, which often results in improper disposal. Waste generated through MVUs (mainly through vaccination and treatment – syringes etc.) is brought back for disposal at Vet hospital/ Dispensary – however, any organic waste/ animal waste is disposed off by the villagers on site. Most participating states currently do not have any guidelines or standard operating procedure (SoP) for community health and safety measures.

129. In states like Assam, the dead animals often disposed off in rivers and water bodies, which are further eaten by dogs/ foxes/ wild animals and pose enhanced risks of diseases spreading across the geography. Community awareness on emerging risks is also low and need awareness creation including through involving PRIs will be useful as they have good hold among community.

130. In most of the cases, slaughterhouses, abattoirs and wet markets are located in urban areas and being managed by Municipal authorities. While some Municipal authorities have their own veterinary officers, there is very little or no coordination between the AHD and Municipal authorities in managing worker and community health and safety issues or to address any disease outbreaks.

131. In some states, the ASHA(s) and Anganwadi workers (AWW) also disseminate information on animal health and diseases with the community. They usually report to paravets centers nearby or in some cases report to their own health centers or higher officials to inform the block level veterinary officials and institutions. In most cases the information is for Anthrax and Japanese Encephalitis. However, there is no joint trainings to these frontline workers on identifying zoonotic diseases.

132. Engagement with self-help groups (SHGs) is mainly around poultry/goatery units for livelihood development. Support is provided through para vets/ veterinary staffs for their upkeep and for better production practices, including on managing diseases. However, systematic approach to providing extension and advisory support on health and safety measures needed to manage animal health and zoonotic diseases is absent.

133. Discussion with participating states suggests that there is a need for making community and paraprofessionals aware about the risks and training them for taking appropriate mitigation measures. Also, there is low awareness among AHD/ Vet staffs on community health and safety aspects.

134. Paraprofessionals and community level workers like *Gau-Mitra*, *Pranibandhu, PraniMitra, Pashu-Sakhi* are key to the community engagement in all the participating states. They undertake initial

engagement with farmers/ community members and producer groups and communicate on animal diseases and related precautions and practices. State AHDs also undertake various awareness campaigns mainly through mass media channels and vaccination camps. Some states like Maharashtra and Karnataka also involve Panchayati Raj institutions (PRIs) as they have more influence on community groups. In these states, PRI members at times are also engaged in awareness creation and training programs. Village-based awareness creation campaigns and training programs on AH/OH will be critical in creating broader awareness on AH/OH issues.

135. Most states reported having some IEC materials at the Veterinary institutions on various diseases, and prevention mechanisms, however, only a limited number of these are available with paraprofessionals and for distribution at community level.

136. Departments face staffing and logistical challenges in providing services in remote areas and tribal pockets, and largely depend on paraprofessionals to provide services. This aspect will be assessed and mapped further during the preparation of the state diagnostic assessment and the state level strategic plan, and suitable measures shall be incorporated measures.

137. Some Participating states have engaged NGOs with strong experience in livestock-based livelihoods and AH issues, however state AHDs have not undertaken any activity to build their capacities in disease surveillance and responses.

138. To increase accessibility of veterinary services at farmer's doorsteps, Mobile Veterinary Units (MVUs) are placed in the states under the Livestock Health and Disease Control (LHDC) scheme. One MVU approximately serves one lakh livestock population. These MVUs are customized vehicles for veterinary healthcare with equipment for diagnosis, treatment & minor surgery, audio visual aids and other basic requirements for treatment of animals. These MVUs provide veterinary services at the farmers' doorstep based on the phone calls received by the Call Centre from the farmers of respective State. The MVUs are generally positioned at a strategic location in order to minimize travel time and to provide service within targeted time.

139. While no personal data is collected during surveillance, the Government of India (GoI) and the State Governments including DAHD, and Ministry of Health and Family Welfare (MoHFW) and their state departments have experience in protection of personal data through their various surveillance programs as well as through established procedures for data protection. The data protection would be also guided by India's upcoming Data Protection Bill which is soon expected to become the legislation.

4.5 Environmental and Social Management System Assessed Against Core Principles

140. **Core Principle -1: Program E&S Management System**

Program E&S management systems are designed to: (a) avoid, minimize, or mitigate adverse impacts; (a) promote E&S sustainability in the Program design; (b) avoid, minimize, or mitigate adverse impacts; and (c) promote informed decision-making relating to a Program's E&S effects.

141. The Core Principle 1 is applicable. Certain interventions under the program would require mitigation actions and sustainable approaches to better manage program's environmental and social effects. These include, among others: (1) risks related to biosafety in labs and diagnostic facilities and the management of biomedical waste (including liquid, pharmaceutical, carcass and other hazardous waste) in laboratories, mobile veterinary units, veterinary clinics, slaughterhouses, and wet markets/local markets in urban and rural areas; (2) occupational health and safety risks of workers in diagnostic facilities and other waste management activities; (3) temporary construction induced adverse

environmental impacts during physical upgradation of select laboratories; (4) community health and safety risks associated with biomedical waste management in urban and rural areas; and weak community health and safety measures with no specific guidance or training to frontline workers, including para vets and community workers.

142. **The DAHD is implementing an overarching animal health management program, namely the Livestock Health and Disease Control Program (LHDCP).** Its objective is to control animal diseases and zoonoses. **The Program will collaborate closely with development partners (DPs) on different aspects of program implementation.** The Bill and Melinda Gates Foundation (BMGF) in India is also working on advancing the One Health Framework and is funding the One Health Technical Support Unit (OHTSU) to support the MoFAHD in developing technical capacity on One Health implementation. OHTSU is anchored in MoFAHD and will support the Program on OH coordination. In addition, the Program will collaborate closely with the International Livestock Research Institute (ILRI) on research and technical support, as well as with the Food and Agriculture Organization (FAO) and the World Organization for Animal Health (OIE). The DPs will contribute to the technical aspects including undertaking required assessments. The World Bank Executed Food System 2030 Multi Donor Trust Fund will provide analytical and implementation support to the program.

143. **Another under preparation Bank operation - Transforming India's Public Health Systems for Pandemic Preparedness Program (PHSSP) - complements the "One Health" framework that is proposed under the AHSSOH program.** The PHSSP program aims to strengthen pandemic preparedness and response systems in human health institutions in India. PHSSP is anchored by the Ministry of Health and Family Welfare (MoHFW), and will be implemented by its various agencies, including the Department of Health and Research, National Center for Disease Control (NCDC) and the Indian Council for Medical Research (ICMR). AHSSOH will collaborate with PHSSP around priority areas for One Health such as: (i) strengthening of OH coordination mechanism among MoHFW, MoFAHD and the MoEFCC; (ii) augmenting Anti-Microbial Resistance (AMR) data and investigation from the livestock sector into the National AMR Plan led by NCDC (iii) sharing of disease surveillance data; (iv) development of common national standards and standard operating procedures (SOPs) for priority zoonotic diseases, and (v) promotion of joint research including the identification of climate related zoonotic disease hotspots.

144. The state Animal Husbandry & Veterinary Departments implement the various AH and veterinary programs within the state. While the departments are well equipped to deliver veterinary services in their respective states, the capacity and institutional arrangements to address the environmental and social issues in the AH sector is minimal. The state Directorates of Animal Husbandry & Veterinary do not have dedicated and/or adequately trained E&S officers/biosafety officers, who often work on these issues on a "need" basis. There are no functional safeguard screening measures for new programs, SOPs for handing BMW or workers occupational health and safety, nor dedicated budget heads to mitigate potential environmental and social impacts and enhance sustainability. With an optimum regulatory framework already in place, the implementing agencies require necessary interventions to strengthen their systems and capacities to manage anticipated environmental and social risks associated with the program.

Key Gaps

145. At present, there is no formal mechanism adopted for upfront/early identification of potential environmental and social issues/risks of any given new projects for the sector. There is a need to establish a proper E&S screening mechanism to identify any adverse risks and impacts and plan to mitigate accordingly.

146. Temporary construction related environment impacts (dust, noise, water pollution etc.) are also currently not addressed uniformly and will need to be mitigated through contractual obligations of the appointed construction contractors.

147. The organizational arrangements and provisions, such as, designated biosafety officers and necessary training and capacity for managing specific OHS and environmental risks of working in biosafety laboratories are at present lacking.

148. There are significant gaps in the enforcement of operational compliances in veterinary facilities in the participating states (like limited authorization from SPCBs, incomplete inventorization of VFs in participating states, limited registrations to a Common BMWTF, lapses in record keeping and reporting mechanisms, noncompliance to required bar coding system etc.) as per the requirement of Biomedical Waste Management & Handling Rules, 2016.

149. **Core Principle -2: Natural Habitat and Physical and Cultural Resources**

Program E&S management systems are designed to avoid, minimize, or mitigate adverse impacts on natural habitats and physical cultural resources resulting from the Program. Program activities that involve the significant conversion or degradation of critical natural habitats or critical physical cultural heritage are not eligible for PforR financing.

150. While the state Government once identifies and hands over a new development site for development of any veterinary facility/infrastructure to the respective implementing agencies, it is expected that they are not violating any regulations especially with respect to eco-sensitive areas or conservation areas and meet the necessary provisions as per legal and regulatory framework even though some necessary permissions may be required prior to any construction. However, the screening process can further strengthen this to ensure compliance.

151. Most medium to large veterinary facilities and laboratory infrastructure are generally planned and built in urban and peri-urban areas and do not pose any risk to natural habitats and physical and cultural resources.

Key Gaps

152. No major gaps are identified with respect to this Core Principle.

153. **Core Principle -3: Public and Workers Safety**

Program E&S management systems are designed to protect public and worker safety against the potential risks associated with (a) the construction and/or operation of facilities or other operational practices under the Program; (b) exposure to toxic chemicals, hazardous wastes, and otherwise dangerous materials under the Program; and (c) reconstruction or rehabilitation of infrastructure located in areas prone to natural hazards.

154. Core principle 3 is applicable. Certain interventions under the program could expose VF workers, laboratory staff and field workers to risks associated with exposure to hazardous materials, infections, radiation as well as risks related to waste management, construction activities and personal safety. Addressing this risk would require integrating mitigation actions in the operational manuals, SOPs, Procedures, etc. These include among others: (i) Improving occupational health and safety practices at veterinary facilities through established protocols, Guidelines and mandated biosafety measures; (ii) Providing protective clothing and personal safety equipment, as required; (iii) Ensuring safe storage, segregation, transport and disposal of hazardous wastes; (iv) Environmental considerations: waste management; (v) worker and public health and safety focusing on emergency response; patient safety focusing emergency response. Additionally, the issue of sub-contracting to local construction contractors often poses additional challenge, particularly with respect to occupational

health and safety. Some of the physical construction works[21]may require small labor camps at the construction sites, which would need adequate labor amenities and health and safety measures.

Key Gaps

155. Absence of oversight mechanism in DAHD and state Animal Husbandry and Dairying Departments for design safety during construction and operations of/at any new infrastructure/upgradation activity.

156. There is potential occupational health and safety risks from biomedical waste, biohazards and toxic chemicals to the laboratory staff/field workers. Several of the safe laboratory practices and accident prevention approaches can be included in the oversight mechanism for safer and more sustainable operations, and therefore, this is seen as a gap.

157. No dedicated biosafety officers, lack of training and capacity building provisions on occupational health and safety risks for the laboratory workforce is a visible gap on all participating states.

158. **Core Principle -4: Land Acquisition and Resettlement**

Program E&S systems manage land acquisition and loss of access to natural resources in a way that avoids or minimizes displacement and assists affected people in improving, or at the minimum restoring, their livelihoods and living standards.

159. All the participating states follow the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (amendment up to 2015. The act provides for a transparent process and fair compensation in land acquisition for public purpose and provides for rehabilitation and resettlement of landowners and those affected by land acquisition. It comprises four schedules that provide the minimum applicable norms for compensation based on market value and replacement cost, multiplier and solatium; resettlement and rehabilitation (R&R) entitlements to landowners and livelihood losers; and facilities at resettlement sites for displaced persons, besides providing flexibility to states and implementing agencies to provide higher norms for compensation and R&R.

160. The physical upgradation of veterinary hospitals/ dispensaries and laboratories may entail minor repair and refurbishment activities without changing the physical footprint of the facility. While the process of land acquisition is well laid across all the states and the designated state revenue department has capacity, no land acquisition is anticipated under the program, and it is part of the exclusion list.

Key Gaps

161. No specific gaps identified. Land acquisition and/or involuntary resettlement, and any restriction to land use are excluded from the program activities, and not anticipated.

162. **Core Principle- 5: Rights and Interests of Indigenous People**

Program E&S systems give due consideration to the cultural appropriateness of, and equitable access to, Program benefits, giving special attention to the rights and interests of Scheduled Tribe people (Indigenous Peoples) and scheduled caste people, and to the needs or concerns of vulnerable groups

[21] Although the current program is not supporting any new construction activities, The physical upgradation of veterinary hospitals/ dispensaries and laboratories will involve civil works for repair, maintenance and renovation without changing the physical footprint of the facility.

163. Animal Husbandry is a state subject and in Schedule V/VI areas, it is the AHD department which provides AH and veterinary services. In most of the tribal areas, additional financial support is there through Tribal Sub Plan (TSP) component.

164. Most participating states have veterinary institutions serving the remote areas and tribal pockets, largely through MVUs and Paravets. Majority of the paraprofessionals and community workers are part of the local community, familiar with local customs, and speak local/tribal language. In the participating states, veterinarians, para vets, *Gopal Mitra*, and *Pashu Sakhi* provide advisory services on animal diseases and related precautions and practices. Vaccination drives and animal health camps are used for awareness creations by the paravets. While all the Program participating states face staff shortage, and hence rely on para-veterinarians and community AH workers, mobile vet units (MVUs) and vet camps to cover tribal and underserved areas. The PforR seeks to increase the number of veterinary paraprofessionals and community health and train them under RA3 and R5. These interventions in addition to increasing MVUs will help address coverage in remote areas including tribal villages.

165. One of the strategies adopted to serve remote, difficult to reach, hilly areas is provision of services through mobile veterinary units (MVUs). Most participating states do have good number of MVUs except in case of Uttarakhand which is in the process of acquiring MVUs. However, MVUs also face challenges of having adequate staffs to run them. This has been a common issue faced by most of the states.

166. Women are the most vulnerable groups with respect to exposure to zoonotic diseases as they provide more than 75 percent of the production labor, which includes managing animal fodder and nutrition, milking, managing animal health and manure, and overseeing pen cleaning etc. Majority of the *Gopal Mitra*, *MAITRI* workers, *Pashu Sakhi* and other community volunteers are women. Their presence among paravets and community workers has risen in the country, and the adequacy of these numbers is something that would be covered under the state diagnostic. The results areas indicators and DLIs strongly support and incentivize women' participation in the capacity building interventions.

167. Given that Animal Health is a state subject, the participating states are following diverse approaches of community engagement and stakeholder communication which are in response to their unique agronomic, socioeconomic, and departmental context. The RA 2 (veterinary service provision) and RA 5 (strengthening community level AH management) aims to streamline and strengthen the community engagement and stakeholder communication interventions by increasing access of livestock farmers to quality veterinary services, scaling up outreach through MVUs, capacity building of paravets, community service providers and livestock farmers; focusing on women and livestock farmers in underserved aeras, and undertaking community awareness campaigns and communication activities. These interventions are directly addressing the gaps that have been identified by Program participating states. In addition, the Bank's ongoing experience with livestock-based livelihoods, and AH service delivery among excluded communities has informed the Program design, especially RA 5 on expanding coverage to underserved areas and communities, strengthening community engagement in AH and communication interventions. The state diagnostic and state action plan will include an assessment of service delivery in tribal areas and suitable interventions.

Key Gaps

168. Shortage of staffs is one of the biggest challenges in most of the hilly, remote tribal areas, and difficult to reach areas across all states.

169. For provision of services in the hilly and remote tribal areas, there is larger dependance on *Gopal Mitra, Maitri workers, Pashu Sakhi* and other community volunteers, and who may have limitations in providing technical diagnostic and treatment facilities as they are not adequately trained for the same.

170. Some participating states also have local NGO groups who also work in remote and tribal areas and provide animal health services in limited manner. However, there is no formal approach to extending the services through them or build their capacities in disease surveillance and responses.

171. **Core Principle- 6: Social Conflict**

Program E&S systems avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.

172. Program interventions and E and S systems are not expected to exacerbate any social conflicts as they aim to improve the animal health diagnostic and veterinary services in the participating states, including more remote, tribal areas. The animal health and livestock development programs of the government are well received in the participating states as they the improve livelihood security of the rural population. The frontline staff and paravets come from local community and can handle any local level issues/conflicts. However, no social conflicts have been exacerbated due to program activities.

4.6 Grievance Redressal Mechanism

173. The participating states leverage existing country systems to receive, resolve and manage grievances. Some of the key channels for grievance redressal in the participating states are state grievance portals, centralized grievance hotlines, chief ministers' helplines, AHD departmental channels, district administrations and right to information (RTI) nodal officials as well as the national system of Centralized Public Grievance Redress and Monitoring System (CPGRAMS).

174. The program states have institutionalized grievance redressal system to receive complaints through Helpline numbers, Online posting, Media/social media and submission by post/hand. In Karnataka, *Janaspandana* – an integrated public grievance redressal system is used to receive complaints from individual complainants through call center (1902) in addition to department level complaint cells headed by a Deputy Director. In Maharashtra, *Aaple Sarkar* – grievance redressal portal uses a citizen call centre number (1800 120 8040) to receive complaints (24x7). In Madhya Pradesh, CM Helpline (181) is used in addition to online mode for receiving complaints, whereas in Assam CPGRAMS is used for lodging complaints apart from in person submission and reporting in media/social media. In Odisha, *Jana Sunani* portal is used to lodge complaints in which provision of submitting complaints using WhatsApp, email and mobile app is available for the citizens.

175. AHDs in the participating states also have Toll free helpline numbers such as Assam (1062), Karnataka (8277 100 200), Odisha (155 333), Maharashtra (1800 2330 418) and Madhya Pradesh (1962). These are not only used for seeking information but also for feedback and grievances. Citizen's also use Right to Information (RTI) Act to get information and resolution of grievances as mandated under the Act. All states and departments follow RTI and have deputed officials looking after the RTI within their department.

176. Participating states also have dedicated divisions under the General Administration or Public Grievances Department to handle complaints lodged by aggrieved persons/parties. The escalation hierarchy for handling complaints and the number of days (21-45 days) provided to resolve a complaint differs in program states. The number of complaints received and resolved in a particular year by state grievance redressal system exhibits the general efficacy of the system. According to reports by Animal Husbandry Dept in states, complaints received are similar in nature and pertain to veterinarian, para veterinarian, *Pashu Sakhi*, medicine unavailability, quality of services provided by dispensaries and veterinary hospitals and under-delivery of benefits provided under the animal health and livestock development schemes. More details are provided in Annexure 7.

177. Grievances are also registered through Chief Minister's (CMs) grievances portals in most participating states. On receipt of the grievances, initial screening is done at DP&PR and forwarded to

the concerned department for resolution. The concerned departments make further investigations and address the grievances and report back to DP&PR where the grievances are monitored and tracked online. Registration of grievances can also be done through written application through veterinary institutions and/or AHD offices at district and block/ mandal level across the states. With majority of these grievances resolved locally, tracking them at state level is lacking in many cases.

178. Centralized Public Grievance Redress and Monitoring System (CPGRAMS[22]) is an online, web-enabled system for Central Government's departments to receive complaints from aggrieved persons/parties concerning services offered by government. Any State specific grievances can also be lodged here which are further directed to respective state and department for resolution and reported back through the CPGRAMS system. Currently, there are 67300 registered organizations with CPGRAMS in which all Central and State/UT government departments are signatories. CPGRAMS is a well-functioning system for grievance receipt and redressal is credited with disposing of 87 percent grievances in less than 45 days. Out of 882,022 grievances received since its launch, 867,248 have been disposed by respective departments. The portal offers a smooth process for complainants and grievances are quickly resolved as they are marked to the portals of President of India, Prime Minister's Office and Cabinet Secretariat in addition to PGO/Field office.

179. Department of Administrative Reforms and Public Grievances (DAPRG) reported that 93 percent complaints were received through CPGRAMS and other state level grievance redressal portals during 2020. For DAHD and State AHDs in the participating states, the major complaints received from states are specific to (i) *Pashu sakhi* & Para veterinarian not reporting, (ii) veterinary doctor unavailability at dispensary and veterinary hospitals, (iii) non-payment of insurance in case of death of animal (iv) non-attendance of treatment call (v) artificial insemination, castration and de-worming not undertaken, (vi) non-referral for minor surgery, (vii) unavailability of tele-medicine facility and medicines, (viii) poor condition of hospital building and infrastructure, (ix) compensation for death of animals due to natural calamities, diseases/toxicities, (x) seeking assistance under various animal husbandry schemes, (xi) and posting of veterinary doctors and livestock inspectors in veterinary institutions. Department of Animal Husbandry and Dairying (DAHD) has a separate unit to handle complaints submitted through CPGRAMS with a Joint Secretary rank officer overseeing the process. The unit is responsible for marking the complaints to the concerned grievance officers within the department and they follow up with the respective officials till the disposal of complaints. Analysis of grievances received by DAHD on CPGRAMS from five program states indicates higher resolution rate of grievances. The number of grievances brought forward for redressal in the next year shows actively functioning departmental grievance redressal system and appellate authority committed to redress the grievances. More details are provided in Annexure 7.

180. While the States are using multiple mechanisms of grievance redressal, and there is adequate evidence of their accessibility and functionality, these mechanisms will benefit from a more systematic, consolidated and periodic approach to monitoring and reporting grievances. The AHSSOH Program will support the strengthening of the grievance redress mechanism in the participating states, and their integration with the M&E systems.

[22] https://pgportal.gov.in/

5 STAKEHOLDER CONSULTATIONS AND DISCLOSURE

5.1 Stakeholder consultations

181. As part of the ESSA exercise, the World Bank and the DAHD undertook a series of workshops and meetings with relevant DAHD/state AHD officials, as well as broader consultations with key stakeholders from the states of Karnataka, Maharashtra, Assam, Odisha and Madhya Pradesh. The Department of Animal Husbandry and Dairying had nominated nodal officers for each of the participating states to lead the respective state level consultation process and these nominated officers were the chief point of contact during these consultations. These virtual consultations were aimed at capturing field experiences, implementation issues and challenges, institutional mechanisms and capacity gaps related to E & S aspects, and high priority areas of support for the Program.

182. Consultations were undertaken with key officials from DAHD and state AHDs of the participating states on environmental and social practices in a virtual manner over November 2021 to June 2022 period. This was followed by a two-day consultation workshop with each of the state's nodal officers on ESSA. This involved going over the ESSA core principles and their relevance and applicability for the AHSSOH program, as well as status of service delivery and environmental and social practices including addressing environmental and social risks and impacts in the States. In addition, a detailed checklist was prepared and shared with each of the participating states for their written feedback along with state specific information and documentations. This was followed by bilateral discussions with AHDs in each of the participating states for further clarifications and discussions.

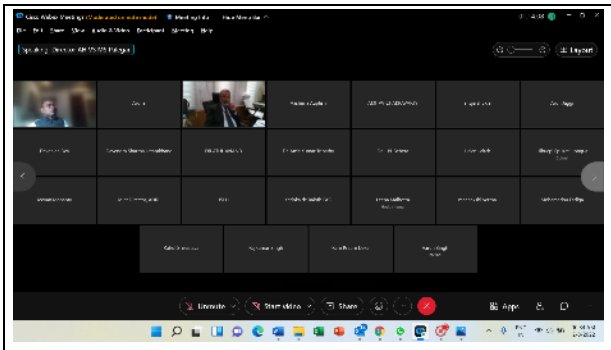
183. Consultations with other key institutional stakeholders included Wildlife Division of Ministry of Environment, Forest and Climate Change (MoEFCC), Indian Council for Agricultural Research (ICAR), National Center for Disease Control (NCDC), Veterinary Council of India (VCI), and with non-governmental organizations (NGOs) involved in One Health program in the participating states and at national level. Details of the various consultations undertaken by the ESSA team in preparation of the ESSA report is as below.

Table 15: Consultations Undertaken for Preparation of ESSA

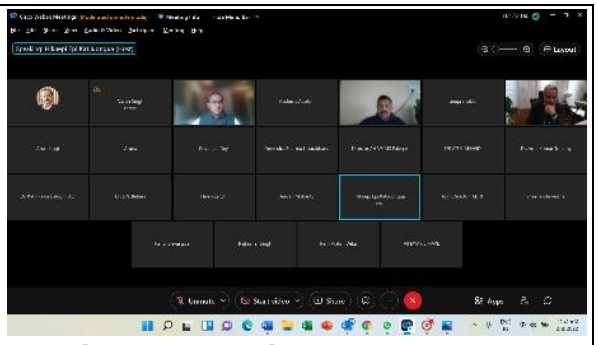
Date of Consultations	Type of Consultation	Key Departments/ Agencies	Key Participants
November 2021	Virtual – Identification Mission	DAHD, AHDs from all five states	• Key officials from DAHD. • Key nodal officers from Assam, Karnataka, Maharashtra and Odisha • Members of One Health Support Unit (OHSU) • World Bank Task Team
08-09 February 2022	Virtual – Preparation Mission	DAHD, AHDs from all five states	• Key officials from DAHD. • Key nodal officers from Assam, Karnataka, Maharashtra, Odisha • Members of One Health Support Unit (OHSU) • World Bank Task Team including ESSA team members

Date of Consultations	Type of Consultation	Key Departments/ Agencies	Key Participants
23-24 February 2022	Virtual – On ESSA	DAHD, AHDs from all five states	• Key officials from DAHD. • Key nodal officers from Assam, Karnataka, Maharashtra, Odisha • World Bank ESSA team and Task Team members
25 February 2022	Virtual – On ESSA	One Health Support Unit (OHSU) for One Health	• Key officials from DAHD. • Members of One Health Support Unit (OHSU) • Representatives from BMGF • World Bank ESSA team and Task Team members
10 June 2022	Virtual – On ESSA	DAHD, AHD from Madhya Pradesh	• Key officials from DAHD • Key officials from AHD- Madhya Pradesh • Representatives from MP State Pollution Control Board • World Bank ESSA team and Task Team members

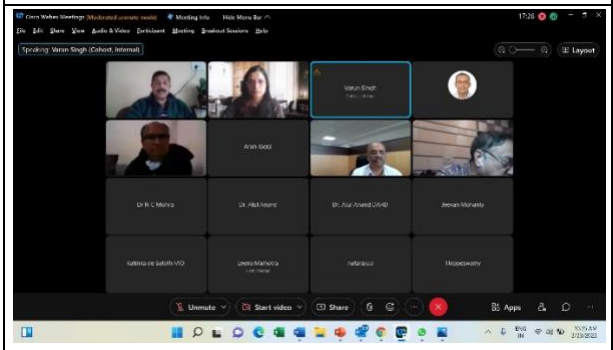
184. Below are some of the photographs of the virtual consultations.



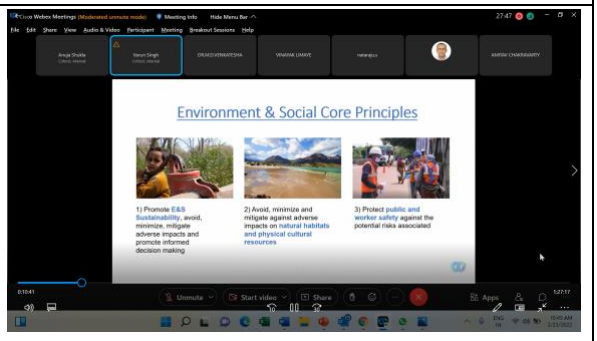
Consultation on 08-Feb2022



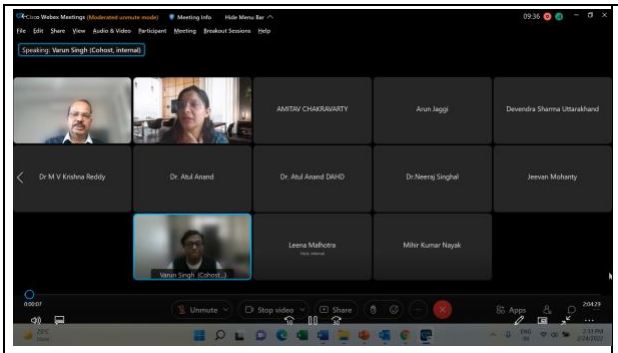
Consultation on 08-Feb2022



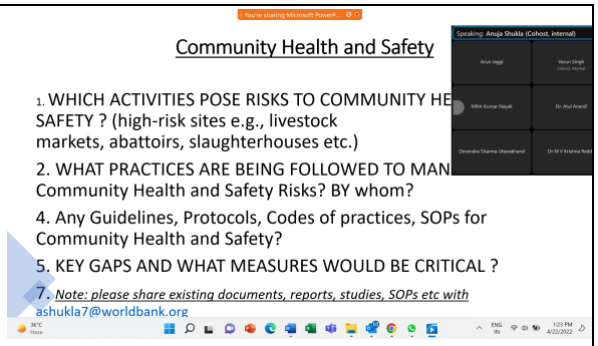
ESSA Consultation on 23-Feb-2022



ESSA Consultation on 23-Feb-2022



ESSA Consultation on 24-Feb-2022



ESSA Consultation on 24-Feb-2022

185. Extensive consultations with government counterparts and their various state and field level officials took place during the Program identification and preparation missions. Consultations with veterinary officers also took place during the economic evaluation workshop where challenges and data were shared. Consultation with the implementing agencies were largely concentrated on the themes of (a) key activities planned under the AHSSOH program; (b) the institutional mechanism including environmental and social capacity in DAHD and each of the AHDs; (c) key infrastructure upgradation activities planned to augment diagnostic capacity and veterinary services; (d) land requirement for infrastructure and mechanism for identifying and procuring land; (e) mechanism for ensuring biosafety and biosecurity including handling of bio-medical wastes, and other hazardous wastes; (f) occupational health and safety related issues and concerns for staffs/ workers; (g) Community health and safety related practices and issues and concern; (h) Community engagement process and grievance redress mechanism; (i) Issues related to access to diagnostic and veterinary services of populations living in tribal, hilly, and difficult to reach areas; and (j) training and capacity building on environmental and social risks and impacts.

5.2 Summary of Multi-stakeholder consultation workshop

186. Dedicated consultations with NGOs, CBOs, and field workers, including women and vulnerable communities were also undertaken. Two multi-stakeholder consultations and workshops were conducted during 22-24th June 2022 that was attended by NGOs, CBOs, community resource persons (CRPs), and field level officials including from tribal areas, as well as other stakeholder department officials. Key findings from the ESSA exercise were disclosed to the participants through presentation. The consultation reconfirmed the gaps and measures identified in ESSA. The ESSA was updated based on the suggestions and feedback during the multi-stakeholder workshop. The list of stakeholders present at the consultation workshops are attached in Annex-5.

187. While the participants appreciated the findings from ESSA, the feedback and suggestions from the multi-stakeholder consultation workshops is broadly grouped in a manner to inform program design and ESSA is presented below.

188. Suggestions and feedback from NGOs, CBOs, and Community Resource Persons (CRPs)

a) There are large migratory pastoral community groups in some these states and owns large number of animals are often left out of veterinary services, hence there is a need to plan for veterinary services to cater these excluded groups. The capacity and training of Paravets should also include potential options for integrating and addressing the needs of the pastoral community.

b) The training protocols of Gopal Mitra, *Pashu Sakhi* should include training on AMR protocols and awareness towards not using antibiotics or pesticides

c) Building capacity and strengthening of Paravets is an important aspect to ensure service delivery especially in remote areas.

d) To expand the services to wider areas, field level vaccinators/ para vets are important and need to be trained for respective knowledge and skills along with biosafety, biosecurity and bio-medical waste management.

e) Promoting Panchayat level animal welfare/ animal husbandry committees and their capacities will be help in coordinating AH/OH activities at the village level

189. Suggestions and feedback from AHD officials and other department officials from participating states and DAHD

a) There are geographic areas which gets cut off temporarily during rains and flooding and need to be thought through for services during these times.

b) A training manual being developed by Rajasthan University on biosafety and biosecurity and may become useful once completed for customization and adoption by state AHDs

c) While SoP development is one time activity followed by training, there is need to audit laboratories regularly and ideally move towards accreditation. Slaughterhouses also need to go through regular audits for ensuring biosafety and biosecurity measures.

d) VIs in rural areas require SoPs for carcasses and waste disposal. Also, standardization of the SoPs and guidelines are important to ensure uniformity of approach across states, and same goes for capacity building and training.

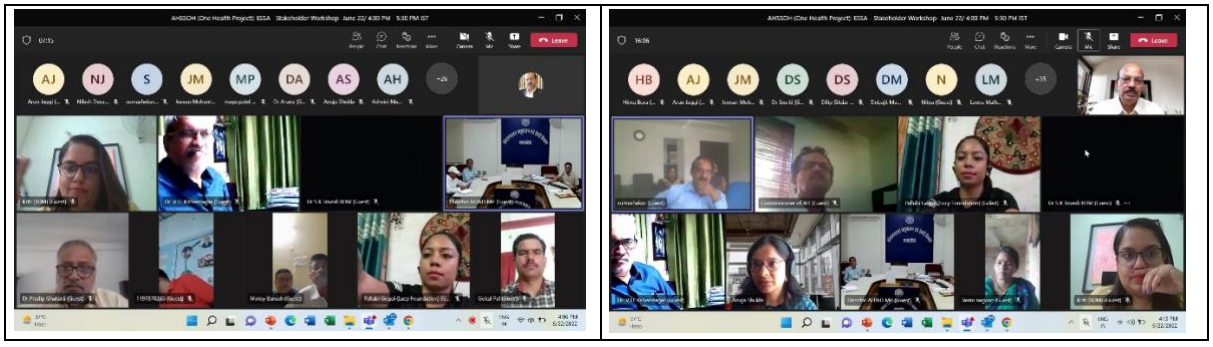
e) Goshala and Wet market also require awareness about biosafety and biosecurity

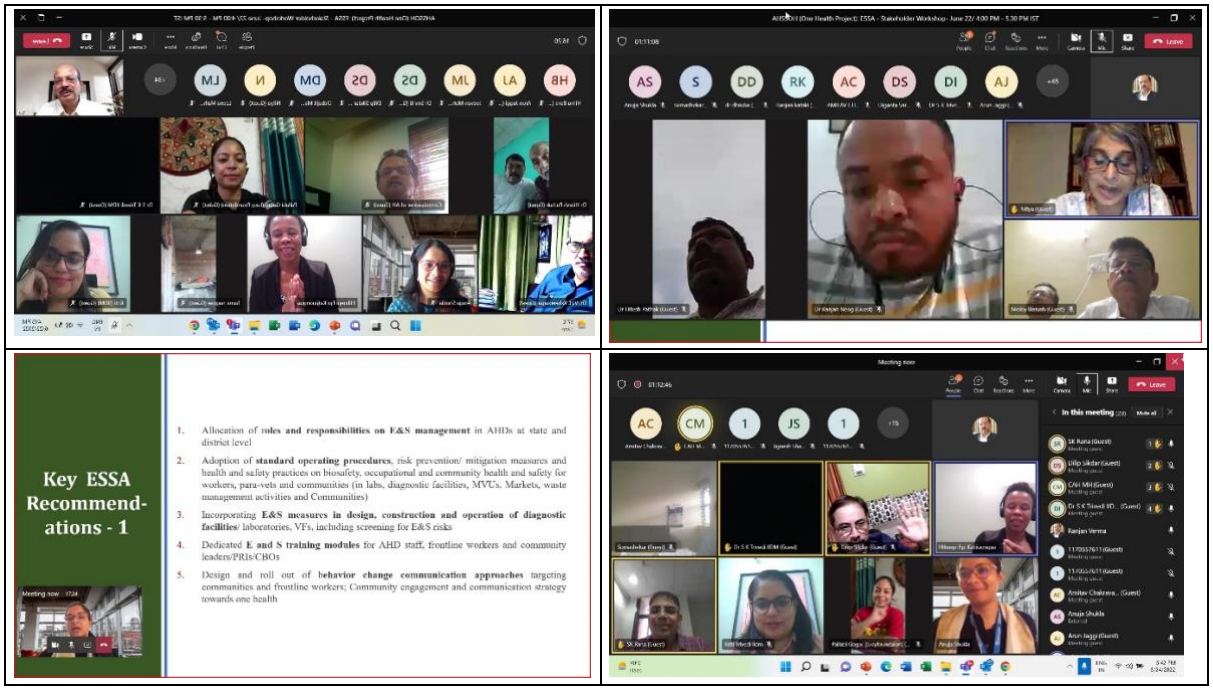
f) There is need for infrastructure and mobility assistance for many of the areas especially the flood prone areas, remote areas, and hilly areas to serve properly.

g) SBCC to be undertaken in proper manner to get the desired impact – often the quality of SBCC result in muted impact.

190. Most of the suggestions provided further informs the ESSA assessment and recommendations for further strengthening. While the others will also be considered within the program scope to feed into operationalizing the design and further implementation.

191. Some of the snapshots of the multi-stakeholder consultations workshop are as below.





192. In addition, the program plans to have consultations with communities and vulnerable groups as a core part of the detailed states diagnostic exercise planned at the beginning of the Program implementation which will inform the states strategic and action plans.

5.3 Disclosure

193. The draft ESSA report was shared with the DAHD and the AHDs of the participating states for their comments and feedback, and the findings were also disseminated in the multi-stakeholder workshops with NGOs/ CBOs and with state level officials for their feedback and suggestions. In addition, it was disclosed on the World Bank external websites to seek further feedback and suggestions. The revised draft ESSA report will be disclosed on the DAHD website and the World Bank's external website prior to negotiation.

194. Draft and Final versions of ESSA were shared with DAHD for their comments and feedback. This updated/revised ESSA will be made publicly available in accordance with the Bank's policy on Access to Information. The final ESSA will be re-disclosed prior to World Bank's Board consideration of the Program.

195. Key findings and recommendations of the ESSA exercise were disclosed to all the stakeholders through presentations and was discussed with the DAHD. The final ESSA report has incorporated the key feedback and suggestions received from the stakeholders, including DAHD and state AHDs. The final ESSA report has been shared with DAHD for web disclosure

6 RECOMMENDATIONS

6.1 Exclusion of High-Risk Activities

196. AHSSOH program will not finance any activities that would cause high E&S risks and impacts including activities involving:

a) Any land acquisition, physical relocation and/or involuntary resettlement impacts.
b) Any work that would convert or encroach forest lands, notified wetlands or any eco-sensitive areas.
c) Activities that are not in compliance with Central and State environmental legislation.
d) Use of child or bonded or forced labor or labor involved in any hazardous activities.
e) Destruction or damage to any physical and cultural resources.

6.2 Key Recommendations

197. The ESSA recommendations focus on strengthening the national and state level systems and processes, institutional arrangements for implementation, management, and reporting of E&S aspects through recommendations to Program Action Plan (PAP) actions as well as recommendations that can be addressed through actions towards strengthening systems and processes in the Program Implementation Manual. and includes:

198. Recommendation as part of Program Action Plan (PAP)

a) Appointment of Environment and Social Safeguards Nodal Officials in DAHD and the 5 State AHDs with key responsibility for implementing and managing all ESSA actions under AHSSOH program.

b) OH/AH specific E and S guidelines prepared and adopted customized to AHD activities addressing biosafety, biosecurity, waste management (biomedical, e-waste, liquid waste, other Hazardous wastes), occupational and community health and safety for department staffs, paraprofessionals, and community in general

c) Development of OH/AH training modules on core ES topics, and preparation of E and S training schedule for AHD staffs, field workers, communities and beneficiaries.

d) The State Diagnostic and Strategy to include Environment and Social Modules/ sections focusing on (a) Sustainable Waste management in Veterinary facilities; (b) increased coverage and quality of AH/Vet services in remote/ tribal areas, pastoralist and vulnerable communities; (c) service provision in areas cut-off due to natural disasters/flooding; (d) consultations with livestock groups, PRI representatives, women's federation; and (e) inclusive beneficiary targeting.

e) Conduct of annual audit of BMW & other waste(s) (including Liquid wastes), by a specialized agency, and compliance to recommended actions and audit observations

199. Recommendation as part of Program Implementation Manual (PIM)

f) The Letter of Understanding to be signed by States will include summary of key ESSA actions (including negative list, data privacy and BMW management among others)

g) Safeguard Screening of facility upgradation sites and works, and incorporation of essential E&S safeguard measures in design, construction and operation of diagnostic facilities/ laboratories and veterinary facilities.

h) Design and implementation of OH/AH focused communication products and campaigns facilitated by field officials, community workers and NGO partners targeting key stakeholders.

i) Participating states to coordinate with respective State Pollution Control boards on biomedical waste tracking and reporting in its veterinary facilities and diagnostic laboratories (including the adoption of mandated bar-coding systems). AHSSOH will leverage from the learnings of the Health Pandemic Preparation PforR.

j) Awareness building on various Grievance Redressal options available to citizens; Quarterly consolidation and reporting of grievances (received, resolved, pending) related to AH/OH and veterinary services.

k) DAHD to share E&S progress reports to the world bank, based on inputs from program states.

l) Laboratory Information Management System to have dedicated sections on Environmental and Social risk management

m) Organization of knowledge events, workshops, trainings and exchange visits on E and S aspects, with necessary external partnerships as well as support from World Bank

200. The table below presents the PAP actions with key responsibilities, timeline, and measures of completion.

Table 16: Input to Program Action Plan

Action Description	DLI#	Responsibility	Recurrent	Frequency	Due Date	Completion Measurement
Appointment of Environment and Social Safeguards Nodal Officials in DAHD and the 5 State AHDs with key responsibility for implementing and managing all ESSA actions under AHSSOH program	-	DAHD/ AHDs in Participating state	No	One time	Within 3 months of effectiveness	Both Environmental Nodal Officers and Social Nodal Officers are appointed/ designated in DAHD and 5 AHDs
OH/AH specific E and S guidelines prepared and adopted customized to AHD activities addressing biosafety, biosecurity, waste management (biomedical, e-waste, liquid waste, other Hazardous wastes), occupational and community health and safety for department staffs, paraprofessionals, and community in general	-	DAHD/ AHDs in Participating state	No	One time	Within 12 months of effectiveness	OH/AH specific E&S guideline prepared by DAHD; and adopted by AHDs in the participating states.
Development of OH/AH training modules on core ES topics, and preparation of E and S training schedule for AHD staffs, field workers, communities and beneficiaries	-	AHDs in Participating state	No	One time preparation of training modules; Training will be continuous process	Within 12 months of effectiveness	Online and in-person course modules available and part of the AHD training schedule

Action Description	DLI#	Responsibility	Recurrent	Frequency	Due Date	Completion Measurement
The State Diagnostic and Strategy to include Environment and Social Modules/ sections focusing on (a) Sustainable Waste management in Veterinary facilities; (b) increased coverage and quality of AH/Vet services in remote/ tribal areas, pastoralist and vulnerable communities; (c) service provision in areas cut-off due to natural disasters/flooding; (d) consultations with livestock groups, PRI representatives, women's federation; and (e) inclusive beneficiary targeting	-	AHDs in participating state	No	One time. To be updated along with state strategic plans	Within 12 months of effectiveness	Approved State Strategic Plans submitted to DAHD addressing key areas mentioned.
Conduct of annual audit of BMW & other waste(s) (including Liquid wastes), by a specialized agency, and compliance to recommended actions and audit observations	-	State AHDs	Yes	Yearly	First Audit to done within 12 months of effectiveness	Audits approved and submitted to DAHD

ANNEXURES

Annexure – 1: List of Relevant Documents Reviewed

DAHD 2019. *20th Livestock Census-2019*. Department of Animal Husbandry and Dairying (DAHD). Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD)

GoI 2021. *Situation Assessment of Agricultural Households and Land and Livestock Holdings of Households in Rural India, 2019*. NSS 77th Round, 2019. Ministry of Statistics and Programme Implementation, Government of India. September 2021.

DAHD 2022. Annual Report 2021-22. Department of Animal Husbandry and Dairying (DAHD). Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD)

IJMR, 2021. Adopting an intersectoral One Health approach in India: Time for One Health Committees. Indian J Med Res 153, March 2021, pp 281-286.

IJMR, 2021. Animal disease surveillance: Its importance & present status in India. Indian J Med Res 153, March 2021, pp 299-310

DAHD, 2021. Schemes and Programmes of the Department. Department of Animal Husbandry and Fishery, Government of India.

DAHD, 2022. Livestock Health and Disease Control Scheme. Department of Animal Husbandry and Fishery, Government of India.

BMC, 2021. Operationalizing the "One Health" approach in India: facilitators of and barriers to effective cross-sector convergence for zoonoses prevention and control. Asaaga et al. BMC Public Health (2021) 21:1517

NRLM. Pashu Sakhi Handbook, National Rural Livelihood Mission (NRLM), Government of India. Available at https://www.pashudhanpraharee.com/a-handbook-for-paravets-pdf/pashu-sakhi-hand-book/ and https://aajeevika.gov.in/sites/default/files/nrlp_repository/Pashu%20Sakhi%20Hand%20book.pdf

Singh Rajesh, 2019. Role of Para-Vets In Delivering Veterinary Services In Rural India. Available at https://www.pashudhanpraharee.com/role-of-para-vets-in-delivering-veterinary-services-in-rural-india/

World Bank, 2022. India Animal Health System Support for One Health (AHSSOH) (P177671)

Websites visited:

Department of Animal Husbandry and Dairy, Government of India. https://dahd.nic.in/

Department of Animal Husbandry and Fishery, Government of Karnataka. https://ahf.karnataka.gov.in/english

Department Of Animal Husbandry, Government of Maharashtra. https://ahd.maharashtra.gov.in/

Directorate of Animal Husbandry & Veterinary Services, Government of Odisha. https://odishaahvs.nic.in/

Annexure – 2: Key Officials Consulted

1. Dr. Praveen Mallik, Animal Husbandry Commissioner, DAHD
2. Dr. Aruna Sharma, Assistant Commissioner, DAHD
3. Dr. Amitabh Chakravarty, NERRDL, Govt. of Assam
4. Dr. Bibhu Ranjan Das, Dy Director, Govt. of Odisha
5. Dr. Lokanath Behera, Addl Director, Govt. of Odisha
6. Dr. Suruchi Sahoo, AHD, Odisha
7. Dr. Manjunath S. Palegar, Director, AHD, Karnataka
8. Dr. Krishna Reddy, Joint Director (Livestock Health), AHD, Karnataka
9. Dr. Limaye, Joint Commissioner, Animal Husbandry, Govt. of Maharashtra
10. Dr. Dr. Lahane, Animal Husbandry, Govt. of Maharashtra
11. Dr Jayant Tapase Nodal Officer SADIL Bhopal, Govt. of Madhya Pradesh
12. Dr A K Sharma Deputy Director DAH, Govt. of Madhya Pradesh
13. Dr Priyakant Pathak Additional Deputy Director DAH, Govt. of Madhya Pradesh
14. Dr Vaani Pandey Additional Deputy Director DAH, Govt. of Madhya Pradesh
15. Dr Ajay Ramteke DDVS Bhopal District, Madhya Pradesh
16. Dr. Prakash Bhargav, Deputy Director DAH, Govt. of Madhya Pradesh
17. Mr. B. K. Sen, Madhya Pradesh Pollution Control Board

Annexure – 3: Applicable Legal and Regulatory Framework

The Government of India and the state government have enacted a range of laws, regulations, and procedures relevant to managing the environmental and social effects of the proposed Program. The following criteria were used to select the relevant legislation that best describes the country's system for managing the Program's effects:

i. environmental and social policies,

ii. environmental and social protection laws, and

iii. laws, regulations, or guidelines in the relevant sectors and subsectors that provide relevant rules or norms for environmental and social management

I. KEY GOVERNMENT SCHEMES RELEVANT TO THE PROPOSED AHSSOH PROGRAM

The key legislation, policies and government schemes in relation to animal health in India is as below.

A. The Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009: An Act to provide for the prevention, control and eradication of infectious and contagious diseases affecting animals, for prevention of outbreak or spreading of such diseases from one State to another, and to meet the international obligations of India for facilitating import and export of animals and animal products and for matters connected therewith or incidental thereto.

B. Livestock Health and Disease Control (LH&DC) Schemes: The scheme is implemented with the aim of reducing risk to animal health by prophylactic vaccination against diseases of livestock and poultry, capacity building of Veterinary services, disease surveillance and strengthening veterinary infrastructure. The details of the components of the scheme are:

a. **Critical Animal Disease Control Programme (CADCP)** for eradication and control of two major diseases which have hitherto not got focused attention in proportion to their economic significance, namely *Peste des Petits* Ruminants (PPR) and classical swine fever (CSF).

   i. ***Peste des Petits Ruminants* Eradication Programme (PPR-EP)**: This component covers the entire sheep and goat population in the country under carpet vaccination against PPR for 100% effective coverage of the entire eligible sheep and goat population. Migrants' flocks/animals are also covered under the vaccination programme. It has 100% central assistance to States for vaccine, accessories for vaccination, remuneration for vaccinators, surveillance & monitoring and IEC / awareness campaigns.

   ii. **Classical Swine Fever control programme (CSF-CP)**: The control programme for control of Classical Swine Fever is expanded to include all the states / UTs for 100% effective coverage of the entire pig population along with a proposed 100% Central assistance. Funding Pattern: 100% central assistance to States for vaccines, accessories for vaccination, remuneration to vaccinators, strengthening of laboratories, recurring expenditure for laboratory consumables, surveillance and monitoring and IEC / Awareness campaigns.

b. **Establishment and Strengthening of existing Veterinary Hospitals and Dispensaries Mobile Veterinary Units (ESVHD-MVU):** This Provides establishment of Mobile Veterinary Units in the component of Establishment and Strengthening of existing Veterinary Hospitals and Dispensaries (ESVHD) of the LH&DC Scheme. MVUs will provide diagnosis treatment, vaccination, minor surgical interventions, audio-visual aids and extension services to farmers / animal owners at their doorstep. It is envisaged to support one MVU per 1 lakh livestock population in the country. Funding pattern: Under this component, 100% Central assistance is provided for the non-recurring expenditure on the customized mobile van / vehicle, fully equipped with equipment for diagnosis, treatment, sample collection, minor surgery and audio- visual aids, etc. for extension activities. The recurring expenditure on running the mobile vans / vehicles, call centres and the outsourced manpower services shall however have a Central-State fund sharing pattern of 60-40/ 90-10 for NE & Himalayan States/100% for UTs.

c. **Assistance to States for Control of Animal Disease (ASCAD):** The component ASCAD is focused towards assistance to States/ UTs for vaccination against economically important diseases of livestock and backyard poultry duly prioritized by the States as per the disease(s) prevalent and losses to farmers. Emphasis is also given for vaccination against zoonotic diseases viz., anthrax, rabies, etc. State biological production units and Disease Diagnostic Laboratories, for supplementing production of disease diagnostic kits/vaccines and for disease diagnosis are also strengthened and supported under ASCAD. Another activity that has been prioritized under this component is 'Control of Emergent and Exotic Diseases'. This includes surveillance and related activities to check ingress of exotic diseases and emergent / re-emergent livestock/poultry diseases. Financial assistance shall also be given towards payment of compensation to farmers for culling of birds, elimination of infected animals, and destruction of feed/ eggs including operational costs. Funding Pattern: ASCAD is having a Central-State fund sharing pattern of 60-40/90-10 for NER & Himalayan States / 100% UTs except for activities under "Research & Innovation", publicity & awareness training and allied activities, funding VCI and headquarters expenses (hiring consultants, legal, election etc.) for which 100% Central assistance is proposed.

C. National Animal Disease Control Programme (NADCP): National Animal Disease Control Programme (NADCP) is a flagship scheme launched by Hon'ble Prime Minister in September 2019 for control of Foot & Mouth Disease and Brucellosis by vaccinating 100% cattle, buffalo, sheep, goat and pig population for FMD and 100% bovine female calves of 4-8 months of age for brucellosis. The overall aim of the National Animal Disease Control Programme for FMD and Brucellosis (NADCP) is to control FMD by 2025 with vaccination and its eventual eradication by 2030. This will result in increased domestic production and ultimately in increased exports of milk and livestock products. Intensive Brucellosis Control program in animals is envisaged for controlling Brucellosis which will result in effective management of the disease, in both animals and in humans. The National Animal Disease Control Programme for FMD and Brucellosis (NADCP) is a Central Sector Scheme where 100% of funds shall be provided by the Central Government to the States / UTs.

II. RELEVANT NATIONAL ENVIRONMENTAL AND SOCIAL POLICIES AND LEGISLATIONS

Sl. No.	Act/ Rules	Key Provisions and Purpose	Applicability to the Program	Agency/ Institution Responsible
1	The Constitution of India (especially, Articles 15,16 and 46)	The Indian Constitution (Article 15) prohibits any discrimination based on religion, race, caste, sex, and place of birth. Article 16 refers to the equality of opportunity in matters of public employment. Article 46 directs the state to promote with special care the educational and economic interests of the weaker sections of the people, particularly of the Scheduled Castes and the Scheduled Tribes and directs the state to protect them from social injustice and all forms of exploitation.	Applicable to the overall Program	Government of India/ State Governments. DAHD; State AHDs
2	Fifth and Sixth Scheduled Areas as in the Constitution of India	The scheduled area under the Constitution has special provisions for the administration of the tribal dominated areas and autonomous regions with certain legislative and judicial powers. In the Scheduled Areas, involvement of tribal councils and communities, incorporating their views and culture specific needs will enhance their participation in the Program. Under the provisions of Fifth Scheduled Areas, the State should set up a Tribes Advisory Council (TAC) to advise the State Government on matters of welfare and development of the Scheduled Tribes in the State.	Applicable to the overall Program for enhancing access to services in tribal areas and participation of tribal population in the program especially in States with Schedule V and/or Schedule VI areas.	DAHD; State AHDs in consultation with Ministry of Tribal Affairs; State Tribal Development Department
3	Right to Information Act, 2005	Provides a practical regime of right to information for citizens to secure access to information under the control of Public Authorities. The act sets out (a) obligations of public authorities with respect to provision of information; (b) requires designating of a Public Information Officer; (c) process for any citizen to obtain information/disposal of request, etc.; and (d) provides	Applicable. As all documents pertaining to the Program requires be disclosed to public.	DAHD; State AHDs

Sl. No.	Act/ Rules	Key Provisions and Purpose	Applicability to the Program	Agency/ Institution Responsible
		for institutions such as Central Information Commission/State Information Commission		
4	Minimum wages Act, 1948	This act ensures minimum wages that must be paid to skilled and unskilled labors. The employer shall pay to every employee engaged in scheduled employment under him, wages at the rate not less than the minimum wages fixed by such notification for that class of employee without any deductions except authorized.	Applicable to the overall Program	Ministry of Labor; State Labor Department DAHD; State AHDs and Contractors
5	Child labour (prohibition and regulation) Act 1986; 2016	This act prohibits the engagement of children below 14 and 15 years in certain types of occupations and regulates the condition of work of children in other occupations. No child shall be employed or permitted to work in any of the occupations set forth in Part A of the schedule, processes set forth in Part B of the schedule which includes building and construction industry. The 2016 amendment also prohibits the employment of adolescents in the age group of 14 to 18 years in hazardous occupations and processes and regulates their working conditions where they are not prohibited.	Applicable to hiring contract labour for construction activities	Ministry of Labor; State Labor Department DAHD; State AHDs and Contractors
6	The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013	The act provides for a transparent process and fair compensation in land acquisition for public purpose and provides for rehabilitation and resettlement of landowners and those affected by land acquisition. It comprises four schedules that provide the minimum applicable norms for compensation based on market value, multiplier and solatium; resettlement and rehabilitation (R&R) entitlements to landowners and livelihood losers; and facilities at resettlement sites for	Not applicable as no land acquisition or resettlement is anticipated. However, it will become applicable in case any land acquisition is required for setting up new hospitals/ dispensaries/ laboratories.	State Administration/ Revenue Department

Sl. No.	Act/ Rules	Key Provisions and Purpose	Applicability to the Program	Agency/ Institution Responsible
		displaced persons, besides providing flexibility to states and implementing agencies to provide higher norms for compensation and R&R.		
7	The Building and Other Constructions Workers (Regulation of Employment and Conditions of Service) Act, 1996 and the associated Central Rules, 1998	This is a social welfare legislation that aims to benefit workers engaged in building and construction activities across the country and regulates the employment and conditions of service of building and other construction workers and to provide for their safety, health and welfare measures and for other matters connected therewith or incidental thereto.	Applicable to the program and applicable for sub-projects involving any construction.	Ministry of Labor; State Labor Department DAHD/ State AHDs; Contractors
8	National Building Codes of India 2016	The Code provides regulations for building construction by departments, and public bodies. It lays down a set of minimum provisions to protect the safety of the public about structural sufficiency, fire hazards and health aspects. The Code mainly contains administrative regulations, development control rules and general building requirements; fire safety requirements; stipulations regarding materials, structural design and construction (including safety); building and plumbing services; signs and outdoor display structures; guidelines for sustainability, asset and facility management, etc.	Relevant for any building being constructed or upgraded.	Civil Contractors appointed by DAHD/ State AHDs
9	The Occupational Safety, Health and Working Conditions Code, 2020	This code on occupational safety, health and working conditions applies to all establishments with 10 or more workers and includes building and construction workers. It is applicable to all infrastructure works supported under the program. The Occupational Safety, Health, and Working Conditions Code ("Code") is enacted to	Relevant for all workers and construction activities.	Civil Contractors appointed by DAHD/ State AHDs

Sl. No.	Act/ Rules	Key Provisions and Purpose	Applicability to the Program	Agency/ Institution Responsible
		consolidate and amend the laws regulating the occupational safety, health, and working conditions of the persons employed in an establishment, and for the connected and incidental matters. The Code also lists benefits to the inter-state migrant workman such as the benefits of the insurance and provident fund benefits either in the native state or the state of employment, portability of benefits of the inter-state migrant worker working for building or other construction work out of the building and other construction cess fund in the destination State where such inter-state migrant worker is employed. It also mandates free health check-ups for who attained the age of forty-five years for prescribed industries such as factories, mines, plantations, workers employed in hazardous process.		
10	The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013	An act that aims at providing a sense of security at the workplace that improves women's participation in work and results in their economic empowerment. It requires an employer to set up an "Internal Complaints Committee" (ICC) and the Government to set up a 'Local Complaints Committee' (LCC) at the district level to investigate complaints regarding sexual harassment at workplace and for inquiring into the complaint in a time bound manner. The ICC need to set up by ever organization and its branches with more than 10 employees.	Applicable to all participating departments, agencies, and their offices.	Ministry of Women and Child development; State Women and Child Development Department DAHD/ State AHDs

Sl. No.	Act/ Rules	Key Provisions and Purpose	Applicability to the Program	Agency/ Institution Responsible
11	Criminal Law (Amendment) Act, 2013: Sexual Offences	The Act recognizes the broad range of sexual crimes to which women may fall victim, and a number of ways in which gender-based discrimination manifests itself. It also acknowledges that lesser crimes of bodily integrity often escalate to graver ones and offences such as acid attack, sexual harassment, voyeurism, stalking has been incorporated into the Indian Penal Code (IPC). It seeks to treat cases as "rarest of the rare" for which courts can award capital punishment if they decide so. The Act clarifies and extends the offense of sexual assaults or rape as a result of abuse of position of trust. As per the Act, the police will also be penalized for failing to register FIRs – this will make it easier for rape victims to report their cases.	Relevant and applicable to deal with GBV including SEA/ SH issues.	Ministry of Women and Child development; State Women and Child Development Department; State Police Department DAHD/ State AHDs;
12	The Ancient Monuments, Archaeological sites and Remains (Amendment and Validation) Act, 2010	The act provides for the preservation of ancient and historical monuments and archaeological sites and remains of national importance, for the regulation of archaeological excavations and for the protection of sculptures, carvings and other like objects. The Archaeological Survey of India functions under the provisions of this act. The rules stipulate that area near the monument, within 100 meters is prohibited area. The area within 200 meters of the monument is regulated category. Any repair or modifications of buildings in this area requires prior permission.	Applicable as it deals with Cultural resources and will be applicable for any civil work in the vicinity of such notified sites.	Archeological Survey of India

Annexure – 4: Description Of E&S Management System and Capacity Assessment

System and Capacity Assessment - Core Principle 1

Sl. No.	Planning Elements	Management System at National Level and State Level	Capacity, Risks and Gaps	Potential Recommendations to Align with Core Principle
Core Principle #1: Program E&S management systems are designed to 1(a) promote E&S sustainability in the Program design; (b) avoid, minimize, or mitigate adverse impacts; and (c) promote informed decision-making relating to a Program's E&S effects				
1	Bank program procedures are backed by an adequate legal framework and regulatory authority to guide environmental and social impact assessments at the programmatic level	• While the existing policies and legislation covers all aspects related to environment concerns which may arise on program implementation, it requires enabling institutional and technical capacity for compliance. • There are key legislation and schemes that guides the Animal health sector in India across all states and provides for the prevention, control and eradication of infectious and contagious diseases affecting animals, for prevention of outbreak or spreading through various means. The schemes are supported with annual budgetary allocations and targets.	• While the legislative and regulatory provisions are adequate, also the biomedical waste management rules spell out clear roles, responsibility and the process to be adopted for, risk emerges due to its weak compliance. • There is lack of technical capacity, and human resource at state level for implementation of sustainable biomedical waste management approaches • Capacity gaps are observed in ensuring health and safety of veterinary workers and systems to ensure uniform compliance on EHS of veterinary workers throughout the state is currently lacking. • The approach towards One health is still in early stage, and coordination with Animal health department,	• Strengthening coordination mechanism between animal health departments, wildlife division, and human health at state and district level for surveillance of any diseases and its response along with addressing the environmental and social concerns. • Capacity building of frontline staffs of AHDs on E&S aspect will be important to identify and mitigate any E&S risks including its legal provisions. •

Sl. No.	Planning Elements	Management System at National Level and State Level	Capacity, Risks and Gaps	Potential Recommendations to Align with Core Principle
			wildlife division, and human health requires to be strengthen.	
2	Incorporate recognized elements of good practice in E&S assessment and management, including: (i) Early screening of potential impacts	• The current processes being followed at center and (pilot) state level, does not specify a mechanism for systematic screening of E&S risks and impacts. • The assessments and clearances (e.g., NOCs from Pollution control board, EIA clearances as applicable) required by default in new construction activities are applicable to the veterinary facilities also, but no additional screening by design on possible environmental impacts is currently in place.	Screening for E&S risks and impact prior to any civil works is a clear gap and it may lead to adverse environment or social impacts in some cases	Screening for E&S risks and impacts need to be instituted as part of planning process for any infrastructure / new construction related works.
3	(ii) Consideration of strategic, technical, and site alternatives (including the "no action" alternative).	In most of the states the Veterinary Facilities (VFs) are developed on available Government land parcels and hence does not include a process to consider alternatives before the final "site selection" is done.	The current process of site selection does not involve any alternative analysis or community consultations and needs systematizing and strengthening from the perspective of possible E&S risks and impacts.	The process of site selection for infrastructure/ civil works to be strengthened through capacity enhancement of district/ block level AHD staffs.
4	(iii) Explicit assessment of potential induced, cumulative, and transboundary impacts.	• Though any small-scale outbreak of diseases is often localized and does not have any transboundary impacts and are dealt effectively through state AHDs in collaboration of other	• The capacity enhancement of the AHD staffs at district and block level in early identifying disease outbreaks and sharing precautionary	• The capacity building modules for district and block level staffs should include coordination and information sharing mechanism.

Sl. No.	Planning Elements	Management System at National Level and State Level	Capacity, Risks and Gaps	Potential Recommendations to Align with Core Principle
		stakeholders within the state. However, any sizable outbreak often cut across state boundaries to neighboring areas and require close coordination with other state AHDs and Administration. The procedure for sharing information in such situation with neighboring districts and are well laid out, it requires strengthening in the process of surveillance to address it before any major outbreaks.	information to neighboring districts and states needs strengthening. • Leachate percolation thus pollution groundwater	
5	(iv) Identification of measures to mitigate adverse E&S risks and impacts that cannot be otherwise avoided or minimized.	• Biomedical waste management remains a critical concern for all the pilot states. • The authorization of VFs is extremely limited (with few states having authorization with SPCB in less than 10% of their Veterinary facilities) and poses significant risk to environment due to ad hoc/ unsustainable waste management practices. • In absence of available infrastructure Deep burial of hazardous waste and carcass is a widespread practice in most states posing risk of ground water contamination and possible	• The system lacks in doing systematic screening for E&S risks and issues including for any adverse effects on biodiversity and cultural resource. • At present there is no system to address environmental and social impact and mitigation plans that exists at implementation agency. • Implementation agencies have no dedicated personnel at any level to address E&S risk and management. The veterinary experts employed in the state directorates are expected to investigate E&S aspects also.	•

Sl. No.	Planning Elements	Management System at National Level and State Level	Capacity, Risks and Gaps	Potential Recommendations to Align with Core Principle
		adverse impacts on sensitive habitats in the vicinity. • The Environment, health and safety (EHS) issues are also an important area that the workers in veterinary facilities and filed staff are supposed to follow. UPDATE – State wise SOPs etc. • There are no uniform and established SOPs for Biosafety and Biosecurity measures in state laboratories (except in Karnataka). Even in presence of ad hoc SOPs and trainings, compliance is lacking or extremely weak in absence of a dedicated Biosafety and Biosecurity Officer	• Therefore, on ground, there are risks of impacts spreading out to sensitive environmental areas in the proximity • Environment, health and safety (EHS) remains one of the issues that require constant emphasis. Whereas there are ad hoc practices and training on EHS issues, the overall system needs strengthening and regularization of related training programs.	
6	(v) Clear articulation of institutional responsibilities and resources to support implementation of plans	• Although the Municipal Corporations and State Pollution control boards are required to coordinate with different VFs and laboratories to facilitate/ support waste/pollution management, there is no clear articulation of institutional responsibilities and coordination mechanism within various departments to manage E&S risks associated with implementation of the supported programs.	There is a gap in clear articulation of institutional responsibilities and resources for E&S management.	There is need for placement of Environmental expert and social expert as a nodal person in DAHD and AHDs to oversee and monitor the E&S activities. Also, there is need for clear articulation of E&S responsibility at the district and block level and need to strengthen the EHS mechanism across the implementation chain.

Sl. No.	Planning Elements	Management System at National Level and State Level	Capacity, Risks and Gaps	Potential Recommendations to Align with Core Principle
7	(vi) Responsiveness and accountability through stakeholder consultation, timely dissemination of the PforR information, and responsive GRMs.	• In all participating states, the veterinary officers along with para vets, *Gopal Mitra*, and *Pashu Sakhi* undertake awareness through consultation with beneficiaries, and in some cases also use printed materials about diseases and its management. Some states like Maharashtra also undertake various awareness camps involving PRI members. • All the AHDs in the participating states have Toll free helpline numbers which is not only used for seeking information but also for feedback and registering grievances. In addition, there Chief Minister's grievance portal or help line number for registering any grievances; seeking RTIs; and other mechanism such as written manual complaints at the AHDs or Veterinary centers are there. • Many of the state AHDs do have Citizen charters illustrating the services and the timelines for addressing them.	• While most of the states are engaged in awareness generation and various means of engagement with community, and where the frontline staffs play the most important role, there is no comprehensive strategy towards communication and community engagement, and no well laid capacity building program for frontline workers on this in any of the states. • While the existing mechanism of grievance redress mechanism is working fine, however it lacks in monitoring and reporting. • Though the citizen charter is there in many of the states, there is no monitoring of what proportion of service request or complaints are addressed within the stipulated time and what has been the level of satisfaction.	• There is need for streamlining the beneficiary/ community engagement process along with proper communication strategy for the One health program. • Capacity building of AHD staffs especially the frontline workers on communication and community engagement process will be very much useful. • Grievance redress mechanism to be further strengthened for monitoring and reporting of grievances.

System and Capacity Assessment - Core Principle 2

Sl. No.	Planning Elements	Management System at National Level and State Level	Capacity, Risks and Gaps	Recommendations to align with Core Principle
Core Principle 2: Program E&S management systems are designed to avoid, minimize, or mitigate adverse impacts on natural habitats and physical cultural resources resulting from the Program. Program activities that involve the significant conversion or degradation of critical natural habitats or critical physical cultural heritage are not eligible for PforR financing.				
1	Identify, and screen for adverse effects on potentially important biodiversity and cultural resource areas and provide adequate measures to avoid, minimize, or mitigate adverse effects.	• National and State level laws and regulations exist for regulation of activities in proximity of protected monuments and for management of chance finds of archaeological, historical value. • The Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010 bans on construction within 100 metres of a centrally protected monument and regulated construction within 100- 200 metres. • Likewise, comprehensive set of national regulations exist to protect forests, wildlife and biodiversity rich areas.	• Screening Mechanism does not exist currently in any of the pilot states	• Screening to be instituted along with community consulting to rule out any adverse E&S impact. • At the screening stage only, there is need of identifying structures of cultural and religious importance and any important/sensitive critical natural habitat in the vicinity.
2	Support and promote the protection, conservation, maintenance, and rehabilitation of natural habitats.		• Not Relevant to the current program	
3	Avoid significant conversion or degradation of critical natural habitats		• Not Relevant to the current program	
4	If avoiding the significant conversion of natural habitats is not technically feasible, include measures to mitigate or offset the adverse impacts of the PforR Program activities		• Not Relevant to the current program	•

Sl. No.	Planning Elements	Management System at National Level and State Level	Capacity, Risks and Gaps	Recommendations to align with Core Principle
5	Consider potential adverse effects on physical cultural property and provide adequate measures to avoid, minimize, or mitigate such effects.		• The awareness on the relevant provisions of the existing laws and regulations among the key stakeholders, especially the para veterinarians and field staff need to be enhanced.	• Screening to be instituted along with community consulting to rule out any adverse E&S impact. • At the screening stage only, there is need of identifying structures of cultural and religious importance and any important/sensitive critical natural habitat in the vicinity.

System and Capacity Assessment - Core Principle 3

Sl. No.	Planning Elements	Management System at National Level and State Level	Capacity, Risks and Gaps	Recommendations to align with Core Principle
Core Principle 3: Core Principle 3: Program E&S management systems are designed to protect public and worker safety against the potential risks associated with (a) the construction and/or operation of facilities or other operational practices under the Program; (b) exposure to toxic chemicals, hazardous wastes, and otherwise dangerous materials under the Program; and (c) reconstruction or rehabilitation of infrastructure located in areas prone to natural hazards.				
1	Promote adequate community, individual, and worker health, safety, and security through the safe design, construction, operation, and maintenance of Program activities; or, in carrying out activities that may be dependent on existing infrastructure, incorporate safety	• Environment, Health and safety for Vet Workers and field staff is a critical issue and a visible gap in all pilot states. • No/Only Ad hoc SOPs on Biosafety and Biosafety measures exist for Labs and other Facilities where workers deal with	• Limited or no provision of medical camps and regular checkups for field staff is a critical concern. • Implementation of biosafety and biosecurity measures is a critical gap in all pilot states	• A state wise comprehensive EHS training road map to be developed for the state's veterinary and para veterinary workers and filed staff. • Dedicated Biosafety and Biosafety officers to be employed in state departments

Sl. No.	Planning Elements	Management System at National Level and State Level	Capacity, Risks and Gaps	Recommendations to align with Core Principle
	measures, inspections, or remedial works as appropriate.	hazardous and toxic materials (Except Karnataka) • Even for Veterinary facilities where SOPs have been established, there is lack of uniform compliance in absence of training and capacity building programs • There is no dedicated biosafety and biosecurity officer to monitor and regulate EHS concerns • Although states like Assam have undertaken rabies vaccinations for its filed staff, and other pilot states have also prioritized its veterinary staff for covid related vaccinations, there are no updated records available regarding regular and uniform immunization of workers involved in handling of bio-medical waste as per rule 4(h) and conduction of regular health checkups to these workers as per rule 4(m) of the BMWM Rules 2016.	• Only ad hoc trainings on staff wellness and EHS Compliances being done in pilot states. Need to strengthen this aspect. • Limited equipment and lack of dedicated budget head for Worker health and safety has been reported as a key gap by some pilot states (Assam, Odisha and Maharashtra)	of animal husbandry and veterinary • Regular check-ins and monitoring reports to be documented by all facilities dealing with hazardous and toxic substances. • Awareness to be enhanced on the requirement of BMWM Rules 2016 with respect to regular and uniform immunization of workers involved in handling of bio-medical waste as per rule 4(h) and conduction of regular health checkups to these workers as per rule 4(m).

Sl. No.	Planning Elements	Management System at National Level and State Level	Capacity, Risks and Gaps	Recommendations to align with Core Principle
2	Promote measures to address child and forced labor.	• The Child Labor (Prohibition and Regulation) Act, 1986, amended in 2016 ("CLPR Act")[23] prohibits employment of a Child below the age of 14 in any employment and prohibits the employment of adolescents in the age group of 14 to 18 years in hazardous occupations and processes. All the civil contracts in the participating states have this clause in the tender and civil contract document. • The Article 23 of The Constitution of India, Prohibition is imposed on the practice of Traffic in Human Being and of Forced Labor. It also provides that contravention of said prohibition is an offense under law.	• While the forced labor participation is not anticipated in the program, there is a possibility of finding child labor working in waste management and disposal value chain in rural areas. • This is largely due to socio-economic problems such as poverty, economic backwardness, illiteracy etc. in parts of some pilot states. • Awareness with respect to The Child Labour (Prohibition & Regulation) Act,1986 and amendment up to 2016 is generally low in peri urban and rural areas.	• Awareness among community and field level staff to be enhanced on the issue. • New upgradation activities including Civil work contract clauses shall reiterate the prohibition along with monitoring by the contracting agency for its adherence.
3	Promote the use of recognized good practice in the production, management, storage, transport, and disposal of hazardous materials generated under the PforR	• The BMW rule 2016 and further amendments in 2019 provides the process of management, transportation, and disposal of hazardous wastes. This is	• BMW management at VIs and Laboratories, and in field is not up to the desired level and needs both infrastructure and capacity	Will be made a part of O&M guidelines and sensitization/training on environment aspects.

[23] https://labour.gov.in/childlabour/child-labour-acts-and-rules

Sl. No.	Planning Elements	Management System at National Level and State Level	Capacity, Risks and Gaps	Recommendations to align with Core Principle
		applicable to all facilities across all states.	to meet the regulatory requirements.	
4	Provide training for workers involved in the production, procurement, storage, transport, use, and disposal of hazardous chemicals in accordance with the relevant international guidelines and conventions.	• While there are training programs and training modules do exist in public and private sector including in participating states, however, AHDs lack in this area.	• Training required across the implementation chain both for AHD staffs, paraprofessionals and community workers.	• Training modules to be prepared and incorporated in training schedule
5	Include adequate measures to avoid, minimize, or mitigate community, individual, and worker risks when the PforR Program activities are in areas prone to natural hazards such as floods, hurricanes, earthquakes, or other severe weather or affected by climate events.	• There are no comprehensive guidelines exists with respect to community and workers safety and needs attention.	• Current capacity and practices are ad hoc and require comprehensive approach including awareness creation.	• Detailed SOP/ guidance to be prepared and adopted for workers and community safety along with training and awareness creation efforts.

System and Capacity Assessment - Core Principle 4

Sl. No.	Planning Elements	Management System at National Level and State Level	Capacity, Risks and Gaps	Recommendations to align with Core Principle
Core Principle 4: Program E&S systems manage land acquisition and loss of access to natural resources in a way that avoids or minimizes displacement and assists affected people in improving, or at the minimum restoring, their livelihoods and living standards.				
1	Avoid or minimize land acquisition and related adverse impacts.	• All the participating states follow the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (amendment up to 2015. • The act provides for a transparent process and fair compensation in land acquisition for public purpose and provides for rehabilitation and resettlement of landowners and those affected by land acquisition. It comprises four schedules that provide the minimum applicable norms for compensation based on market value and replacement cost, multiplier and solatium; resettlement and rehabilitation (R&R) entitlements to landowners and livelihood losers; and facilities at resettlement sites for displaced persons, besides providing flexibility to states and implementing agencies to provide	• While the process of land acquisition is well laid across all the states and the designated state revenue department has capacity, no land acquisition is anticipated under the program, and it is part of the exclusion list.	• Any land acquisition and/or resettlement is part of the exclusion list under the program.
2	(a) Identify and address economic or social impacts caused by land acquisition or loss of access to natural resources, including those affecting people who may lack full legal rights to resources they use or occupy. (b) Provide compensation sufficient to purchase replacement assets of equivalent value and to meet any necessary transitional expenses, paid before taking land or restricting access. (c) Provide supplemental livelihood improvement or restoration measures if taking of land causes loss of income-generating. (d) Include measures for land acquisition and related activities to be planned and implemented with appropriate disclosure of information, consultation, and			

Sl. No.	Planning Elements	Management System at National Level and State Level	Capacity, Risks and Gaps	Recommendations to align with Core Principle
	informed participation of those affected. (e) Restore or replace public infrastructure and community services that may be adversely affected by the Program.	higher norms for compensation and R&R.		

System and Capacity Assessment - Core Principle 5

Sl. No.	Planning Elements	Management System at National Level and State Level	Capacity, Risks and Gaps	Recommendations to align with Core Principle
Core Principle 5: Core Principle #5: Program E&S systems give due consideration to the cultural appropriateness of, and equitable access to, Program benefits, giving special attention to the rights and interests of Scheduled Tribe people (Indigenous Peoples) and scheduled caste people, and to the needs or concerns of vulnerable groups.				
1	Undertake meaningful consultations if the Indigenous Peoples are potentially affected (positively or negatively), to determine whether there is broad community support for the PforR Program activities.	• In most of the states, veterinarians, para vets, Gopal Mitra, and *Pashu Sakh*i do the communication on animal diseases and related precautions and practices. Also, animal vaccination drives are another set of events when the consultations towards awareness creation are being undertaken in most of the states. •	• The current process of community engagement including consultations and communication with right intent, the participating states lack in having a comprehensive strategy of doing so. • Also, there is no capacity building of the frontline workers including Gopal Mitra, *Pashu Sakhi*, and other community volunteers on the community engagement strategy	• DAHD should prepare a comprehensive community engagement strategy and participating states should further finetune it for adopting a state specific community engagement strategy. • The AHDs front line staffs as well as *Gopal Mitra*, *Maitri* Workers, *Pashu Sakhi*, and other community volunteers should be trained on talking

Sl. No.	Planning Elements	Management System at National Level and State Level	Capacity, Risks and Gaps	Recommendations to align with Core Principle
			for consultations and communication.	forward the community engagement strategy and ways and means of community consultations and communication.
2	Ensure that Indigenous Peoples can participate in devising opportunities to benefit from exploitation of customary resources and indigenous knowledge, the latter (indigenous knowledge) to include the consent of Indigenous Peoples.	• Though the provision of veterinary institutions (VI) across states and especially in remote areas, tribal areas, and difficult to reach areas varies as some states have the VIs and some feels more VIs are required in some of the areas, one common challenge faced by most of the states are having adequate staffs to cater to these VIs or not enough Mobile veterinary units (MVUs) or the MVU staffs. • Majority of the Gopal Mitra, *Maitri*, Pashu Sakhi and other community volunteers are women. Also, women are the most vulnerable groups as they are the one who generally take care of the animals at home, and hence, more at risk for contracting any disease from animals. • Animal Husbandry is a state subject and even in Schedule VI areas, it is the AHD department which provides services. In most of the	• Shortage of staffs is one of the biggest challenges in most of the hilly, remote tribal areas, and difficult to reach areas across all states. This is also because the human resource norms as per the 1984 Act is still not met in most states. • In most states reliance for services in these hilly and remote tribal areas are largely on Gopal Mitra, *Maitri*, Pashu Sakhi and other community volunteers, and who may have limitation in providing technical diagnostic and treatment facilities as they are not trained for the same. • Though in many of these areas there are some local NGOs who also work on animal diseases, there is no state mechanism to formally engage with them or train them for enhanced services.	• The participating states need to have proper strategy towards ensuring equitable services in hilly, remote tribal areas, and difficult to reach areas. • Proper coordination mechanism to developed with NGOs where available in providing animal health services. • Capacity building of *Gopal Mitra*, *Maitri workers*, *Pashu Sakhi* and other community volunteers on extended technical services.
3	Give attention to groups vulnerable to hardship or discrimination, including, as relevant, the poor, the disabled, women and children, the elderly, ethnic minorities or other marginalized groups; and if necessary, take special measures to promote equitable access to PforR Program benefits			

Sl. No.	Planning Elements	Management System at National Level and State Level	Capacity, Risks and Gaps	Recommendations to align with Core Principle
		tribal areas, additional financial support is there through Tribal Sub Plan (TSP) component, though they are relatively small to cater to the whole area.	•	

System and Capacity Assessment - Core Principle 6

Sl. No.	Planning Elements	Management System	Capacity, Risks and Gaps	Recommendations to align with Core Principle
Program E&S systems avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.				
1	Consider conflict risks, including distributional equity and cultural sensitivities.	• As on 2019, about 18 of the 90 Left Wing Extremism (LWE) districts of the country are in Odisha (15) and Maharashtra (3). However, the Government's approach is to deal with LWE areas in a holistic manner, in the areas of security, development, ensuring rights and entitlements of local communities, improvement in governance and public perception management. In the process Government undertakes various development projects, including livelihood programs and irrigation facilities, besides critical road networks to regain lost ground and	• While the program activities do not exacerbate any social conflicts, but as mentioned under the Core principle -5 above, some of these areas also face challenges of staff shortage.	• Same as the recommendations under Core principle-5 for addressing staff shortage and building local capacity.

Sl. No.	Planning Elements	Management System	Capacity, Risks and Gaps	Recommendations to align with Core Principle
		legitimacy in these areas and further endeavors to integrate community concerns into the development plan, thereby reducing the psychological and political alienation of the local population in the troubled territories, especially in south-western parts of the state. With experience of the last few years, Government of Odisha has proposed to remove 5 districts (including Deogarh, Nayagarh and Sambalpur) from the 15 LWE list. • The animal health programs of the government are quite welcomed in these areas as well as it helps improve livelihood assets of the local population, and so far, no such conflicts have been faced for the veterinary services. Also, most of the frontline staffs of the AHDs are also come from local community and further supported by the community level workers such as Gopal Mitra, and Pashu sakhi etc.		

Annexure – 5: Details of Stakeholder Consultation Workshops

Two multi-stakeholder workshops were conducted – the first one was on June 22, 2022, with NGOs, CBOs, community resource persons (CRPs), and field level officials related to AH from all participating states and including from tribal areas; and the second workshop was conducted on June 24, 2022, with key AHD officials and other stakeholder department officials from all the participating states along with DAHD. The detailed list of participants is mentioned below.

A. List of participants of multi-stakeholder consultation Workshop on June 22, 2022

1. FROM ASSAM

a. NGO Participants

Mr. S.S. Dutta, JBF (Just Be Friendly)

Mr. B. Talukdar, Aranyak

Ms. Indira Amma, PFA (People for Animal)

Ms. Moloy Baruah, Early Bird

Ms. Pollobi Gogoi, Lucy Foundation

Ms. Urmimala, Avinava Prayash

Ms. Rashmi, Street Animal Welfare Guwahati

b. DCS / DUSS participants

Ms. Juri Sen Deka, Bileswar Dugdha Utpadan Kendra

Ms. Dipanki Malakar, Janashakti

Mr. Bipul Gogoi, Surabhi DUSS

Mr. Sri Pada Choudhury, Bajali District Milk Producer Union Limited

c. Para professions - Maitri and Prani Mitra

Ms. Mridula Basumatary

Ms. Puja Sarma

Mr. Ajay Chetia

Ms. Smriti Patar

Mr. Pankaj Chetri

d. FPC participants

Sl. No.	Participant Name	FPC name	District
1	Pranjal Goswami	Titabor Pig Producer Company Limited	Jorhat
2	Prasanta Baruah	Dhemaji Livestock Producer Company Limited	Dhemaji
3	Maneswar Gogoi	Dhakuakhana Agro & Allied Producer Company Limited	Lakhimpur
4	Dimpul Chamuah	Telahi Pig Producer Company Limited	Lakhimpur
5	Montu Konwar	Sissiborgaon Pig Producer Company Limited	Dhemaji
6	Trideep Das	Bordoloni Pig Producer Company Limited	Dhemaji
7	Ranjan Kotoki	Sonitpur Livestock Producer Company Limited	Sonitpur
8	Debajit Mandal	Krishnai Pig Producer Company Limited	Goalpara
9	Kirip Deka	Mayong Agro & Allied Producer Company Limited	Morigaon

10	Padmeswar Taye	Podumoni Pig Producer Company Limited	Golaghat
11	Pranjal Brahma	Bihpuria Livestock Producer Company Limited	Lakhimpur
12	Prakashjeet Borah	Khowang Livestock Producer Company Limited	Dibrugarh
13	Kalpajit Borgohain	Saikhowa Pig Producer Company Limited	Tinsukia
14	Roon Sonowal	Amguri Pig Producer Company Limited	Sivasagar
15	Parikshit Karmakar	Dangtol Pig Producer Company Limited	Bongaigaon
16	Rajib Kumar Tamuli	Koliapani Pig Producer Company Limited	Jorhat
17	Udayan Nath	Coal Queen Pig Producer Company Limited	Tinsukia
18	Sibsankar Hazarika	Kako Mithong Pig Producer Company Limited	Tinsukia
19	Bibhash Sonowal	Lahowal Pig Producer Company Limited	Dibrugarh
20	Phirliensang Hmar	Lakhipur Pig Producer Company Limited	Cachar
21	Hiren Sarma	Seuji	Morigaon
22	Hemanta Kumar Sarmah	Yangli FPC	Morigaon

2. FROM KARNATAKA

a. NGO and CBO participants

Sri Girish, BAIF

Sri Athini

Sri Nadagouda

Smt. H.Radhamma

Sri Laxmi Narayana

Smt. Rupa.R.

Dr. Shiragi Naik

Dr. Rekya Naik

b. Field level AHD staffs

Dr.Ravi, Deputy Director, Chikkaballapura.

Sri.Laxman, Veterinary Inspector, Chikkaballapura.

Sri.D.Venkataramana, Veterinary Inspector. Chikkaballapura.

Dr.Nadagowda, Deputy Director, Bagalkote

Sri.A.I.Jigajinagi, Veterinary Inspector, Bagalkote.

Sri.K.S.Aralur, Veterinary Inspector. Bagalkote.

3. FROM MAHARASHTRA

a. NGO and CBO participants

Dr. Jayant Khadse, General Manager, BAIF

Dr. Nitya Sambamurti Ghotge, Anthra, Pune

Dr. Pradip Ghalsasi, NARI (Nimbkar Agriculture Research Institute), Phultan, Satara

Dr. Auti Dinesh, Baramati Agro

Dr. Parkale, CEO, Maharashtra Livestock Development Board (MLDB)

Dr. Vivek S Khirsagar, MD, Pune District Cooperative Milk Producers Association

Dr. Madhuri Dhamle, Pune District Cooperative Milk Producers Association

Dr. Archana Khirsagar, MAVIM (Mahila Arthik Vikas Mahamandal)

4. FROM MADHYA PRADESH

a. NGO and CBO participants

Dr Ravi Prakash Paul, BAIF

Mr Sanjay Shrivastava, JK Trust

Dr Ranjan Neog Manager Operation, Madhya Pradesh Women Poultry Producers Company Pvt Ltd (MPWPCL) Bhopal

Ms Kunti Dhurva, President, Kesla Poultry Society, Kesla, Hoshangabad

Ms Kulvati Bai, Board member Kesla Poultry Society, kesla, Hoshangabad

Mr U K Sharma, Nodal Officer, Bhopal Milk Federation

Mr Kamlesh Sharma, Supervisor, Bhopal Milk Federation

Mr Deepak Pushpa, Member, Tumda Dairy Society, Tumda, Dist Bhopal

Mr Manohar Meena, Member, Dugdha Dairy Society Kudhar, Dist Bhopal

Ms Rajiya Begam, SRLM, Village Ghanshyampura, District Damoh

Ms Maya Patel, SRLM, Village Kalleh, District Shahdol

Mr Neelesh Desai, Sampark- Samaz Sevi Santha Jhabua MP

Professor S K Trivedi, Bhartiya Vikas Prabhandham Sansthan (IIDM Indian Institute of Development Management)

5. FROM ODISHA

a. NGO and CBO participants

Mr. Rakesh Warrier, State project head, BAIF, Odisha

Dr.Loknath Behera, CEO,OLRDS

B. List of participants of multi-stakeholder consultation Workshop on June 24, 2022

Dr. Praveen Mallik, Animal Husbandry Commissioner, DAHD

Dr. Aruna Sharma, Assistant Commissioner, DAHD

Dr. Amitabh Chakravarty, NERRDL, Govt. of Assam

Dr. Bibhu Ranjan Das, Dy Director, Govt. of Odisha

Dr. Lokanath Behera, Addl Director, Govt. of Odisha

Dr. Limaye, Joint Commissioner, Animal Husbandry, Govt. of Maharashtra

Dr Jayant Tapase Nodal Officer SADIL Bhopal, Govt. of Madhya Pradesh

Dr A K Sharma Deputy Director DAH, Govt. of Madhya Pradesh

Dr Priyakant Pathak Additional Deputy Director DAH, Govt. of Madhya Pradesh

Dr Vaani Pandey Additional Deputy Director DAH, Govt. of Madhya Pradesh

Dr Ajay Ramteke DDVS Bhopal District, Madhya Pradesh

Mr Sunil Parashar AVFO Kurana Bhopal District, Madhya Pradesh

Mr Tulsiram Birla AVFO Balachon Bhopal District, Madhya Pradesh

Mr Santosh patidar AIPP Funda Bhopal District, Madhya Pradesh

Mr Pushottam Meena Matri Worker Bhopal District, Madhya Pradesh

Director, AHD Karnataka
Additional Director (Livestock Health), AHD Karnataka
Additional Director (Animal Resources), AHD Karnataka
Additional Director (Extension, Training & RKVY), AHD Karnataka
Joint Director (State Sector), Bengaluru, AHD Karnataka
Joint Director (State Sector), Raichur, AHD Karnataka
Joint Director (State Sector), Mysore, AHD Karnataka
Joint Director (State Sector), Dharwad, AHD Karnataka
Deputy Director (State Poultry Farm), Hessaraghatta, AHD Karnataka
Deputy Director, State Livestock Breeding and Training Centre (SLBTC), Hessaraghatta
Deputy Director, State Semen Collection Centre (SSCC), Hessaraghatta.
Deputy Director, Pig Breeding Centre, Hessaraghatta
Director, NDRI, Bengaluru
NDDB Regional Director, Bengaluru.
NDDB Manager, Bengaluru.

Annexure – 6: Screening Format for Environmental and Social Risks/Impacts

The Screening checklist is applicable to any civil work activities leading to repair, renovation, expansion and/or reconstruction of diagnostic facilities, veterinary hospitals and dispensaries under the program. This form is to be used by facility in-charge to rule out any adverse environment and social impacts due to program intervention under the guidance of the AHDs/ Program Management Unit (PMU) to screen for the potential environmental and social risks and impacts of a proposed subproject.

Name of the District	
Name of the Block/ Town	
Category of Veterinary Facility/ Laboratory	
Name of facility	

Sl.No.	Key Question	Answer		Due diligence/ Actions
		Yes	No	
1	Is there any risk/ impact/ disturbance to forests and/ or protected areas because of subproject activities?			If yes, any interventions should be avoided.
2	Is the Veterinary Facility/ Laboratory within 100 meters of any cultural, historic, religious site/ buildings?			If yes, any interventions should be avoided[24].
3	Is the Veterinary Facility/ Laboratory between 100 - 200 meters of any cultural, historic, religious site/ buildings?			If yes, due permission to be taken from ASI for any construction. Where there is no impact, chance finds procedures would be applicable and ASI norms would need to be followed.
4	Does the subproject involve additional land for upgradation/ expansion and/ or new construction through land acquisition or direct purchase and/or restrictions on land use?			If yes. It is not supported by the project. Alternate options to be explored.
5	Does the subproject involve additional land for upgradation/ expansion through transfer from another government department?			If yes. Follow government norms for transfer. Construction activities can be initiated only after transfer is completed.
6	Does the subproject require any informal/ illegal occupants' removal in case of any upgradation/ expansion in HCF			If yes, any interventions should be avoided. Alternative options to be explored. However, if completely unavoidable, approval from World Bank to be taken and necessary assessment and safeguard tools to be prepared as per ESS 5.

[24]Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010 there is ban on construction within 100 metres of a centrally protected monument and regulated construction within 100-200 metres construction. Any construction activity within 100-200 meters of the monument requires ASI permission.

Sl.No.	Key Question	Answer		Due diligence/ Actions
		Yes	No	
7	Does the subproject involve recruitment of workers[25] including direct, contracted, primary supply, and/or community workers?			Follow the Labor laws provisions including the welfare measures.
8	Does the subproject require shifting of any common property resources (CPRs) - such as water supply structure; sanitation structures; power supply infrastructure etc. or approach way			Adequate provision to be made for shifting of the CPR along with proper coordination with respective departments and consultations with local users of the CPR/ community.
9	Is there civil works/building rehabilitation envisaged at the facility?[26] Increase in dust and noise from demolition and/or construction Generation of construction waste Impacts on accessibility to the facility Excavation impacts and soil erosion Increase sediment loads/wastewater discharges in receiving water Removal and disposal of toxic and/or hazardous substances[27] Increase in soil erosion or changes in local drainage pattern			If yes, an Environment and Social management and monitoring plan to be prepared and shall include among other things: • All legally required permits (to include not limited to resource use, dumping, sanitary inspection permit) have been acquired for construction and/or rehabilitation. • Address Occupational Health & Safety (OHS) and Community Health & Safety measures during construction • Measures addressing pollution and waste management during civil work. • Use screens or nets to avoid flying debris and dust and use of regular water sprays to suppress dust • Hazardous waste separated from non-hazardous waste on site and disposed off to designated sites • Measure and report noise (decibel) levels regularly • Manage oil leaks/spills from heavy machinery • The worksite site will establish appropriate erosion and sediment control measures to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers. And keep all drains clear of silt and debris.

[25] Given the scale of operation in highly dispersed locations across the state to undertake any repair, renovation, and/or upgradation of HCF, it does not attract any large labor influx.

[26] It is expected that the HCFs to be renovated/refurbished will pass the screening criteria with no problem and will be found suitable for improvements and any small civil works required. In such cases the standard mitigation measures would be all that is needed to minimize any risk of negative environmental and social impact. The generic Environmental and Social Management Plan (ESMP) of this ESMF would apply in these cases.

[27] Toxic / hazardous material includes and is not limited to asbestos, toxic paints, removal of lead paint, etc.

Sl.No.	Key Question	Answer		Due diligence/ Actions
		Yes	No	
10	Does the facility have an Individual wastewater treatment system?			If yes, ensure that discharges into receiving waters meeting adequate water quality standards as prescribed by State pollution Control Board/ Central Pollution Control Board.
11	Is there adequate provision of clean water and sanitation services at the facility?			If no, specify the mitigation measures to be adopted to provide adequate supplies of potable drinking water.
12	Is there adequate STP-ETP/ Soak Pit if facilities are not connected to the municipal wastewater scheme?			If No, adequate wastewater treatment and disposal systems, such as package treatment plants and chlorination, where appropriate for the size, capacity, and services offered at the health facilities.
13	Is BMW being suitably segregated? (This includes clinical waste, sharps, pharmaceutical products, cytoxic and hazardous chemical waste, radioactive waste, organic domestic waste, non-organic domestic waste)			If No, then specify the on-site measures/ equipment needed for waste segregation and follow CPCB guidelines on (i) CPCB Implementation Guidelines for Management of Healthcare Waste in Health Care Facilities as per Bio Medical Waste Management Rules, 2016 (ii) Guidelines for Management of Healthcare Waste as per Biomedical Waste Management Rules, 2016 (iii) Guidelines for Bar Code System for Effective Management of Bio-medical Waste
14	Is the subproject facility connected to an offsite CBMWTF?			If No, then specify the on-site measures for waste disposal.
15	Is all Biomedical equipment in good working condition?			If no, specify how this will be mitigated.
16	Are appropriate colour coded Bins/ bags provided for bio-medical waste disposal?			If no, specify how consumables will be provided at HCF level, and follow CPCB Guidelines for Bar Code System for Effective Management of Bio-medical Waste
17	Is there SOP to manage accidents/ spills at subproject facility level including mercury			Develop SOP for accident management and systems for reporting and recording: i. Occupational accidents and diseases ii. Dangerous occurrences and incidents iii. These systems should enable workers to report immediately iv. Follow CPCB guidelines on management of mercury. [28]

[28]http://cpcb.nic.in/uploads/hwmd/Guidelines_for_ESM_MercuryW_fromHCFs.pdf

Sl.No.	Key Question	Answer		Due diligence/ Actions
		Yes	No	
18	Are healthcare and sanitation workers provided with necessary and appropriate health screening, precautionary measures and immunizations?			If no, ensure the following practices are implemented: i. Yearly health screening of all Veterinary facility/ laboratory and Sanitation staff ii. Immunization for staff members as necessary (e.g., vaccination for hepatitis B virus, tetanus) iii. Provisions of gloves, masks, and gowns iv. Adequate facilities for hand washing are available. If hand washing is not possible, appropriate antiseptic hand cleanser and clean cloths / antiseptic towelettes should be provided. v. Adequate procedures and facilities for handling dirty linen and contaminated clothing
19	Does the facility have appropriate fire safety Infrastructure and norms?			If No, Fire safety recommendations applicable to occupational areas are presented under 'Occupational Health and Safety' in the WBG General EHS Guidelines[29] Additional recommendations for fire safety include: i. Installation of smoke alarms and sprinkler systems ii. Maintenance of all fire safety systems in proper working order, including ventilation ducts, escape doors. iii. Training of staff for operation of fire extinguishers and evacuation procedures iv. Development of facility fire prevention or emergency response and evacuation plans with adequate guest information (this information should be displayed in HCF main locations and clearly written in relevant languages).

Veterinary Facility/ Laboratory In-charge

Name……

Designation: ……

Phone No. ……

Signature …….

Date: ……

[29]https://www.ifc.org/wps/wcm/connect/9aef2880488559a983acd36a6515bb18/2%2BOccupational%2BHealth%2Band%2BSafety.pdf?MOD=AJPERES

Annexure – 7: Grievance Redressal

1. The participating states leverage existing country systems to receive, resolve and manage grievances. The main channels for grievance redressal are:

a) Using Right to Information (RTI) Act to get information and resolution of grievances as mandated under the Act. All states and departments follow RTI and have deputed officials looking after the RTI within their department.

b) Call centers and Toll-Free numbers. All AHDs in the participating states have Toll free helpline numbers such as Assam (1062), Karnataka (8277 100 200), Odisha (155 333), Maharashtra (1800 2330 418) and Madhya Pradesh (1962). These are not only used for seeking information but also for feedback and grievances.

c) Grievances are also registered through Chief Minister's (CMs) grievances portals in most participating states. The centralized grievance cells and portals[30] in the participating states, under the Department of Personnel Administration and Reforms (DP&AR), are well used in Karnataka, Odisha and Maharashtra. On receipt of the grievances, initial screening is done at DP&PR and forwarded to the concerned department for resolution. The concerned departments make further investigations and address the grievances and report back to DP&PR where the grievances are monitored and tracked online.

d) Registration of grievances can also be done through written application through veterinary institutions and/or AHD offices at district and block/ mandal level across the states. With majority of these grievances resolved locally, tracking them at state level is lacking in many cases.

e) Veterinary institutions/ para vets; and (d) Centralized Public Grievance Redress and Monitoring System (CPGRAMS) at national level by DAHD. So, the participating states have multiple mechanisms to register and redress grievances. This includes:

2. At the national level, the Centralized Public Grievance Redress and Monitoring System (CPGRMS) is an online web-enabled system (https://pgportal.gov.in/) in association with Directorate of Public Grievances (DPG) and Department of Administrative Reforms and Public Grievances (DARPG) to register and track grievance. And is being used in all Central Ministries and Departments including for MORTH. Any State specific grievances can also be lodged here which are further directed to respective state and department for resolution and reported back through CPGRMS system. The schematic description of grievance flow in CPGRMS is as below.

3. Most of the beneficiary groups and community in general largely use the call centers, CM's grievance portal and/or the manual written complaints at the local district offices of the AHDs. While the existing mechanism of grievance redressal is working fine in each of the states, however it lacks in monitoring and reporting in a consolidated manner at the district or at the state level and requires strengthening. The AHSSOH Program will support the strengthening of the grievance redress mechanism and its integration with M&E systems.

4. CPGRAMS (Centralized Public Grievance Redress and Monitoring System), a common portal for Central Government's 89 departments to receive complaint from aggrieved persons/parties concerning services offered by government was launched in its present form in 2017. Currently, there are 67300 registered organizations with CPGRAMS in which all Central and State/UT government departments are signatories. Department of Administrative Reforms and Public Grievances (DAPRG) reported that 93 percent complaints were received through CPGRAMS and other state level grievance redressal portals during 2020.

[30] *https://janaspandana.karnataka.gov.in/english* in Karnataka; *https://janasunani.odisha.gov.in/* in Odisha, and *https://grievances.maharashtra.gov.in/en* in Maharashtra.

5. CPGRAMS is a well-functioning system for grievance receipt and redressal is credited with disposing of 87 percent grievances in less than 45 days. Out of 882,022 grievances received since its launch, 867,248 have been disposed by respective departments. The portal offers a smooth process for complainants and grievances are quickly resolved as they are marked to the portals of President of India, Prime Minister's Office and Cabinet Secretariat in addition to PGO/Field office. Once the complaint is submitted, respective Department nodal officers or state nodal officers take it up for resolution. If the said grievance/complaint is not redressed in 45 days, it is submitted to Nodal Appellate Authority, Sub Appellate Authority for final resolution.

6. CPGRAMS does not cover RTI matters, court related/ sub-judice matters, religious matters and service matters of government employees. The complaints are dominantly relating to development programs of central government in addition to reporting of mal-functional state level services. The category of complaints received from states are specific to (i) pashu sakhi & Para veterinarian not reporting, (ii) veterinary doctor unavailability at dispensary and veterinary hospitals, (iii) non-payment of insurance in case of death of animal (iv) non-attendance of treatment call (v) artificial insemination, castration and de-worming not undertaken, (vi) non-referral for minor surgery, (vii) unavailability of tele-medicine facility and medicines, (viii) poor condition of hospital building and infrastructure, (ix) compensation for death of animals due to natural calamities, diseases/toxicities, (x) seeking assistance under various animal husbandry schemes, (xi) and posting of veterinary doctors and livestock inspectors in veterinary institutions.

7. Department of Animal Husbandry and Dairying (DAHD) has a separate unit to handle complaints submitted through CPGRAMS with a Joint Secretary rank officer overseeing the process. The unit is responsible for marking the complaints to the concerned grievance officers within the department and they follow up with the respective officials till the disposal of complaints. An analysis of the number of complaints lodged and disposed of during 2019-20 and 2020-21 shows that DAHD received 1583 complaints and 393 unresolved complaints were brought forward from 2018-19. At the end of 2019-20, 1832 out of 1976 complaints were disposed of and 144 complaints remained unresolved. In 2020-21 the number of complaints were 2439, out of which 2274 were disposed of and 166 remained unresolved and brought forward to 2021-22.

8. An analysis of grievances received by DAHD on CPGRAMS from five program states indicate higher resolution rate of grievances. The number of grievances brought forward for redressal in the next year shows actively functioning departmental grievance redressal system and appellate authority committed to redress the grievances.

Table 17: Programme state wise grievances received in CPGRAMS

Year	Name of State	Brought forward from previous year	Grievances Received	Grievances pending	Grievances disposed
2019-20	Assam	1	11	2	10
	Karnataka	17	82	7	92
	Madhya Pradesh	6	60	7	59
	Maharashtra	32	166	18	180
	Odisha				
2020-21	Assam	2	15	3	14
	Karnataka	6	424	5	425
	Madhya Pradesh	8	46	12	42
	Maharashtra	13	233	10	241
	Odisha	1	16	1	16
	Assam	2	14	0	16
	Karnataka	17	102	3	116

Year	Name of State	Brought forward from previous year	Grievances Received	Grievances pending	Grievances disposed
2021-2022 (till 20th June)	Madhya Pradesh	12	35	0	47
	Maharashtra	10	118	7	121
	Odisha	1	14	3	12
Source: CPGRAMS, DAPRG, GoI					

9. **State Grievance Redressal Mechanism:** The program states have institutionalized grievance redressal system to receive complaints through Helpline numbers, Online posting, Media/social media and by hand submission. In Karnataka, *Janaspandana* – an integrated public grievance redressal system is used to receive complaints from individual complainants through call centre (1902) in addition to department level complaint cells headed by a Deputy Director. In Maharashtra, Aaple Sarkar – grievance redressal portal uses a citizen call centre number (1800 120 8040) to receive complaints (24x7). In Madhya Pradesh, CM Helpline (181) is used in addition to online mode for receiving complaints, whereas in Assam CPGRAMS is used for lodging complaints apart from in person submission and reporting in media/social media. In Odisha Jana Sunani portal is used to lodge complaints in which provision of submitting complaints using WhatsApp, email and mobile app is available for the citizens.

10. The program states have dedicated divisions in General Administration or Public Grievances Department to handle the complaints lodged by aggrieved persons/parties. The escalation hierarchy for handling complaints and the number of days (21-45 days) provided to resolve a complaint differs in program states. The number of complaints received and resolved in a particular year by state grievance redressal system exhibits the efficacy of the system. According to reports by Animal Husbandry Dept in states, complaints received are similar in nature and pertains to veterinarian, para veterinarian, *pashu Sakhi*, medicine unavailability, poor services offered by dispensaries and veterinary hospitals and under-delivery of benefits provided in animal health and livestock development schemes.

Table 18: Information Matrix on Grievance Redressal Mechanism in Programme States

Description	Assam	Karnataka	Maharashtra	Madhya Pradesh	Odisha
Escalation Hierarchy	District Veterinary Officer > Addl Director HQ >> Director AHR Veterinary >>> Joint Director >>>> Director AHR Veterinary	District Vet Officer > Deputy Director, in-charge of Grievances >> Director/Commissioner, AHD	District Collector > Dept. Nodal Officer > Director/Commissioner	District Veterinary Officer > Divisional Veterinary Officer >> Joint Director >>> Director	CDVOs/Collectors > Director AH & VS >> Principal Secretary, F &ARD >>> Chief Secretary >>>> Chief Minister
Category of Complaints	Not reported	Pashu Sakhi not reporting, vet doctor unavailability at dispensaries, animal insurance payment etc.	Clinical services, information about schemes, medicine unavailability, vet doctor, paravet at dispensaries, poor condition of building/infrastructure, compensation in case of death of animals	Veterinarian & Para veterinarian not reporting at dispensary, treatment call not attended, AI, Castration and De-worming not undertaken, no referral for minor surgery, tele-medicine facility not available	Assistance under various government schemes, posting of veterinary doctors and livestock inspectors at vet institutions

Description	Assam	Karnataka	Maharashtra	Madhya Pradesh	Odisha
2020					
Grievances received	2	No Data	No Data	33803	No Data
Grievances disposed	2			33501	
Pending	0			302	
2021					
Description	**Assam**	**Karnataka**	**Maharashtra**	**Madhya Pradesh**	**Odisha**
Grievances received	24	132	No Data	41701	No Data
Grievances disposed	6	105		41225	
Pending	18	27		476	
2022					
Description	**Assam**	**Karnataka**	**Maharashtra**	**Madhya Pradesh**	**Odisha**
Grievances received	11	88	3111	52112	
Grievances disposed	0	87	2751	51250	77
Pending	11	1	341	862	31
Source: : State Govt Websites and information received from program states					