Council for Development and Reconstruction

Environmental and Social Management Framework (ESMF) Addendum for the Roads and Employment Project (REP) – Component 4: Agricultural Support to Small-Scale Farmers

Volume II (Appendices)

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LIST OF ACRONYMS

AEC	Arcenciel
CAS	Central Administration of Statistics
CDR	Council for Development and Reconstruction
EHS	Environmental, Health and Safety
ELARD	Earth Link and Advanced Resources Development
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GBV	Gender-Based Violence
GRM	Grievance Redress Mechanism
IBRD	International Bank for Reconstruction and Development
IFC	International Finance Corporation
ILO	International Labour Organization
ISWM	Integrated Solid Waste Management
LIBNOR	Lebanese Standards Institution
LRA	Litani River Authority
MoA	Ministry of Agriculture
MoA DAR	Ministry of Agriculture Directorate of Animal Resources
MoA RC	Ministry of Agriculture Regional Centers
MoE	Ministry of Environment
MPWT	Ministry of Public Works and Transport
MSDS	Material Safety Data Sheet
MSW	Municipal Solid Waste
NGO	Non-Governmental Organization
NSEQ	National Standards for Environmental Quality

OP	Operational Policy
PIHW	Potentially Infectious Healthcare Waste
PMP	Pest Management Plan
REP	Roads and Employment Project
SEA	Sexual Exploitation and Abuse
SWM	Solid Waste Management Agent
TPMA	Third Party Monitoring
UN	United Nations
VWMF	Veterinary Waste Management Framework

APPENDIX A – LIST OF LEGISLATIONS AND REGULATIONS RELEVANT TO REP COMPONENT 4

Law / Decree	Year	Reference Entity	Relevant Provisions
Environmental Legislations			
Law 202	2020	Parliament	Declaring plot No. 5851 in Rachaya Al Wadi, Rachaya Caza, Bekaa Governorate as Mount Hermon Nature Reserve.
Decision 152/1	2020	MoA	Creating a national Hima “protected area” in Kfarzabad, Zahle district, Bekaa governorate on the plots of the LRA.
Decision 998/1	2020	MoE	Specifying the measures and principles of application of the section of Decree 5606/ 2019 relating to hazardous waste generators and their duties (procedure for declaring hazardous waste generation/ suspension of generation, withdrawal of generated hazardous waste, and periodic reporting. • Article 1: Hazardous waste generation reporting mechanism • Article 2: Electronic database for hazardous waste generators • Article 3: Permanent cessation of hazardous waste generation from facilities • Article 4: Recall of hazardous waste from allocated storage facilities and/or treatment facility. • Article 5: Reporting to the Ministry of Environment
Law 170	2020	Parliament	Declaring the Abbassiyeh Beach as a Nature Reserve.
Law 169	2020	Parliament	Declaring plot No. 1064 located in Nabatyieh District as Nmeimiyeh Nature Reserve.
Decree 5605	2019	CoM	The decree specifies the principles for sorting domestic solid waste at the source into three categories: organic waste, recyclables, and inert waste. Section 2: • Article3: Sources of Domestic Solid Waste • Article 4: Composition of Domestic Solid Waste • Article 5: Responsibility for waste sorting • Article 6: Separation of waste according to the suitable color • Article 8: Sorting mechanism and its stages
Decree 5606	2019	CoM	The decree specifies the principles of management (sorting, storage, transport, and disposal) of hazardous waste. Section 2- Waste Generation and Transport; in specific chapter 1 (Articles 8:, 9, 10, 11 12, 13, 14, 15, 16, and 17) defines the obligations of the waste generator (and appendices defining hazardous waste).
Law 80	2018	Parliament	Integrated Solid Waste Management Law. It sets the framework for Integrated Solid Waste Management based on the principles of Law 444/2002. It combines the ISWM draft law of 2006 with thermal treatment waste to energy plants to be constructed in big cities (Tripoli, Beirut, Saida and Jieh). The ISWM law includes the following: • Article 4: Priorities of integrated solid waste management (considers the principle of preventive action and minimizing solid waste generation as a priority)

Law / Decree	Year	Reference Entity	Relevant Provisions
			• Article 7: Preventing random disposal, open dumping and burning of solid waste • Article 8: The “Polluter Pays Principle” • Article 10: National Strategy for SWM • Article 11: Local SWM programs • Articles 14 to 16: Responsibilities resulting from SWM • 20: Solid waste collection and transfer • Article 21: Sorting at source • Article 22: Solid waste treatment: reuse, recycling, composting, digestion, and energy recovery • Article 24: Final Disposal • Articles 25 to 27: Hazardous waste management • Article 28: Financing sources for ISWM • Article 29: non-monetary incentives • Articles 30 to 33: Responsibilities • Articles 34 to 37:Enforcement and penalties
Decision 456	2018	MoA	Declaring Horsh Ed-Dayaa on plots No. 3954 and 3955 in Mtein as a protected forest.
Law 77	2018	Parliament	The water resources law aims to organize, develop, and protect water resources. It also aims to promote sustainability by strengthening water establishments. It covers the following: Master plan for water resources and water basins, preserving the quality of water, financial regulations of the water sector, sanitation, compensation for pollution, management of public water utilities, addressing natural hazards that can affect the water sector, and violations and penalties.
Circular 7/1	2017	MoE	Integrated Solid Waste Management guidelines for Municipalities, Union of Municipalities, Qaemmaqams and Governors. It includes information regarding: • Sorting at source • List of establishments accepting different types of recyclables • Positive Environmental Impact related to sorting at source, and the scope of use of recyclables.
Decree 2878 and its amendment	2016	CoM	Classifying the site located on plots No. 3606, 3607, 3643, 3645, 3682 in Ehmej – Jbeil District as a natural site under the protection of MoE.
Law 257	2014	Parliament	Declaring plots No. 2744, 2751, 2752, and 2753 in Jaj – Jbeil District as Jaj Cedars Nature Reserve.
Decree 11949	2014	CoM	Classifying Kassarat Grotto located in Matn District as a natural site under the protection of the MoE.
Municipal Decision 24	2014	Qaraoun Municipality	Creating a National Hima in the cadastral area of Qaraoun, in collaboration with the Society for the Protection of Nature in Lebanon.
Municipal Decision 2	2014	Kherbit Kanafar Municipality	Creating a National Hima in Kherbit Kanafar within plot No. 3474 located in Kherbit Kanafar in collaboration with the Society for the Protection of Nature in Lebanon.

Law / Decree	Year	Reference Entity	Relevant Provisions
Municipal Decision 1	2014	Ain Zebdeh Municipality	Creating a National Hima in Ain Zebdeh on communal lands in collaboration with the Society for the Protection of Nature in Lebanon.
Decree 7494	2012	CoM	Classifying Jabal Moussa in Kesrouan District as a natural site under the protection of the MoE.
Municipal Decision 40	2012	Kfarzabad Municipality	Reactivation of the National Hima in Kfarzabad.
Decision 172	2011	MoA	Declaring the communal lands on plots No. 1335, 1336, and 275 located in Tall El Asskar – Nadi Shaqif, Nabatieh Governorate as a protected forest.
Law 201	2011	Parliament	Declaring the communal lands in Beit Leef – Bint Jbeil District as Beit Leef Nature Reserve.
Law 200	2011	Parliament	Declaring the communal lands in Debl – Bint Jbeil District as Debl Nature Reserve.
Law 199 and its amendment	2011	Parliament	Declaring the communal lands in Ramya – Bint Jbeil as Ramya Nature Reserve.
Law 198	2011	Parliament	Declaring the “Khallet Obeid” lands located in Kafra – Bint Jbeil District as Kafra Nature Reserve.
Law 122	2011	Parliament	Declaring the communal lands on plots No. 104 and 681 located in Shnaniir - Kesrouan El Ftouh District as Mashaa Shnaniir Nature Reserve.
Law 121	2011	Parliament	Declaring communal lands in Bint Jbeil District as Wadi Al Houjeir Nature Reserve.
Decision 399	2008	MoA	Declaring the plots No. 345, 346, and 347 in Jabal Moussa as aNational Hima.
Municipal Decision 21	2008	Anjar Municipality	Creating a National Hima in Anjar in collaboration with the Society for the Protection of Nature in Lebanon.
Decision 219	2005	MoA	Declaring the junipers forest in Jebab El Homer – Baalbek Hermel Governorate as a protected forest.
Decision 218	2005	MoA	Declaring the junipers forest in Kherbit Hrebshit as a protected forest.
Decision 217	2005	MoA	Declaring the junipers forest in Marj Hine a protected forest.
Decree 13389	2004	CoM	Amendment of Decree 8006/2002: • Chapter 1: General guidelines related to definitions and classification of health care institution wastes; • Chapter 2: Non- Hazardous waste • Chapter 3: Hazardous Infectious waste: • Chapter 4: Hazardous non-infectious waste • Chapter 5: Healthcare waste that requires special treatment methods • Chapter 6: Final recommendations Defines and Classifies the Types of HealthCare Institution Wastes and their Methods of Disposal.
Decision 8	2004	MoE	Classifying Baatara Sinkhole located in Tannourine as a natural site under the protection of the MoE.

Law / Decree	Year	Reference Entity	Relevant Provisions
Law 444	2002	Parliament	Sets the framework for environmental protection. Provides the principles and rules for protecting different environmental matrices (air, water, soil…) from pollution with wastewater, hazardous wastes, chemicals, and noise, etc.; and specifies the penalties for violating environmental laws. • Section 1 (Basic Principles and General Provision) • Section 2 (Organization of Environmental Protection), paragraph 4 (Environmental Monitoring Mechanisms) • Section 3 (Environmental Information System and Participation in Environmental Management and Protection) • Section 4 (Environmental Impact Assessment) • Section 5 (Environmental Protection) • Section 6 (Responsibilities and Sanctions)
Decision 22	2002	MoE	Classifying Dalhoun Forest in the Shouf District, Mount Lebanon Governorate as a natural site under the protection of the MoE.
Decision 21	2002	MoE	Classifying Al Qaraqeer Valley located in Zgharta District as a natural site under the protection of the MoE.
Decision 19	2002	MoE	Classifying Al Qammoua Area in Akkar Governorate as a natural site under the protection of the MoE.
Law 11	1999	Parliament	Declaring plots no. 713 and 714 in Bentael - Jbeil District as Bentael Nature Reserve.
Law 10	1999	Parliament	Declaring the communal lands in Yammouneh - Baalbek as Yammouneh Nature Reserve.
Law 9	1999	Parliament	Declaring the communal lands of cedars forest of Tannourine as Tannourine Cedars Forest Nature Reserve.
Law 708	1998	Parliament	Declaring Tyre Coast as a nature reserve: The nature reserve includes several plots with a total area of 3,883,253.00 m^2, in addition to the sady beach facing these plots and the territorial sea.
Decision 189	1998	MoE	Classification of Al Assi River as a Natural Site under the protection of the MoE from its source (Ain Ez-Zarqa and Al-Rafas springs in Magharet Ar-Raheb in Hermel) to its outlet at the Lebanese-Syrian borders.
Decision 188	1998	MoE	Classification of Arka River as a Natural Site under the protection of the MoE. The site includes the following: from Wadi Al-Houwaish to Tallet Nmair, Naher Al-Mayet, from Wadi Al-Mashaher to Tallet Nmair, from Ain Zahle to Ain El-Ghara, and from Ain Al-Ghara to its mouth in the Mediterranean Sea.
Decision 187	1998	MoE	Classifying Al Makmel Mountain in North Lebanon Governorate as a natural site under the protection of the MoE.
Decision 132	1998	MoE	Classifying forests between Ain El Hour- Daraya- Debiyé- Bérjin; Sheikh Osman Forest; Deir al Mokhalis surrounding; Ain w Zein Hospital surrounding; Dalboun forest; Al Mal valley; Kafra wells; Ainbal valley sites located in Shouf district as natural sites under the protection of the MoE.

Law / Decree	Year	Reference Entity	Relevant Provisions
Decision 131	1998	MoE	Classification of Al Awali River as a Natural Site under the protection of the MoE from Barouk region with its tributaries, passing thorugh the Bisri Valley and up to its outlet in Al Awali area.
Decision 130	1998	MoE	Classification of Beirut River as a Natural Site under the protection of the MoE from its source to its mouth. The site includes Ard Ain El-Ma' and Ain El-Hashish watercourses.
Decision 97	1998	MoE	Classification of Al Kalb River as a Natural Site under the protection of the MoE. The site includes: • Naher Sannine from its source in Sannine, passes through Wadi Al-Jamajem, joins Nahr As-Salib, and empties in Al Kalb River Naher; • Naher As-Salib which starts from Al-Ouayne, passes through Wadi Chabrouh and Wadi Al-Ghara, and empties in Al Kalb River; and • Naher Al-Msan from Al-Laban spring to Al Kalb River.
Decision 129	1998	MoE	Classification of Al Damour River as a Natural Site under the protection of the MoE from Nabaa As-Safa and all the tributaries to its mouth in Damour. The site also includes streams in the following sites: Kfarnis, Selfaya, Remhala, Wadi Ain Bal, Maasser Beiteddine, Baakline, Deir El Qamar, Beiteddine, Naher Al-Hamam and the confluence of the two rivers.
Decision 22	1998	MoE	Classification of Al Jawz River in Batroun District as a Natural Site under the protection of the MoE. The site extends from the source of the river in Kfarhilda village to its mouth near Mseilha Fort.
Decision 151	1997	MoE	Classifying Kadisha Valley in Bsharreh as a natural site under the protection of the MoE.
Decision 174	1997	MoE	Declaring Chebaa Valley as a National Hima.
Decision 34	1997	MoE	Classifying Ibrahim River in the District of Jbeil from its source to the sea outfall as a natural site under the protection of the MoE.
Decision 11	1997	MoE	Declaring the cedar, fir, and juniper forest in Wadi Jouhannam as a protected forest.
Decision 10	1997	MoE	Declaring the cedars and cypress forest in Sfineh – Akkar as a protected forest.
Decision 9	1997	MoE	Declaring the cedars and junipers forest in Jord En-Njas – Jabal Al Arbaiin in Danniyeh as a protected forest.
Decision 8	1997	MoE	Declaring the cedars, firs, junipers, oaks, and cypress forest located in Karm El Mahr and Qornet El Keif – Danniyeh as a protected forest.
Decision 3	1997	MoE	Declaring the pines, cypress, and oaks forest in Bkassine – Jezzine as a protected forest.
Decision 52/1	1996	MoE	Specifying the National Standards for Environmental Quality (NSEQ) and the Environmental Limit Values (ELVs) for air, water, and noise: • Section 1 (Drinking Water Standards) • Section 2 (Surface Water for Human Use Standards) • Section 3 (Standards for Water Bodies Supporting Aquatic Life)

Law / Decree	Year	Reference Entity	Relevant Provisions
			• Section 14 (Ambient Air Quality standards)
Law 532	1996	Parliament	Declaring the Shouf Cedars nature reserve.
Decision 592	1996	MoA	Declaring the cedar, fir, juniper, oak, and cypress forest in Knat as a protected forest.
Decision 591	1996	MoA	Declaring the forest of cedar, fir, juniper, oak, and cypress trees as a protected forest.
Decision 589	1996	MoA	Declaring the forest of cedar, fir, and juniper trees in Karm Shbat – Akkar, as a Nature Reserve.
Decision 588	1996	MoA	Declaring the cedars, fir, and juniper forest in Qammoua as a protected forest.
Decision 587	1996	MoA	Declaring the cedars forest in Swaysi – Hermel as protected forest.
Decision 499	1996	MoA	Declaring Cedar forests in Bsharreh, Tannourine-Hadath El Jebbeh, and Jaj as protected forests.
Law 121	1992	Parliament	Declaring two (2) nature reserves: Horsh Ehden in Zgharta District, and Palms, Sanany, and Ramkeen Islands facing the shore of Tripoli.
Decision 152	1992	MoA	Declaring Horsh Hbeline within communal lands in Hbeline village – Jbeil District a National Hima.
Decision 21	1992	MoA	Declaring a National Hima in Khirbet Selm El Shelh, Zabadani, and Wadi El Houjeir – Bint Jbeil District within communal lands.
Decision 165	1991	MoA	Declaring a National Hima at Al Qammoua Mountain – Akkar.
Decision 129	1991	MoA	Declaring a National Marine Hima at the Marine Sciences Center in Batorun.
Decision 127	1991	MoA	Declaring the communal lands in Maasser El Shouf, Barouk, Ain Zhalta, and Ain Dara a National Hima.
Law 64/88	1988	Parliament	Environmental protection against hazardous waste that could harm air, water, biodiversity, soil, and people; states fines for activities that result in pollution and hazards to the environment and public health. • Table 1 (specifies hazardous substances and non-hazardous waste) – updated by Decree 5606.
Law 973/74	1974	Parliament	Relating to solid waste pollution; followed by application Decree No. 8735.
Decision 320	1926	High Commissioner	Related to the protection and use of water bodies belonging to the public domain.
Agricultural and Pesticides Legislations			
Law 158	2020	Parliament	Organization of the Organic Farming Sector.
Decree 5706	2019	CoM	Grants a legally binding status to the LIBNOR standards related to fertilizers and soil conditioners.
Decision 469	2016	MoA	Conditions for licensing the profession of importing fertilizers and soil conditioners.

Law / Decree	Year	Reference Entity	Relevant Provisions
Decision 468	2016	MoA	Conditions for registering fertilizers traded in Lebanon.
Decision 1042/1	2013	MoA	Organization and control of the import of fertilizers and soil conditioners to Lebanon.
Decision 542/1	2012	MoA	Establishment and Organization of the National Register of Organic Farming to have efficient inspection over this sector.
Decision 767/1	2012	MoA	Mechanism for joining the list of national experts in organic production.
Decision 1102/1	2012	MoA	Amendment of MoA Decision 507/1 with respect to the allowed concentration chemicals in the fertilizers, as well as to the labelling requirements of the fertilizers.
Decision 507/1	2012	MoA	Classification and registration of fertilizers and soil conditioners.
Decision 48/1	2012	MoA	Control of the use of raw materials from antibiotics (joint decision with the Ministry of Public Health).
Decision 791/1	2011	MoA	Classification of fertilizers and soil conditioners.
Decision 790/1	2011	MoA	Conditions for pre-licensing the profession of selling fertilizers and soil conditioners.
Decision 789	2011	MoA	Conditions for pre-licensing the profession of importing fertilizers and soil conditioners.
Decision 1033/1	2011	MoA	Organization of the Organic Farming Sector.
Decision 294/1	2011	MoA	Bans the import and registration of some growth regulators 4-Chlorophenoxyacetic acid (4-CPA), Naphtyl oxyacetic acid (NOA), Naphtylacetic acid hydrazide (NAA), N-Phenyl Phthalamic acid, β-Naphtyl oxyacetic acid (β NOA).
Decision 496/1	2010	MoA	Regulating sampling methods and transportation of the samples for imports.
Decision 49/1	2009	MoA	Amendment of the Decision No. 326/1 dated 15/10/2004 (Reactivation of the MoA Laboratory in Kfarchima for the analysis of agricultural chemicals).
Law 68/6	1968	Parliament	Regulating the trade of fertilizers, agricultural medicines and fodder.
Decision 2351	1946	Ministry of Economy	Subjecting chemical fertilizers to a controlled distribution system.
Social Legislations			
Law 205	2020	Parliament	Criminalizes sexual harassment which is defined as follows: any bad and repetitive behavior that is unordinary, unwelcome by the victim, carries a sexual connotation, and that constitutes a violation of the body, privacy, or feelings. Sexual harassment might take place at any location and through sexual words, acts, signs, allusions, and through any means including electronic means. The penalization of sexual harassment acts is up between one month and one year in prison, with a fine of 3 to 10 times the minimum wage, or one of these measures. In the context of a subordination / dependence or work relationship, or if it is against a vulnerable person or one with special needs, it is considered a serious crime,

Law / Decree	Year	Reference Entity	Relevant Provisions
			and prison time and fines can be increased to up to 4 years and 50 times the minimum wage, depending on the case.
Decision 291/	2018	MoL	Restricts a substantive number of jobs to Lebanese citizens in order to protect the workforce and reduce unemployment. These consist of all jobs practiced by Lebanese citizens include tiling, plastering, gypsum board, iron, wood and aluminum profile installation and other decorative tasks. Engineering is also restricted to Lebanese citizens. On March 21, 2018, a clarification letter was issued by MoL regarding Decision 29/1, which states that Syrians are allowed to occupy jobs in the construction sector that are not restricted to the Lebanese as per Decision 29/1 of 2018.
Law 340 – Penal Code (Abolishment of Article 522)	2016	Parliament	Abolishment of Article 522 of the Penal Code that exempts a rapist from punishment if he marries his victim.
Decree 3791 (amending Decree 7426 of 2012)	2016	CoM	Set and apply the official minimum wage for employees and workers subject to the labor law and the cost of living ratio. Raises the minimum daily wage to 26,000 LBP.
Law 293	2014	Parliament	Law on the Protection of Women and Family Members from Domestic Violence. Advances women's rights and safety. Establishes important protection measures and related policing and court reforms.
Decree 8987	2012	MoL	Forbids the employment of adolescents and children under 18 years of age in jobs that pose a risk to their health, safety and behavior
Decree 11802	2004	CoM	Organizing occupational safety, safety and health in all institutions subject to labor law Provides the general regulations for the prevention of occupational hazards and accidents, and the promotion of health and safety in all industrial establishments subject to the Labor Law. These cover prevention and safety, occupational health, the safe use of chemicals at work, as well as occupational noise standards.
Law 207	2000	Parliament	Prohibits all forms of discrimination between men and women in the workplace concerning employment type, remuneration, employment, promotions and raises, vocational training and attire.
Decision 49/1	1997	MoL	Forbids the employment of adolescents and children under 18 years of age in non-industrial settings, unless a medical examination proves them apt to perform such work.
Labor law and its updates	1946	MoL	Sets the framework and rules governing the relationship between employers and employees, including: • Minimum age of employment: 13 years (if the candidate is in good health); subject to yearly medical examinations until the age of 18. • Minimum age for employment in industrial workplaces and tedious tasks and works requiring substantial physical effort, or those posing health risks: 15 years • Minimum age for employment on tasks and works that pose risks or hazards to health and safety: 16 years

Law / Decree	Year	Reference Entity	Relevant Provisions
			• Employment record issued by the Ministry of Labor specific to every employee, comprising name, nationality, employer name, photograph, specialty, health consultations, and dates of joining and leaving each establishment. • Working hours for employees under the age of 18 years: ≤o hours, including a one-hour break following 4 continuous working hours. Working hours must exclude the period between 7:00 pm and 7:00 am. • Adolescent employees must be given a resting period of at least 13 consecutive hours between two working shifts. Overtime work and work during breaks, on weekends and holidays are forbidden for adolescents. • Minimum vacation days for adolescents: 21 days following employment for a complete year; 2/3 of which must be taken continuously. • No gender discrimination is allowed in the workplace regarding work type, remuneration, employment, promotion, training and clothing. Employment of women in industrial settings and other tedious and risky works is forbidden. • The right of women for a paid maternity leave (10 weeks according to the latest legislation) • It is forbidden to fire women during their maternity leave • Maximum weekly working hours: 48 hours with a 1-hour break (mid-day) • Working hours can be reduced based on the level of physical effort required by the job • Right of employees to a continuous 9-hour resting period during a working day • The right of employees for a continuous 36-hour break every week • The right of employees hired since at least 1 year to 15 days of vacation per year, without the right of employers to fire employees during their leave. • The right of employees to a paid occupational sick leave in case of occupational accident, the duration of which varies based on the case.

APPENDIX B – STRATIGRAPHY AND HYDROSTRATIGRAPHY OF LEBANON

Period / Age	Lithology (Coast – Bekaa)	App. Thickness (m)	Formation Name/ Code	Lithology	Aquifer Type	Suggested Code	Description/ Karstification
QUATERNARY		up to 100	Quaternary (Q)	Sandy beaches, detrital LS, conglomerates, volcanic coastal or alluvial deposits	Aquiclude	BQ Qcg	Major porous medium semi-Aquifer. GW might percolate to and from the underlying aquifers especially in the Bekaa plain.
TERTIARY – NEOGENE – MIOCENE – PLIOCENE		50-100	Pliocene (Pl)	Mostly volcanic rocks with marl and conglomerate	Aquiclude	BP Pcg ncg	The volcanic layer acts as an aquiclude with small quantities of water in fractured zones especially in Bekaa plain.
5.3 Ma – Upper		50-100	Miocene (mcg)	Conglomerates, sandy, silty, and marl deposits	Aquifer	mcg	Porous medium aquifer. Water might leak to the underlying aquifer.
Middle		300-400	Miocene (mL)	Reef, marly LS, continental conglomerates, marl, lignites, sequence of thick fractured LS	Aquifer	mL	Acts as an important karstic aquifer under favorable conditions. GW is stored and transmitted in fractures and conduits.
Lower							
24 Ma – TERTIARY – PALEOGENE – OLIGOCENE				No Strata Preserved Unconformity			Possible leaking from Quaternary and Miocene Aquifer into the underlying Eocene aquifer.
EOCENE		200-600	Eocene (e2b)	Marly, chalky, cherty LS, some nummulitic LS	Aquifer	e2b	Important aquifer. Major karstification and high recharge. Mostly present in South Lebanon.
PALEOCENE		150-200	Eocene (e2a)	Some fractured marly to chalky LS			
64 Ma – Maastrichtian		50-?	Paleocene (Pa)		Aquiclude	C6-Pa-e2a	The marls of this sequence act as an aquiclude separating major aquifers above and below this unit.
Campanian		100-500	Chekka (C6)	White chalks, marly chalks with phosphate & chert nodules and bands. Upper unit with Paleocene not well defined			
Santonian							
Coniacian							
JURASSIC – CRETACEOUS – UPPER – Turonian		200-300	Maameltain (C5)	Massive to thin bedded white-gray LS & marly LS			Combining those limestone formation to create one of the major water towers in Lebanon, it is widely exposed and highly karstified. Major recharge of this aquifer is from snow. GW is stored and transmitted in fractures and conduits. Upper unit of the Hammana Formation is part of the C4-C5 Aquifer.
91 Ma – Cenomanian – Upper		500-600	C4c / C4b / C4a – Sannine	Pale gray, fractured fine and thick bedded LS and marly LS with geodes & chert	Aquifer	C4-C5	
Middle							
Lower							
LOWER – Albian		100-400	Hammana (C3)	Brown-green marls, carbonates, local basalts grades into limestone at the top	Aquiclude	C2-C3	GW percolating from the upper units is trapped at the marls and volcanic rocks that act as an impermeable layer.
Aptian		50	Mdairej (C2b)	Pale gray, massive fractured cliff forming LS	Semi-Aquifer		Aquifer under favorable conditions especially in the karstic limestone units.
Berremian		50-170	Abeih (C2a)	Brown-green units of argillaceous LS, marls & SS	Aquiclude		
124 Ma – Hauterivian		10-300	Chouf Sandstone (C1)	Ferruginous brown to white, coarse to fine SS with quartz, clay, coal, lignites & local volcanics	Semi-Aquifer	C1	Porous medium aquifer allows the passage and minor storage of GW. Volcanic rocks and clay horizons act as impermeable layers with perched GW build up above them.
Valanginian							
Berriasian				Unconformity			Possible leaking from the C1 Semi-Aquifer into the lower karstic units.
144 Ma – Tithonian		40-180	Salima (J7)	Brown, yellow, ferruginous oolitic LS, marls & shale	Semi-Aquifer	J6-J7	GW might leak to the underlying formations through fractures because of structural disturbances. Acts as an important karstic aquifer under favorable conditions. GW is stored and transported in fractures and conduits.
UPPER – Kimmeridgian		50-80	Bikfaya (J6)	Pale massive fractured micritic, dolomitic LS & chert			
Oxfordian		50-100	Bhannes (J5)	Brown-yellow detrital and oolitic LS, basalts, tuff pyroclastics, shales & marl	Aquiclude	BJ 5	Divided into two units: Basalt and LS. Areas of volcanics are taken as a single unit while the LS unit is considered as one major aquifer with the J4.
164 Ma – Callovian		1000 - 1500	Kesrouane (J4)	Pale gray fractured LS, dolomite & dolostones, massive to bedded with local chert, marls & volcanics	Aquifer	J4	One of the major water towers of Lebanon. Intensely and deeply karstified to the lower units. One of the widest exposed karstified unit in Lebanon Exposed thickness around 1000m. Dolostone and dolomite are mostly found in north and south Lebanon. GW is stored and transmitted in fractures and conduits.
MIDDLE – Bathonian							
Bajocian							
Aalenian							
180 Ma – Toarcian							
LOWER – Pliensbachian							
Sinemurian		100 ?	Chouane (J1)	Some dolomites, dark laminites and collapse breccias	Semi-Aquifer	-	The presence of dolomite might be related to the major faulting and recrystallization of LS. These dolomites might have a porosity up to 20%.
Hettangian							
205 Ma – TRIASSIC		300-450	Triassic	Marly LS, shale and possible anhydrite unit	Semi-Aquifer	T	It might be considered as a semi-aquifer not exposed or studied in Lebanon.

LS: Limestone SS: Sandstone GW: Groundwater

Thin Bedded Shelf limestone
Massive Bedded Shelf limestone
Marly Limestone
Shales, sands and limestone
Sandstone
Clays/shales
Beach deposits
Shales, limestone and sand
Chalks
Dolomitic Limestone
Anhydrites
Conglomerates, Marl and sand

Coals or lignites
Corals
Nummulitic carbonates
Collapse Breccias
Basaltic volcanic
Chert Nodules
Possible spring positions

APPENDIX C – DEMOGRAPHIC PROFILE OF LEBANON

Resident Lebanese Population Distribution by Governorate and Caza in 2019 (CAS/ILO/EU, 2020)

Governorate	Caza	Population
North	Minieh-Danniyeh	140,800
	Tripoli	243,800
	Zgharta	87,700
	Koura	58,900
	Bcharreh	22,100
	Batroun	58,900
Total		637,900
Akkar	Akkar	324,000
Total		324,900
Bekaa	Zahleh	177,400
	Rachaya	86,400
	West Beqaa	33,800
Total		297,700
Baalbek-Hermel	Baalbek	214,600
	Hermel	30,500
Total		245,100
Nabatieh	Nabatiyeh	180,200
	Hasbaiya	28,700
	Marjaayoun	74,000
	Bent Jbayl	96,200
Total		379,200
South	Saida	296,600
	Sour	255,700
	Jezzine	32,100
Total		584,400
Mount Lebanon	Jbayl	129,500
	Keserwan	260,500
	Metn	511,000
	Baabda	553,800
	Aaley	300,500
	Chouf	277,000
Total		2,032,600
Beirut	Beirut	341,700

Governorate	Caza	Population
Total		341,700
Total Population		**4,842,500**

Lebanese Resident Population Distribution by Age Group and Gender in 2019 (CAS/ILO/EU, 2020)

Age Groups	Percentage		
	F	M	Total
0-4	3.9	3.9	7.8
5-9	4.0	4.4	8.4
10-14	3.8	4.0	7.8
15-19	4.2	4.2	8.4
20-24	4.8	4.3	9.1
25-29	4.1	3.6	7.7
30-34	3.4	3.2	6.6
35-39	3.2	2.9	6.1
40-44	3.0	2.6	5.6
45-49	2.9	2.6	5.5
50-54	3.2	2.8	6
55-59	2.9	2.4	5.3
60-64	2.3	2.1	4.4
65-69	1.8	1.6	3.4
70-74	1.5	1.3	2.8
75-79	1.0	1.0	2
80-84	0.9	0.7	1.6
85+	1.5	1.2	2.7
Total	**51.6**	**48.4**	**100.0**

APPENDIX D – VETERINARY WASTE MANAGEMENT FRAMEWORK

1. INTRODUCTION

1.1. BACKGROUND

The vaccination campaign under the Subcomponent 4-2 will support 10,000 vulnerable herders throughout the country, out of which 1,000 are women herders. Around 1 million vaccine doses are expected to be delivered for different types of livestock production (dairy cows, goats, and sheep). These include Foot-and-Mouth Disease (FMD), Lumpy Skin Disease (LSD), Sheep and Goat Pox (SGP), and Peste des Petits Ruminants (PPR) vaccines. The eligibility criteria for this programme are set by MoA and FAO. In order to be eligible, the farmer should own a number of heads equal to or below the threshold set by the agencies (i.e. 10 dairy cows or a maximum of 75 sheep or goats). The average number of livestock heads in each governorate is shown in Table 1. The programme will cover the logistics (including the equipment and transportation) and personnel support costs to have a successful implementation of the sub-component. The vaccination campaigns will occur on site in the selected farms.

Table 1 Average number of livestock heads per holding

Governorates	Average Cattle Heads	Average Sheep Heads	Average Goats Heads
Mount Lebanon	13	34	55
North	4	39	30
Bekaa	21	109	121
Baalbek-Hermel	9	83	64
Akkar	2	35	48
South	9	39	95
Nabatiyeh	8	38	94

The vaccination campaign could generate waste, some of which is potentially hazardous while the rest can be treated as regular waste. Two categories of waste are expected to be generated (1) Sharp waste (all needles, syringes with attached needles, suture needles, scalpels, and similar wastes); and (2) Empty vaccine vials. The classification of waste as hazardous or not will be based on international standards as well as on Lebanese laws *(see more details in Section 3.3)*

1.2. REPORT OBJECTIVES

The objectives of this Veterinary Waste Management Framework (VWMF) for the Livestock Vaccination Programme are to outline the required measures for the safe and environmentally sound management of veterinary waste (including sharp hazardous waste and non-hazardous waste) that will be generated as a result of the nation-wide animal vaccination programme under Component 4, sub-component 4-2. This covers all steps from handling and storage of the veterinary medical waste upon administration of the vaccines, to their collection and transportation, treatment until their final disposal. The report also covers the management of non-hazardous waste from the vaccination campaign.

2. INSTITUTIONAL, POLICY AND REGULATORY SETUP

2.1. RELEVANT REGULATIONS

In Lebanon, a set of legislation serves as a basis for safe healthcare waste management that meets the national regulations, and ensures compliance with international treaties that the Government of Lebanon has signed.

This VWMF shall abide by the Lebanese regulations that govern acceptable waste management practices in Lebanon as stipulated by the Ministry of Environment (MoE)

Table 2 below presents the main legislative texts governing environmental protection and the management of waste, including medical and veterinary waste in Lebanon.

Table 2 Overview of the Lebanese Legislations Relevant to the Veterinary Waste Management Framework for the Livestock Vaccination Programme

Legislation number and Year	Title	Reference Entity	Relevant Provisions
Decree 5605 of 2019	Domestic Waste Sorting at Source	CoM	The decree specifies the principles for sorting domestic solid waste at the source into three categories: organic waste, recyclables, and inert waste. Section 2: • Article3: Sources of Domestic Solid Waste • Article 4: Composition of Domestic Solid Waste • Article 5: Responsibility for waste sorting • Article 6: Separation of waste according to the suitable color • Article 8: Sorting mechanism and its stages
Decree 5606 of 2019	Determination of the Fundamentals of Hazardous Waste Management	CoM	The decree specifies the principles of management (sorting, storage, transport, and disposal) of hazardous waste generated as part of the vaccination programme. Section 2- Wastes Generation and Transport; in specific chapter 1 (Articles 8, 9, 10, 11 12, 13, 14, 15, 16, and 17) defines the obligations of the waste generator, especially with respect to waste generation and transportation.
Law 80 of 2018	Integrated Solid Waste Management	Parliament	Integrated Solid Waste Management Law - sets the framework for Integrated Solid Waste Management based on the principles of Law 444/2002. It combines the ISWM draft law of 2006 with thermal treatment waste to energy plants to be constructed in big cities (Tripoli, Beirut, Saida and Jiyeh). The ISWM law includes the below; the most pertinent to the current Project are highlighted in bold font in order to ensure the proper management of domestic and hazardous infectious waste generated as part of the vaccination programme: • **Article 4: Priorities of integrated solid waste management (considers the principle of preventive action and minimizing solid waste generation as a priority)** • **Article 7: Preventing random disposal, open dumping and burning of solid waste** • **Article 8: The "Polluter Pays Principle"** • Article 10: National Strategy for SWM • Article 11: Local SWM programs • **Articles 14 to 16: Responsibilities resulting from SWM** • **Article 20: Solid waste collection and transfer** • **Article 21: Sorting at source** • Article 22: Solid waste treatment: reuse, recycling, composting, digestion, and energy recovery • **Article 24: Final Disposal**

Legislation number and Year	Title	Reference Entity	Relevant Provisions
			• **Articles 25 to 27: Hazardous waste management** • Article 28: Financing sources for ISWM • Article 29: non-monetary incentives • Articles 30 to 33: Responsibilities • Articles 34 to 37:Enforcement and penalties
Decree 13389 of 2004	Types and Management of Healthcare Waste	CoM	Amendment of Decree 8006/2002. Defines and Classifies the Types of HealthCare Institution Wastes and their Methods of Disposal. The main relevant articles are the following: • Chapter 1: General guidelines related to definitions and classification of health care institution wastes; • Chapter 2: Non- Hazardous waste • **Chapter 3: Hazardous Infectious waste** • Chapter 4: Hazardous non-infectious waste • Chapter 5: Healthcare waste that requires special treatment methods • Chapter 6: Final recommendations
Law 444 of 2002	Environment Protection Law	Parliament	Sets the framework for environmental protection. Provides the rules to protect the different environmental matrices (air, water, soil…) from pollution with wastewater, hazardous wastes, chemicals, and noise, etc.; and specifies the penalties for violating environmental laws. • Section1 (Basic Principles and General Provision) • Section 2 (Organization of Environmental Protection), paragraph 4 (environmental pollution monitoring mechanisms) • Section 3 (Environmental Information System and Participation in Environmental Management and Protection) • Section 5 (Environmental Protection) • Section 6 (Responsibilities and Sanctions)

2.2. INSTITUTIONAL SETUP

The main parties concerned with waste management from the animal vaccination programme and their responsibilities are presented in Table 3 below.

Table 3 Roles and Responsibilities of Different Parties Concerned with Veterinary Waste Management from REP Component 4 Implementation

Party	Specific Roles/Mandates under the vaccination programme
Ministry of Agriculture (MoA)	a) The Directorate of Animal Resources at MoA shall provide information to FAO about the types of vaccines and number of vaccines to be procured in each category; b) The Directorate of Animal Resources at MoA shall be responsible for storage and distribution of the procured vaccines; and c) The Directorate of Animal Resources will provide detailed reports to the MoA and the Implementing Agency on the use of the vaccines, including the list of beneficiaries, the types and number of animals vaccinated, number of doses used per region, whether the vaccination is done by the Directorate's officers or the veterinarians; d) The Directorate of Animal Resources will be responsible for ensuring the proper storage, collection and transportation of vaccination waste from the farms where vaccination occurs to the MoA regional centers (RCs). e) The Directorate of Animal Resources will be responsible for ensuring the proper the management of waste from the vaccination programme under the supervision of FAO
Food and Agriculture Organization (FAO)	a) Procurement of eligible vaccines from certified/approved suppliers; b) Recruitment of short-term technicians to participate in the vaccination campaign c) Monitor and enforce the proper management of waste from the vaccination programme, and the implementation of the provisions listed in this VWMF by the MoA Directorate of Animal Resources.
Council for Development and Reconstruction (CDR)	Review of the progress reports submitted by the FAO, including information on veterinary waste management from the vaccination programme.
Ministry of Environment (MoE)	MoE is the national legal entity in charge of monitoring and enforcing national legislations, including ensuring that veterinary waste generated under the vaccination programme of Sub-component 2 complies with the Lebanese environmental standards and regulations issued by MoE.

Other stakeholders that might be contacted and engaged in the treatment of veterinary medical waste are Arcenciel (AEC) and the Abbassiyeh facility (owned and operated by the Municipality of Abbassiyeh). Both were consulted and confirmed their capacity and willingness to handle any potentially hazardous veterinary waste to be generated from the vaccination campaign. Arcenciel is a Lebanese non-governmental

organization (NGO) established in 1985. AEC has been implementing several programs and projects in the country related to (1) accessibility and mobility, (2) agriculture, (3) employment, (4) environment, (5) health, (6) society, (7) tourism and (8) youth. In 2003, AEC created the environment program and started executing activities related to waste management including the Deho (Hospital waste) project. The Deho project was launched in response to requests from hospitals facing the challenge of how to safely dispose of their potentially infectious healthcare waste (PIHW). Accordingly, AEC developed a national network for collection, treatment and disposal of PIHW from medical centers including hospitals and laboratories. Five processing centers, serving around 165 medical institutions in Lebanon, were erected sterilizing PIHW using autoclaves. Arcenciel is the largest supplier of infectious medical waste sterilization in the country. In addition to AEC, the Municipality of Abbassieh in Tyre District owns and operates an autoclaving facility where the hazardous infectious medical waste from medical institutions in the South and Nabatiyeh governorates (that are not fully covered by arcenciel) undergoes sterilization. The facility's operation has been recently assessed in the context of a UNDP project, recommendations for upgrading and expansion (doubling of capacity) have been made, and an ESIA is currently under preparation to assess the impacts of the proposed recommendations. The facility will be able to treat infectious hazardous waste from existing hospitals in the South and Nabatiyeh, as well as from emerging new hospitals. These two institutions can carry out the shredding of veterinary sharp waste from the animal vaccination campaign, especially needles and syringes.

3. WASTE MANAGEMENT PLAN FOR THE LIVESTOCK VACCINATION PROGRAMME

3.1. Existing Practices

The MoA Directorate of Animal Resources (MoA-DAR) carries out yearly animal vaccination campaigns that are administered to the animals at the farms using livestock injection guns, as informed by MoA-DAR. The vaccines are procured based on a list approved by MoA-DAR, distributed to the MoA RCs based on the distribution of livestock in the regions, stored at the MoA RCs once delivered, to be then administered by specialized MoA veterinarians and technicians at the farms based on a plan developed by MoA DAR. The empty vaccine vials and used needles are returned back by the veterinarians and technicians to the MoA RCs. Unless specifically recommended by the vaccine manufacturer, MoA-DAR usually does not treat generated animal vaccination waste via specialized medical waste treatment facilities since the empty vaccine vials contain inactive or dead pathogens and the vaccines in question are for animal diseases non-infectious to humans. In such cases, the empty vials are not refrigerated and are disposed of along with regular domestic waste. On the other hand, the used needles are boiled to sterilize them before being disposed of or reused again in the vaccination campaign if needed.

After consulting with the Department concerned with hazardous waste management at MoE regarding the management of the generated waste from the vaccination programme, MoE recommended that the generated veterinary waste should be properly stored and treated in line with Decree 13389/2004 before final disposal. However, since the Decree does not specifically cover vaccines for animal diseases that are non-infectious to humans, MoA – DAR does not believe there is a need to sterilize empty vaccine vials.

3.2. Vaccines Procurement & Management

During the implementation phase of the vaccination programme as part of the REP Component 4, the FAO will be responsible of the procurement of the required veterinary vaccines. The vaccines will be delivered through the 32 MoA regional centers, across all 25 districts (cazas) in Lebanon; each district has a regional center, in addition to the regional MoA services in the seven governorates. Local technicians recruited by FAO will assist MoA field and veterinary staff with the provision of veterinary services for vaccinating animals to ensure geographic and logistical reach among beneficiaries. They will be trained together with MoA field and veterinary staff on the principles and procedures of veterinary waste management from the vaccination campaign. Sharp waste generated from the vaccination programme is considered as medical waste based on the Decree 13389/2004 that classifies healthcare waste in Lebanon into four categories: (1) non-hazardous waste comparable to domestic waste, (2) hazardous waste that include infectious and noninfectious waste, (3) special waste that include pharmaceuticals, chemical waste, cytotoxic and pathological waste, and (4) radioactive waste.

3.3. Classification of Waste from the vaccination programme

In an effort to minimize confusion on the classification of waste from the vaccination programme, and in the absence of national safeguards document specific for veterinary vaccines use and management, and as FAO does not possess Safeguard Guidelines for Veterinary products usage, this Addendum to ESMF presents the existing researched and consulted references that can be adopted for classification of such waste (see below table).

Table 1 - Classification of waste from the vaccination programme

Reference	Description
Veterinary Compliance Assistance – VetCA (www.vetca.org)[2]	The definitions of **medical waste** and **regulated medical waste** vary somewhat from state to state, however, in general: • **Medical waste** usually refers to waste products that cannot be considered general waste, produced from healthcare premises, such as hospitals, clinics, doctors/dentists offices, veterinary hospitals and laboratories. • **Regulated medical waste (RMW)** (also known as 'biohazardous' waste or 'infectious medical' waste in some states) is typically a subset of medical waste that ***poses a significant risk of transmitting infection to people***.
Lebanese legislation (Decree 13389/2004) and Consultation with the Department of Chemical Safety at the Ministry of Environment[3]	The vaccination activity will generate the following types of waste: • **Hazardous sharp Waste:** Used needles, syringes • **Non-hazardous Waste:** comparable to domestic waste that includes packaging material such as plastic/nylon covers and carton boxes. Empty vaccine vials (after boiling or disinfection as per vaccine safety data sheets provided by MoA DAR presented in Annex 1)

The MoA has adopted the classification of VetCA that considers sharp waste would fall under sharp hazardous substances and thus needs special treatment procedures. Since all the vaccines to be funded by sub-Component 2 are for non-zoonotic diseases that cannot be transmitted to humans (OIE, 2019), MoA DAR consider the vaccine vials as not infectious to humans and do not fall under bio-hazardous substances, provided that the vaccines procured conform to the standards of OIE.

Moreover, the MoA communicated with the FAO Chief Veterinary Officer who had confirmed that there is no reason to consider the empty vaccine vials as hazardous infectious waste, provided that the vaccines procured conform to the standards of OIE[4]. For FMD vaccine the OIE standards require inactivation of virus and the other constituents are non-hazardous. For sheep and goat pox, PPR and LSD, the vaccines are

[2] Email communication with Dr. Mayen, Friederike Mayen, Senior Livestock Development Officer, FAO Regional Officer for the Near East and North Africa.

[3] Ms. Viviane Sassine

[4] Email communication with Dr, Keith Sumption, FAO Chief Veterinary Officer

live attenuated viruses and if produced to the standards of the OIE they are not considered to pose infectious hazard, for example to non-intended animals or to humans exposed to the contents.

If during project implementation the MOA/DAR requests to add vaccines for animal diseases currently not funded by sub-Component 2, especially vaccines for animal diseases that could be considered potentially infectious to humans, such a request should be approved by the World Bank before the additional vaccines can be procured using funding from Component 1. In the event such vaccines are approved by the Bank, the empty vials will be considered as hazardous waste and they will be treated either by boiling or autoclaving. The former choice reduces the overall cost since vials account for most of the weight of the vaccination waste, and boiling might be cheaper than autoclaving.

The Adddendum to ESMF presents the management framework of each type of waste based on the classification of the Lebanese legislation.

3.4. SHARP HAZARDOUS WASTE MANAGEMENT

3.4.1 Generation

When the vaccination programme is launched, the technicians and veterinary staff assigned to implement the nation-wide animal vaccination campaign will inevitably generate hazardous veterinary sharp waste that include used syringes, needles and other devices that might be contaminated with microorganisms. These require shredding to further reduce their safety hazards (puncture/ injury/ etc.) following disposal. Even the sharps boxes need to be shredded to avoid handling the sharp waste manually and the associated risk. Such types of waste have to be properly managed in order to avoid any potential health and environmental adverse impacts. The empty vials will be boiled by veterinarians and technicians.

As a rough estimate by MoA's Directorate of Animal Resources, around 1.1 tons of wastes including the vials and the hazardous veterinary sharp waste are expected be generated from the animal vaccination programme. This estimate can be refined/ confirmed once the vaccination campaign is initiated.

3.4.2 Storage

Once technicians and veterinary staff use the vaccines on site, they should not keep the waste and leftovers of the vaccines on site at the farms. Instead, and as advised by MoE, the personnel should place the sharp waste in hard, durable plastic boxes made for sharp waste (see Table 4), and the empty vaccine vials in usual hard, tight plastic boxes.

The storage conditions of the veterinary waste shall take into consideration the following measures until they are collected for treatment and final disposal:

1. Ensure that all veterinary waste is properly stored: needles and syringes in hard, durable, tight sharps boxes; and empty vials in durable plastic boxes that can be tightly sealed. The vials boxes shall be disinfected before reuse. The sharps boxes used for needles and syringes are shown in Table 4.

2. Empty vaccine vials shall be stored separately from sharp waste (damaged gun needles and disposable needles and syringes), in different boxes (i.e., durable plastic boxes).

3. Ensure that the waste sharp boxes and other waste boxes are closed once they are three quarters full so they can be sealed appropriately and to avoid spillage.

4. During transportation, place the sharps boxes and other waste boxes in plastic bags to avoid any leakages.

5. The waste sharp boxes and other waste boxes shall be stored at the MOA/RCs safe until they are taken for shredding and disposal facilities.

6. The generated wastes shall be stored in rooms at MOA/RCs that can be locked with limited access, away from other regular activities taking place on a day-to-day basis.

Table 4 Color Coding and Containment system

Waste Category	**Type of Containers**
Sharp Veterinary Waste	Sharp box 

3.4.3 Collection & Transport

Once the vaccines have been applied and the generated veterinary sharp waste is stored in the appropriate sharps' boxes and boxes for containment, the boxes will have to be placed in plastic bags to avoid potential leakage, and transported to one of the nearest MoA regional centers. As mentioned above, those boxes should be temporarily placed at the 32 MoA regional centers across all 25 districts in Lebanon until they are collected and treated.

It will be the responsibility of the technicians and veterinary staff to collect the vaccination waste and transport them in boxes back for storage at the nearest MoA RC.

The vehicles to be used by the MOA/FAO vets and technicians shall be equipped with the required safety equipment such as:

- First aid kit and an eye wash solution;
- Fire extinguisher;
- Durable plastic bags;
- Cleaning and antiseptic solutions; and
- PPEs that include gloves, face masks, and safety eye glasses.

3.4.4 Treatment

The choice of the treatment process is based on the volume and quantity and hazardous nature of the waste generated, the cost, the availability of the technology, etc. In the context of Lebanon, and considering the emergency response within which the Programme was developed, the most cost-effective, environment- and socially-friendly, safe and available treatment for the vaccines sharp waste (needles and syringes) in Lebanon is shredding, which also reduces the safety risk that might be posed by needles after disposal. As per OIE/FAO guidelines (Annexes 1 and 2 provided by MoA DAR), *empty vaccine vials* made of plastic or glass can be either autoclaved or sent for recycling after disinfecting them using chlorine or boiling in water for 10 minutes as a precautionary principle (given they are considered non-hazardous).

For the governorates of South Lebanon and Nabatiyeh, the Abbassiyeh waste treatment facility can be assigned the shredding and disposal of the needles and syringes from the vaccination campaign. AEC shall be assigned the shredding and disposal of the same waste in all other governorates. AEC and the Abbassiyeh waste treatment facilities will be responsible to ensure shredding of the sharp waste and its convenient disposal. Initial contact with Arcenciel and the Abbassiyeh hazardous waste treatment facility has revealed their capacity and their willingness to provide shredding of the sharp waste to be generated and stored at the regional centers of MoA, provided that the waste is collected in sharps boxes, transported and stored at the MoA regional centers (MoA RCs).

All waste transfer notes and documentation provided by both facilities shall be recorded and copies shall be kept for future reference.

3.4.5 Disposal

After shredding of the sharp waste by AEC and the Abbassiyeh waste treatment facilities, the shredded waste will then be classified as general domestic waste and will be labelled as hazardous sharp waste. Thus, the treated veterinary waste shall then be disposed of by the two facilities at the nearest authorized waste disposal facility.

As for the empty vaccine vials, if they are disinfected by boiling or using chlorine, they can be sent for recycling.

3.5. NON-HAZARDOUS WASTE MANAGEMENT

3.5.1. Generation

Activities under the animal vaccination programme will also generate general domestic-like non-hazardous waste that will have to be managed properly in a manner that does not end up in their haphazard disposal. Such waste can include packaging material such as plastic/nylon covers, paper, and carton boxes. Thus, with regards to the management of the generated domestic waste, it is important to consider the following:

- Domestic waste generated should be separated from hazardous waste at the source, stored in regular plastic bags, and disposed of in municipal waste bins near the farm where they are generated to be collected by the responsible waste collection parties;
- Where nearby sorting facilities or programs are available, such waste must be source-sorted for recycling and placed in separate bags (other than those for organic and inert waste);
- It is highly recommended that the generated waste should be sorted at the source and transported to municipal integrated solid waste management facilities for recycling; and
- Good housekeeping practices should be maintained at all times.

3.5.2. Transport and Disposal

The non-hazardous waste generated from the vaccination campaign will be collected from municipal waste bins by municipal waste collection trucks and transported together with regular domestic waste to the nearest waste management facility/ disposal site available.

3.6. SUMMARY OF RECOMMENDED WASTE MANAGEMENT PRACTICES FOR ALL WASTE STREAMS

The veterinary waste management plan elaborated above is summarized in Table 3 that presents the recommended practices to manage the generated waste streams from the animal vaccination campaign.

Table 3 Vaccination Campaign Waste Management

Waste Stream	Collection and Transport	Treatment and Final Disposal
Used needles, syringes	To be collected in hard, durable, and tight sharps boxes Sharps boxes placed in plastic bags to avoid any potential leakages during transport. Sharps boxes to be stored at the MoA/RCs in a locked room with limited access.	Shredding, and disposal at an authorized waste disposal facility (such as a landfill).
Empty vaccine vials	To be collected in plastic boxes. Plastic boxes to be placed in plastic bags to avoid any potential leakages during transport. Plastic boxes stored at the MoA/RCs in a locked room with limited access. Boxes can be disinfected and reused.	Empty vaccine vials made of plastic or glass will be sent for recycling after disinfecting them using chlorine or boiling in water for 10 minutes as a precautionary measure.
General domestic-like non-hazardous waste	Domestic waste generated should be separated from the medical waste at the source, and disposed of in municipal waste bins near the farms.	Generated waste should be sorted at the source and transported to municipal integrated solid waste management facilities for recycling. It will be collected by municipal waste collection trucks and transported together with regular domestic waste to the nearest waste management facility/ disposal site available

4. COST OF IMPLEMENTATION OF THE VETERINARY WASTE MANAGEMENT FRAMEWORK FOR INFECTIOUS VETERINARY WASTE

4.1. VARIABLE COSTS

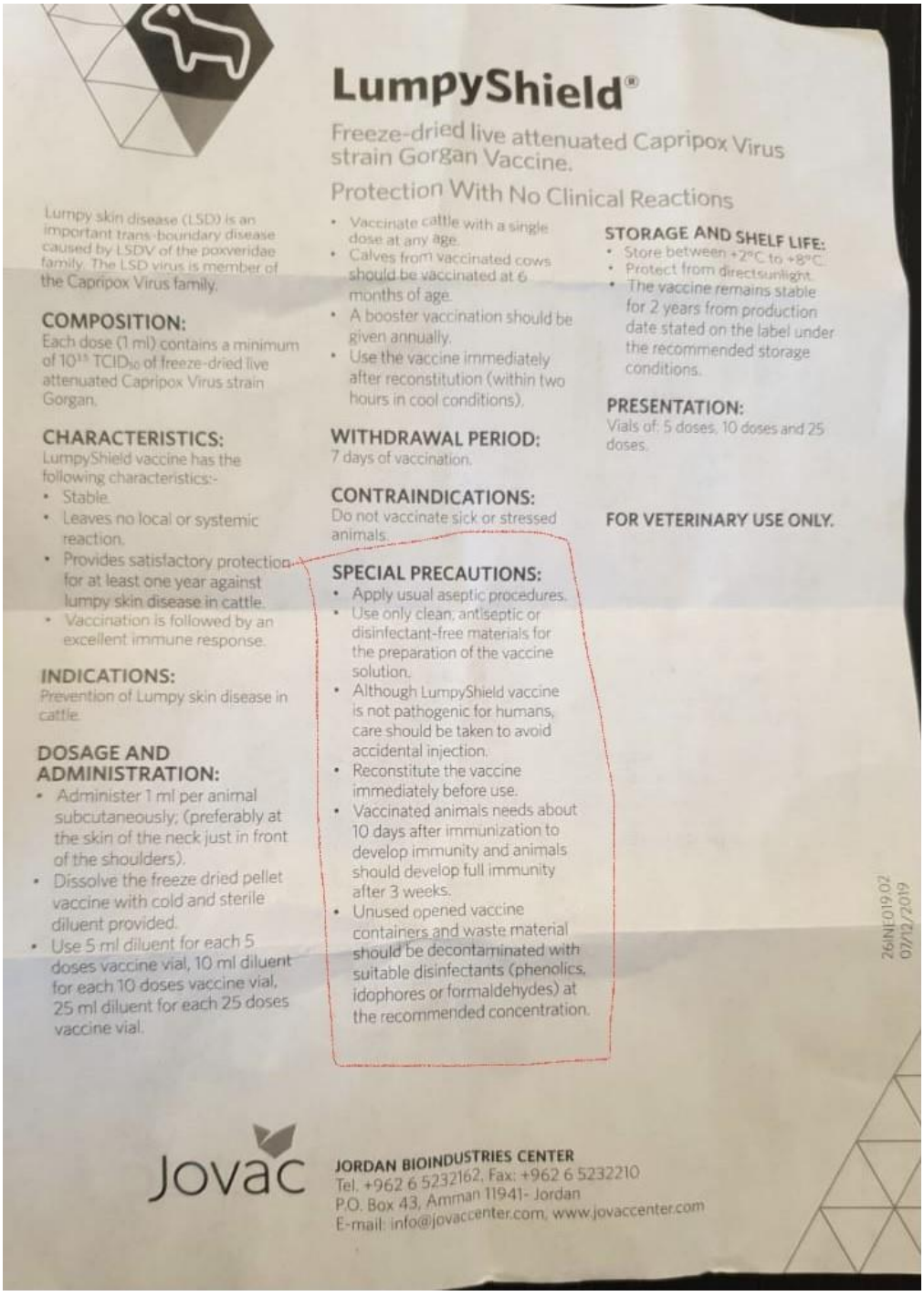
As communicated by the AEC Management, the cost of services offered by AEC for the safe treatment and final disposal of the generated hazardous sharp waste resulting from the animal vaccination programme that is stored in MoA RCs is US$ 1.5/kg. The cost of the same service offered by the Abbassiyeh hazardous infectious waste treatment facility is 70 US cents/kg. As a rough estimate, around 1,100 kg of wastes including hazardous veterinary sharp waste might be generated from the animal vaccination programme as informed by MoA-DAR, hence the maximum cost of treatment and disposal of the generated veterinary waste would range between US$ 1,430 and US$ 1,650. However, the volume of waste estimated by MOA-DAR includes empty vaccine vials, therefore the costs of treatment and disposal will be limited to shredding of sharp waste and, hence, will likely be much lower. These figures must be validated by MoA-DAR once the vaccines are procured and vaccination is initiated.

As for the cost of transportation, it is to be covered by MoA.

4.2. FIXED COSTS

Costs shall be incurred for the procurement of sharps boxes and required PPEs and safety equipment needed within the vehicles. The cost of sharps boxes is US$ 20/box. In addition, the cost of essential PPEs to be provided to the technicians and veterinary staff is approximately US$ 6/person (PVC gloves: US$ 2, face mask: US$ 1, and goggles: US$ 3). It should be noted that no extra cost shall be incurred for the disposal of non-hazardous waste from the vaccination campaign, as it will be disposed of with the regular domestic waste stream in each village or town.

ANNEX 1 – Safety Data Sheets of the Veterinary Vaccines



LumpyShield®

Freeze-dried live attenuated Capripox Virus strain Gorgan Vaccine.

Protection With No Clinical Reactions

Lumpy skin disease (LSD) is an important trans-boundary disease caused by LSDV of the poxveridae family. The LSD virus is member of the Capripox Virus family.

COMPOSITION:
Each dose (1 ml) contains a minimum of $10^{4.5}$ $TCID_{50}$ of freeze-dried live attenuated Capripox Virus strain Gorgan.

CHARACTERISTICS:
LumpyShield vaccine has the following characteristics:-
- Stable.
- Leaves no local or systemic reaction.
- Provides satisfactory protection for at least one year against lumpy skin disease in cattle.
- Vaccination is followed by an excellent immune response.

INDICATIONS:
Prevention of Lumpy skin disease in cattle.

DOSAGE AND ADMINISTRATION:
- Administer 1 ml per animal subcutaneously; (preferably at the skin of the neck just in front of the shoulders).
- Dissolve the freeze dried pellet vaccine with cold and sterile diluent provided.
- Use 5 ml diluent for each 5 doses vaccine vial, 10 ml diluent for each 10 doses vaccine vial, 25 ml diluent for each 25 doses vaccine vial.
- Vaccinate cattle with a single dose at any age.
- Calves from vaccinated cows should be vaccinated at 6 months of age.
- A booster vaccination should be given annually.
- Use the vaccine immediately after reconstitution (within two hours in cool conditions).

WITHDRAWAL PERIOD:
7 days of vaccination.

CONTRAINDICATIONS:
Do not vaccinate sick or stressed animals.

SPECIAL PRECAUTIONS:
- Apply usual aseptic procedures.
- Use only clean, antiseptic or disinfectant-free materials for the preparation of the vaccine solution.
- Although LumpyShield vaccine is not pathogenic for humans, care should be taken to avoid accidental injection.
- Reconstitute the vaccine immediately before use.
- Vaccinated animals needs about 10 days after immunization to develop immunity and animals should develop full immunity after 3 weeks.
- Unused opened vaccine containers and waste material should be decontaminated with suitable disinfectants (phenolics, idophores or formaldehydes) at the recommended concentration.

STORAGE AND SHELF LIFE:
- Store between +2°C to +8°C.
- Protect from directsunlight.
- The vaccine remains stable for 2 years from production date stated on the label under the recommended storage conditions.

PRESENTATION:
Vials of: 5 doses, 10 doses and 25 doses.

FOR VETERINARY USE ONLY.

26NE019.02
07/12/2019

Jovac

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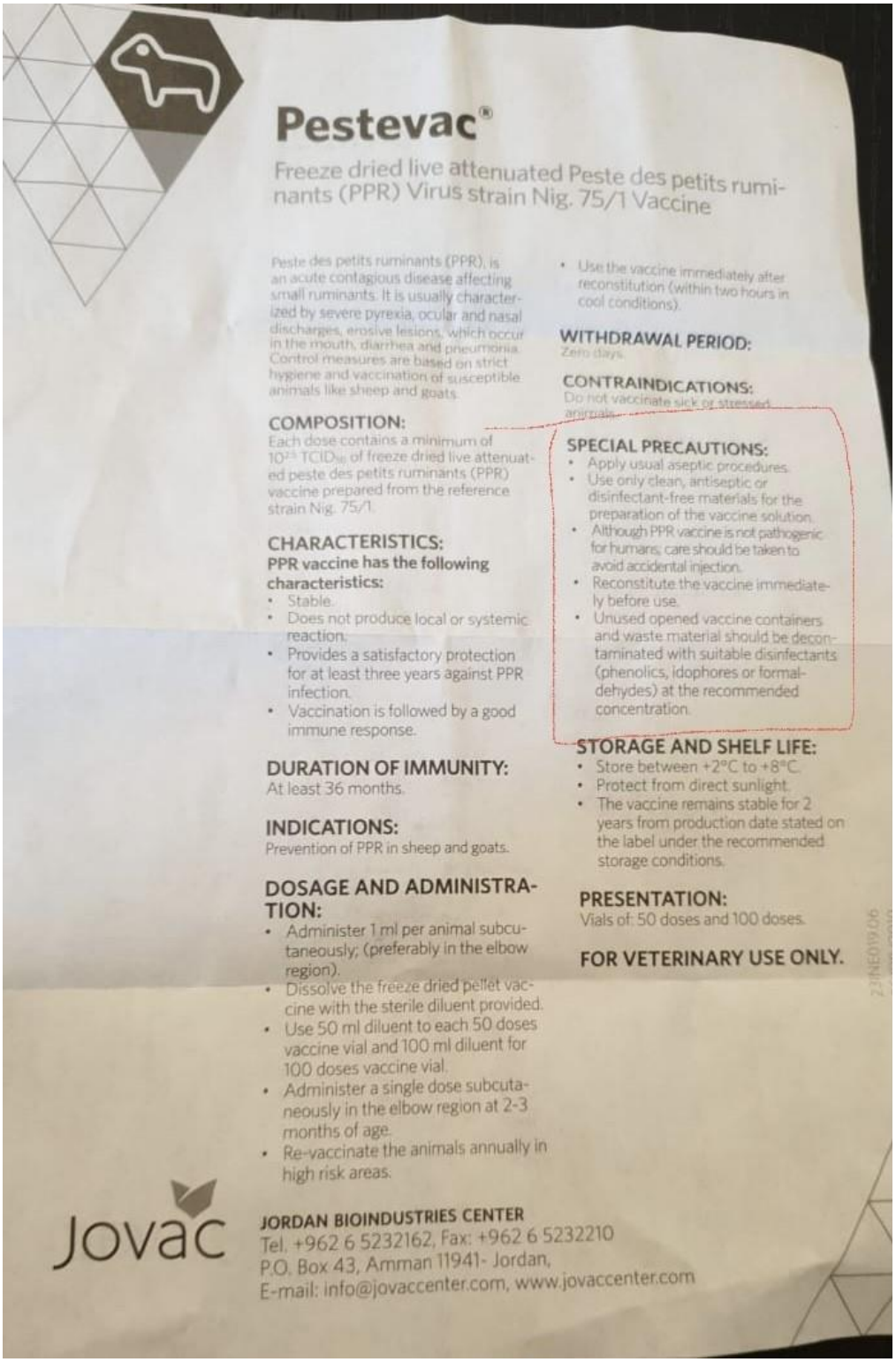


Pestevac®

Freeze dried live attenuated Peste des petits ruminants (PPR) Virus strain Nig. 75/1 Vaccine

Peste des petits ruminants (PPR), is an acute contagious disease affecting small ruminants. It is usually characterized by severe pyrexia, ocular and nasal discharges, erosive lesions, which occur in the mouth, diarrhea and pneumonia. Control measures are based on strict hygiene and vaccination of susceptible animals like sheep and goats.

COMPOSITION:

Each dose contains a minimum of $10^{2.5}$ $TCID_{50}$ of freeze dried live attenuated peste des petits ruminants (PPR) vaccine prepared from the reference strain Nig. 75/1.

CHARACTERISTICS:

PPR vaccine has the following characteristics:

- Stable.
- Does not produce local or systemic reaction.
- Provides a satisfactory protection for at least three years against PPR infection.
- Vaccination is followed by a good immune response.

DURATION OF IMMUNITY:

At least 36 months.

INDICATIONS:

Prevention of PPR in sheep and goats.

DOSAGE AND ADMINISTRATION:

- Administer 1 ml per animal subcutaneously; (preferably in the elbow region).
- Dissolve the freeze dried pellet vaccine with the sterile diluent provided.
- Use 50 ml diluent to each 50 doses vaccine vial and 100 ml diluent for 100 doses vaccine vial.
- Administer a single dose subcutaneously in the elbow region at 2-3 months of age.
- Re-vaccinate the animals annually in high risk areas.
- Use the vaccine immediately after reconstitution (within two hours in cool conditions).

WITHDRAWAL PERIOD:

Zero days.

CONTRAINDICATIONS:

Do not vaccinate sick or stressed animals.

SPECIAL PRECAUTIONS:

- Apply usual aseptic procedures.
- Use only clean, antiseptic or disinfectant-free materials for the preparation of the vaccine solution.
- Although PPR vaccine is not pathogenic for humans; care should be taken to avoid accidental injection.
- Reconstitute the vaccine immediately before use.
- Unused opened vaccine containers and waste material should be decontaminated with suitable disinfectants (phenolics, idophores or formaldehydes) at the recommended concentration.

STORAGE AND SHELF LIFE:

- Store between +2°C to +8°C.
- Protect from direct sunlight.
- The vaccine remains stable for 2 years from production date stated on the label under the recommended storage conditions.

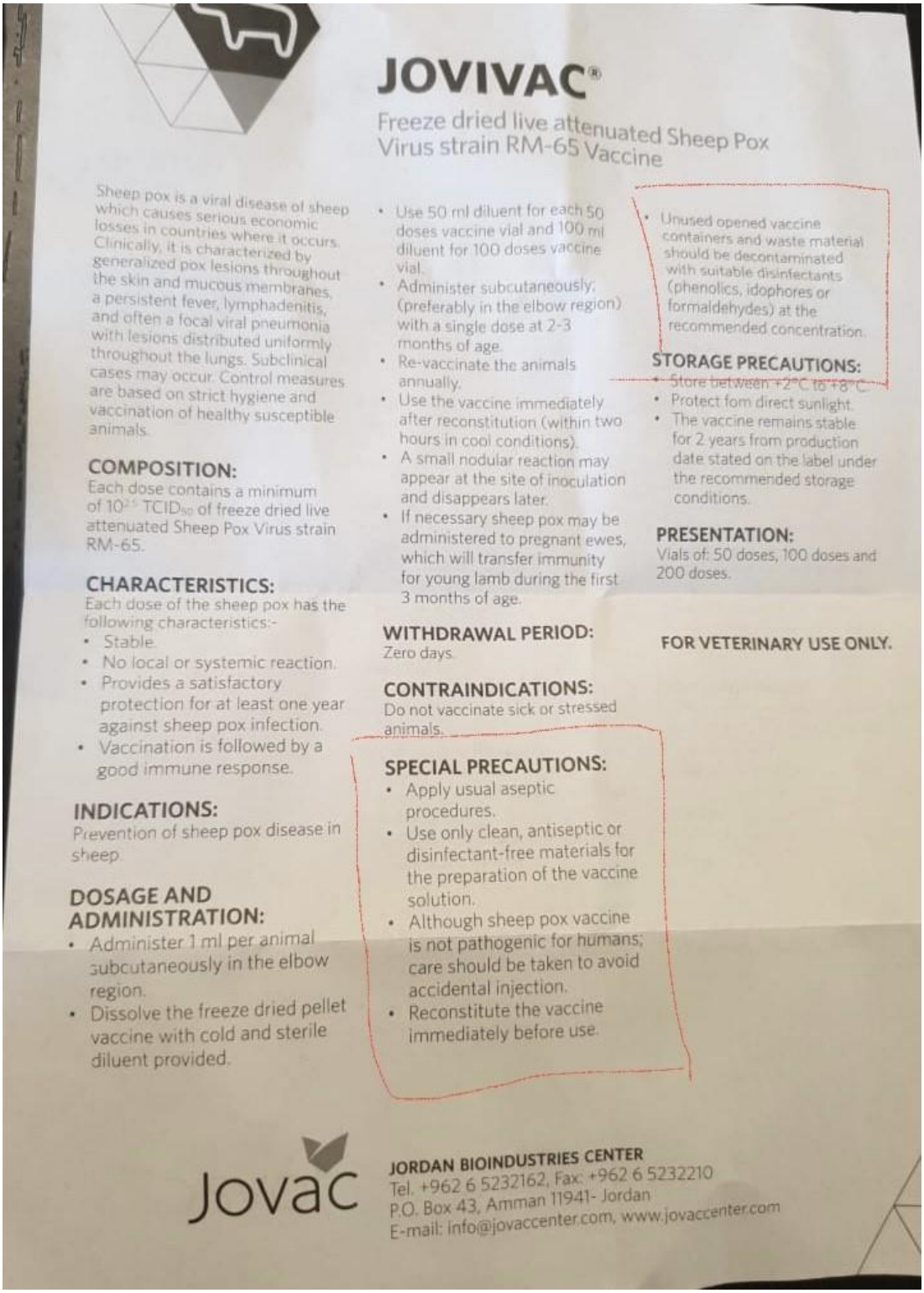
PRESENTATION:

Vials of: 50 doses and 100 doses.

FOR VETERINARY USE ONLY.

Jovac

JORDAN BIOINDUSTRIES CENTER
Tel. +962 6 5232162, Fax: +962 6 5232210
P.O. Box 43, Amman 11941- Jordan,
E-mail: info@jovaccenter.com, www.jovaccenter.com



JOVIVAC®

Freeze dried live attenuated Sheep Pox Virus strain RM-65 Vaccine

Sheep pox is a viral disease of sheep which causes serious economic losses in countries where it occurs. Clinically, it is characterized by generalized pox lesions throughout the skin and mucous membranes, a persistent fever, lymphadenitis, and often a focal viral pneumonia with lesions distributed uniformly throughout the lungs. Subclinical cases may occur. Control measures are based on strict hygiene and vaccination of healthy susceptible animals.

COMPOSITION:

Each dose contains a minimum of $10^{2.5}$ $TCID_{50}$ of freeze dried live attenuated Sheep Pox Virus strain RM-65.

CHARACTERISTICS:

Each dose of the sheep pox has the following characteristics:-

- Stable.
- No local or systemic reaction.
- Provides a satisfactory protection for at least one year against sheep pox infection.
- Vaccination is followed by a good immune response.

INDICATIONS:

Prevention of sheep pox disease in sheep.

DOSAGE AND ADMINISTRATION:

- Administer 1 ml per animal subcutaneously in the elbow region.
- Dissolve the freeze dried pellet vaccine with cold and sterile diluent provided.
- Use 50 ml diluent for each 50 doses vaccine vial and 100 ml diluent for 100 doses vaccine vial.
- Administer subcutaneously: (preferably in the elbow region) with a single dose at 2-3 months of age.
- Re-vaccinate the animals annually.
- Use the vaccine immediately after reconstitution (within two hours in cool conditions).
- A small nodular reaction may appear at the site of inoculation and disappears later.
- If necessary sheep pox may be administered to pregnant ewes, which will transfer immunity for young lamb during the first 3 months of age.

WITHDRAWAL PERIOD:

Zero days.

CONTRAINDICATIONS:

Do not vaccinate sick or stressed animals.

SPECIAL PRECAUTIONS:

- Apply usual aseptic procedures.
- Use only clean, antiseptic or disinfectant-free materials for the preparation of the vaccine solution.
- Although sheep pox vaccine is not pathogenic for humans; care should be taken to avoid accidental injection.
- Reconstitute the vaccine immediately before use.
- Unused opened vaccine containers and waste material should be decontaminated with suitable disinfectants (phenolics, idophores or formaldehydes) at the recommended concentration.

STORAGE PRECAUTIONS:

- Store between +2°C to +8°C.
- Protect fom direct sunlight.
- The vaccine remains stable for 2 years from production date stated on the label under the recommended storage conditions.

PRESENTATION:

Vials of: 50 doses, 100 doses and 200 doses.

FOR VETERINARY USE ONLY.

Jovac

JORDAN BIOINDUSTRIES CENTER
Tel. +962 6 5232162, Fax: +962 6 5232210
P.O. Box 43, Amman 11941- Jordan
E-mail: info@jovaccenter.com, www.jovaccenter.com

ANNEX 2 – Recommendation for the FMD vaccine from an OIE and FAO laboratory (shared by MoA DAR)

APPENDIX E – STAKEHOLDER CONSULTATION

APPENDIX E1 – LIST OF INVITEES

Public Institutions	Syndicates/cooperatives/farmers associations	Private Sector	Chambers of Commerce, Industry, Agriculture	UN Agencies
• Ministry of Agriculture • Ministry of Environment • Ministry of Economy and Trade • Ministry of Social Affairs • National Council for Scientific Research (CNRS) • Lebanese Agricultural Research Institute (LARI) • LIBNOR • Economic and Social Council • National Food Safety Agency • National Committee for Lebanese Women (NCLW)	• الاتحاد العام للنقابات الزراعية • الاتحاد العام للنقابات الزراعية في لبنان • النقابات الزراعية • نقابة مزارعي جبل لبنان • النقابة اللبنانية لتربية الدواجن • نقابة المزارعين والفلاحين في الشمال • نقابة الخضار في عكار • نقابة مستوردي ومصدري الخضار والفاكهة في لبنان • نقابة مزارعي البطاطا في البقاع • نقابة مزارعي الأزهار والشتول • نقابة المزارعين في البقاع • الاتحاد العام للتعاونيات في لبنان • نقابة مزارعي التفاح في لبنان • تعاونية مربي النحل في راشيا • تعاونية مربي الأبقار في البقاع • نقابة النحالين اللبنانيين • الجمعية التعاونية المتحدة لتعاونيات النحل في عكار • الجمعية التعاونية المتحدة في الجومة (عكار العتيقة- رحبة-بزبينا) • الجمعية التعاونية لتنمية قطاع الزيتون في الدريب عكار • الجمعية التعاونية لانتاج وتصنيع الزيتون في أكروم وجوارها-عكار • الجمعية التعاونية لمزارعي البطاطا في عكار • الجمعية التعاونية لإنتاج الحليب في الجومة وجوارها • الجمعية التعاونية الزراعية العامة في الهرمل	• Robinson Agri • UNIFERT • Asmida • Comptoir Agricole du Levant • Debbaneh Agri • Yazbeck Honey	• CCIAB Beirut & Mount Lebanon • CCIAT North - Tripoli • CCIAS South - Saida • CCIAZ Bekaa - Zahleh	• Food and Agriculture Organization (FAO) • World Food Programme (WFP) • World Health Origination (WHO) • UN Women • World Organization for Animal Health (OIE) • United Nations High Commissioner for Refugees (UNHCR)

In addition to the above the following NGOs were also invited:

- AVSI
- Fair Trade - Lebanon
- George Frem Foundation
- EMKAN
- World Vision
- Lebanese Food bank
- Mefosa
- Arc En Ciel
- René Moawad Foundation
- Issam Fares Foundation
- Hariri Foundation
- Safadi Foundation
- Joseph Skaff Foundation
- SPNL
- Lebanese Association for the Protection of the Environment
- Lebanon Eco Movement
- NORTH LEDA
- LEDA BEKAA
- Caritas Lebanon
- Greenline
- Lebanese Red Cross
- International Red Cross Association
- Mercy Corps International
- AAMEL
- MADA
- Makhzoumi Foundation
- ARE (USAID)
- APIS
- Kunhadi
- YASA
- KAFA
- Abaad
- Days Of Hope Association (Zahleh)
- Sesobel
- Anta Akhi
- Lebanese Welfare Association for the Handicapped
- The Forum of the Handicapped in North Lebanon
- l'Ecoute

APPENDIX E2 – INVITATION LETTERS AND PROJECT SUMMARY

Please refer to the enclosed pdf version

APPENDIX E3 – PUBLIC CONSULTATION PRESENTATION

Please refer to the enclosed pdf version.

APPENDIX E4 – LIST OF PARTICIPANTS

List of Participants Who Attended the Virtual Consultation

Date: January 28, 2021

Full Name	Gender	Institution	E-amil address
Ajaj Freji	M	Debbaneh Agri	afreiji@debbaneagri.com
Ali Esber	M	الجمعية التعاونية لانتاج وتصنيع الزيتون في أكروم وجوارها-عكار	ali.esber1966@gmail.com
Amal Salibi	F	MoA	asalibi@agriculture.gov.lb
Bassima Khatib	F	SPNL	bkhatib@spnl.org
Cathy Chami Tyan	F	NCLW	cathy.tyan@gmail.com
Cecile Obeid	F	Libnor	cobeid@libnor.org
Unknown Name	F	Unknown	chahirfk-9@hotmail.com
Elissa Choucair	F	Georges Frem Foundation	Elissa.Choucair@georgesnfrem.org
Gilbert Medawar	M	Debbaneh Agri	gmedawar@debbaneagri.com
Joseph Maalouf	M	Cooperative for raising cows and production of their products- Bekaa	jamaalouf@hotmail.com
Joseph Jawdat Al Mssan	M	الجمعية التعاونية المتحدة في الجومة (عكار العتيقة- رحبة-بزبينا)	-
Karim Shaar	M	ELARD	kshaar@elard-group.com
Unknown Name	M	Unknown	-
Lamia Tawm	F	MoA	ltawm@agriculture.gov.lb
Maurice Saade	M	FAO	Maurice.Saade@fao.org
Mohamad Abou Zeid	M	MoA	mabouzeid@agriculture.gov.lb
Mona Siblini Halwany	F	MoA	msiblini@agriculture.gov.lb
Imad Nahhal	M		imad.nahhal@fao.org
Nathalie Karam	F	MoE	n.karam@moe.gov.lb
Pauline Eid	F	MoA	peid@agriculture.gov.lb
Rana Kobrossi Zbeidy	F	ELARD	rzbeidy@elard-group.com
Rita Al Hachach	F		ralhachach@gmail.com
Rita Stephan	F	CDR	rstephan@cdr.gov.lb
Roland Al Andary	M	LINQ	RAndary@LandOLakes.org
Saadeldine Saadeldine	M	Unknown	saadeldine70@hotmail.com
Salem Darwich	M	MEFOSA/LU lecturer	salemdarwich@yahoo.fr

Full Name	Gender	Institution	E-amil address
Souheil Kadamani	M	Cooperative of beekeeping production in Rachaya/APIMED focal point	souheilkado@hotmail.com
Wafaa Al-Dika-Hamzeh	F	MoA	wdikah@gmail.com
Maen Omar Mohammed	M	الجمعية التعاونية لتنمية قطاع الزيتون في الدريب عكار	mhamadmaen913@gmail.com

APPENDIX E5 – QUESTIONS AND COMMENTS RAISED DURING THE CONSULTATION SESSION

Questions/Comments	Answer
Nathalie Karam (MoE) suggested displaying Lebanese legislations related to agricultural inputs and those relating to the Stockholm Convention on Persistent Organic Pollutants (POPs), including those listed in the POPs NIP report, as well as the healthcare waste management decree (Decree 13389/2004), the Code of the Environment (Law 444/2002), and the EIA Decree (Decree 8633/2012) in the presentation.	Rana Zbeidy (ELARD) clarified that the ESMF report comprises a comprehensive list of all environmental, agricultural and social legislation relating to the project, but that the complete list could not be included in the presentation and thus only a selection was shown.
Mohammad Abou Zeid (MoA) stated that the legislations with a direct relation to the registration of agricultural drugs must be mentioned. The LIBNOR decree is only related to fertilizers. There are decisions related to agricultural pesticides: their registration, import, and labeling. It would have been better to show them in the slides even if there is not enough time.	
Mona Siblini Halwany (MoA) commented in the online chat box that Decree 5706 relates to fertilizers and not pesticides; and that several regulations issued by MoA relate to the classification, registration and organization of allowed fertilizers, as well as relevant standards and guidelines aiming at the protection of the environment.	The comment was duly noted.
Dr. Maurice Saade (FAO) recommended taking into consideration that the Programme will not have a significant impact on public health and road safety since it will only finance small quantities of bio-pesticides, and farmers will be responsible for transporting the agricultural inputs they obtain using their own vehicles. The Programme will not lead to labor influx either. He also highlighted that the real social impact the Programme has consists of alleviating the COVID-19 pandemic. He highlighted the importance of considering protective measures for COVID-19 during the collection of vouchers by farmers.	The comment was duly noted.
Dr. Salem Darwich (MEFOSA/ LU Lecturer) suggested having applicable and practical environmental mitigation and monitoring measures. For instance, he recommended removing the monitoring of the soil and water monitoring component for several reasons: geographical scope of the project, lack of available baseline data and of budget to conduct sampling on such a large scale. He also stressed about the fact that smallholder farmers are targeted through this programme, and minimal quantities of bio-pesticides will be procured and distributed, constituting a very small percentage of the total yearly inputs of pesticides in the country. Thus, their environmental impact is expected to be negligible.	The comment was duly noted.
Amal Salibi (MoA) highlighted the emergency aspect of the REP and the minimal quantity of agro-chemicals that will be used, and thus proposed considering the scale of the project while setting monitoring measures for water and soil quality, as well as the cost of the proposed mitigation measures. She also commented about having a two-party agreement	The comment was duly noted.

Questions/Comments	Answer
between farmers and seasonal agricultural workers, as such labor contracts are not common in agriculture-based jobs.	
Wafaa Al-Dika-Hamzeh (MoA) stressed on the need to have realistic and applicable mitigation and monitoring measures that reflect the emergency aspect of the intervention, although all parties agree on the need for mitigation measures given the pollution load resulting from the agricultural sector among others.	Rana Zbeidy (ELARD) explained that the mitigation measures set are based on the World Bank guidelines and environmental and social safeguards.
Maen Mohammed (الجمعية التعاونية لتنمية قطاع الزيتون في الدريب عكار) asked if farmers' cooperatives and municipalities were both concerned with the project. He suggested dealing with agricultural Cooperatives directly when announcing Component 4 and disseminating information relevant to application and eligibility because municipalities are biased and tend to favor some groups over others without adopting objective and transparent criteria. He also added that some villages do not have a cooperatives, so it would be better to involve the municipalities in this case, in order to ensure that farmers in villages that do not have cooperatives are informed. However, in general and with all respect to municipalities, nepotism occurs in some municipalities and even cooperatives. This is why the role of cooperatives should be enhanced since farmers are usually active and informed through them, and cooperatives are less likely to suffer from nepotism.	Rana Zbeidy (ELARD) answered that Component 4 concerns farmers, and the Consultant tried to reach out to cooperatives and agricultural syndicates and associations from all regions and invite them to participate in this consultation meeting. Cooperatives will have a crucial role in communicating the information to smallholder farmers. The project proponents might also consider reaching out to municipalities as well in order to make sure the announcement is properly disseminated and reaches farmers. In addition, cooperatives and agriculture associations were invited to this meeting because they are the main beneficiaries and partners of this programme. Municipalities and their unions were not invited. To ensure that the programme launching reaches all farmers, the information will be communicated through both cooperatives and municipalities.
Cathy Chami Tyan (NCLW) questioned what is the number "10% women" based on? Why only 10%, and not more?	Dr. Maurice Saade (FAO) clarified that the 10% is based on the Agricultural Census of 2010. Based on this report, only 9% of the total number of farms in Lebanon are women-led, and thus the target was set as 10% women beneficiaries. The FAO wished to increase the target to more than 10%, but the MoA suggested not to, because it would not be achievable. If during the Programme implementation FAO and MoA are able to reach more than 10% of women beneficiaries, this would be highly desirable. The minimum threshold however, is to reach 10% to cover women representation in the Programme.
Cathy Chami Tyan (NCLW) also elaborated that more women will probably be engaged in agricultural activities because of the opportunities that the Programme will provide. So the more you have women applicants, the more you will help?	Dr. Maurice Saade (FAO) strongly agreed with her proposition and clarified again that the minimum target is to have 10% of the beneficiaries who are women.
Mohammad Abou Zeid (MoA) questioned about how are bio-pesticides defined by the WB? Internationally, pesticides related to pheromones, plants extracts, microbial, and attack-and-kill are bio-pesticides. Based on Law 86, "jenzara", sulfur, oil, and rodenticides are compatible with the IPM but are not classified as bio-pesticides. So what about these products?	Dr. Maurice Saade (FAO) first provided clarifications related to the programme whereby the total amount of vouchers is estimated at USD 8 million. 1/3 is dedicated to animal production and feed, and 2/3 are dedicated to crop production. So approximately USD 5 million will support agricultural inputs. Beneficiaries will take a voucher worth USD 300; they can redeem any input that they need using this voucher at contracted stores, based on a list of

Questions/Comments	Answer
How are they classified? Also there should be a plan to manage the pesticides, so who has set this plan and who will implement it?	products that will be approved. This list does not include chemical pesticides; only bio-pesticides can be bought. It is worth noting that the amount (worth USD 5 million) is negligible compared to the total annual agricultural inputs purchased in Lebanon. In 2019, the imported agricultural inputs are estimated at USD 80 million (seeds and fertilizers). Hence, the Programme will have an insignificant impact on the environment. FAO and MoA are supporting farmers with this voucher Programme in order to provide them with access to inputs that they are no longer able to purchase. Chemicals are not supported under the voucher programme. Based on previous experiences with farmers, they are more likely to spend the money on seeds and fertilizers than pesticides and bio-pesticides. Hence, the bio-pesticides will also have an insignificant impact since they will be used moderately. Thus, the environmental impact of the Programme will be insignificant and a management plan for the use of pesticides is not needed. Concerning public health and roads safety, the farmer is the one who will go to the supplier/store and get the agricultural inputs, which is something they are already do. So the Programme will not have an additional impact on the environment or road safety; the training of drivers mentioned in the presentation is sufficient. This note should be taken into consideration as well. Regarding the social impact (the labor influx to the areas where the Programme will take place), all governorates will benefit from the Programme. The total number of beneficiaries (26,700) will be distributed nationwide. So the real impact that should be highlighted is when the beneficiaries go to collect the voucher from the designated center of the MoA; there should be protective measures to take against COVID-19 transmission including avoiding crowding. Rana Kobrossi Zbeidy (ELARD) added that in the report, each impact mentioned is assigned a rating or score (significant/ negligible). And the impact from the use of pesticides was rated as negligible based on the reasons Dr. Saadeh mentioned before.
Dr. Salem Darwich (MEFOSA/ LU Lecturer) seconded Dr. Maurice since only bio-pesticides will be used. A lot of the suggested mitigation measures are promising, but the standards of application are not clear. For example, in one of the slides it is mentioned that soil and water quality will be monitored: is the project team proposing conducting water and soil sampling and analyses prior to the implementation (in order to establish a baseline) and after? It would make no sense to add these mitigation measures if they cannot be implemented. Since the project covers the entire Lebanese territories, the budget needed for such sampling cannot be secured, and no data is available for the entire country. How will this recommendation be implemented?	Rana Kobrossi Zbeidy (ELARD) stated that compliance with the WB guidelines is a pre-requisite to the approval of the loan. Regarding the baseline soil sampling, in some regions the data is available from various sources such as NCSR, LRA, and the literature. A sampling campaign would be costly indeed. Secondary data (already available) can be used. Cooperation between relevant authorities to compile all the data that they have is needed, although it requires close cooperation and significant efforts while the project has an emergency character.

Questions/Comments	Answer
Dr. Salem Darwich (MEFOSA/ LU Lecturer) inquired about receiving complaints and the GRM. Since there will be a specific unit to receive feedback and complaints, as well as dedicated persons will be receiving these calls with a phone number and email address(es), clear roles, and the needed budget to operate this unit are important information that should be mentioned.	Rana Kobrossi Zbeidy (ELARD) clarified that there are telephone numbers to receive feedback and complaints. The procedure to fill a complaint will be communicated with the public in details: application process, designated people with their emails and phone numbers that are dedicated for this purpose. These will fine-tuned with MoA and FAO, and will be made available to all farmers to report their complaints (applicants who did not benefit from the program, beneficiaries who are not satisfied with the result, etc.).
Dr. Salem Darwich (MEFOSA/ LU Lecturer) stated that the procurement of the inputs from the stores is the farmers' responsibility, their transport to the stores is the supplier's responsibility and it is obvious that safety standards are not adhered to. The handling, storage and safety measures for cattle and agricultural inputs are respected by neither the suppliers nor the agricultural stores/pharmacies or farmers. The study showcased is promising, but it is suggested to have a more realistic plan and to set criteria that can be controlled and monitored. The implementation of the proposed mitigation measures must be possible to monitor. How are the proposed soil and water sampling and analysis planned to be carried out? Is the project team going to track the locations of the beneficiaries and take samples from those specific locations, and compare them before and after the project? This procedure is costly and is probably not mentioned in the programme's budgeting.	Rana Kobrossi Zbeidy (ELARD) responded that it is true that implementation of safety and other measures is not respected in Lebanon, but the guidelines of the WB have to be adhered to, to a minimal extent.
Amal Salibi (MoA) raised a concern regarding what Dr. Salem said about the soil and water monitoring. The cost of the mitigation measures should be reasonable since this is an emergency project. As Dr. Maurice also mentioned, the inputs supported by the programme are in limited quantities, so the mitigation measures should also consider the scale of the activities in the context of Component 4.	Rana Kobrossi Zbeidy (ELARD) responded that the proposed mitigation measures also cover fertilizers. The pesticides will not have a significant impact since they are bio-pesticides, but the fertilizers might. The environmental impact caused by fertilizers is an actual problem in Lebanon. Dr. Maurice Saade (FAO) also stated that data on soil and water pollution levels resulting from contamination with fertilizers and pesticides is NOT available for all regions in the country. He added that a farmer who will use the voucher to get fertilizers might also pay for additional fertilizers himself. So it is difficult to track the pollution caused by the programme versus those that farmers would buy and apply outside the context of the REP. He re-emphasized that quantities are negligible and thus their impact is difficult to measure. Thus, soil sampling is not feasible because it has a high cost given the geographical scope of the intervention, and it is not considered in the budgeting of the programme. So the main mitigation measures are the awareness campaigns and trainings organized by the MoA to reduce the use of fertilizers. But the programme oganizers cannot monitor what farmers are using, they are free to redeem any input with the voucher. He reiterated that the programme is not supporting chemical pesticides. It will be possible to verify that only bio-pesticides are redeemed using the vouchers, through monitoring the suppliers/stores that will be selected. But apart from that, it is

Questions/Comments	Answer
	difficult and costly to monitor the soil and water quality, and baseline data is not available. Dr. Salem Dawrich (MEFOSA/ LU Lecturer) seconded what Dr. Maurice and Ms. Amal said; and added that according to a thesis research conducted by one of his students, most of the suppliers reported that over the past year, potato farmers have bought half the quantities of pesticides and fertilizers that they used to buy during the precious year (before the financial crisis). And some farmers in the Bekaa have mentioned that they are using fewer fertilizers for the same yield production. The financial crisis has been tough, but it has had a positive impact on the agricultural sector. Farmers used to add 10 or 20% to the recommended concentrations of pesticides or fertilizers to make sure they achieve the desired impact. Since the intervention targets smallholder farmers, the environmental impacts are expected to be negligible.
Mohammad Abou Zeid (MoA) stated that the proposed mitigation measures for pesticides will be insignificant since the beneficiaries will use bio-pesticides. For example, the PPEs, masks and equipment used for chemical pesticides are not needed during the application of bio-pesticides. In addition, the mitigation measure "to return the containers to the suppliers/stores" is not occurring or realistic, although it would be ideal. The implementation of such measures needs a lot of potential, while the project is an emergency response to the current situation.	Rana Kobrossi Zbeidy (ELARD) clarified that this mitigation measure was proposed when feasible, based on the ISWM pyramid. If the re-use is not an option, containers can be sorted and recycled unless contraindicated in their material safety datasheet. Regarding PPEs, this measure depends on the material safety data sheet (MSDS) of each bio-pesticide used, which specifies the measures needed. Mohammad Abou Zeid (MoA) reiterated that if only bio-pesticides are used (no synthetic pesticides), then there is no need to add a mitigation measure relating to PPE use. Bio-pesticides can go through regular waste sorting and recycling, they do not need special measures in the absence of hazardous residues; training and awareness constitute the main mitigation measure, as suggested by Dr. Saadeh. Rana Kobrossi Zbeidy (ELARD) further clarified that she meant regular sorting (into paper, plastic, metal streams, not sorting as hazardous waste). Once the implementing agencies confirmed that chemical pesticides are not included in the programme, mitigation measures for hazardous pesticides containers were deleted from the report.
Amal Salibi (MoA) inquired about the environmental and social impacts, and the flow of workers, Dr. Maurice has already mentioned that the programme will cover all governorates and workers will not have to move between governorates. The programme aims to support smallholder farmers who will probably not need additional labor. Among the proposed mitigation measures are contracts that would be signed between workers and farmers. In the context of casual or seasonal labor in the agricultural sector, it is not common for workers to sign a contract with farmers. This mitigation measure is not really applicable, especially in the agricultural sector.	Rana Kobrossi Zbeidy (ELARD) agreed about the contract concern. The ESMF report recommends this mitigation measure in case the relationship between the worker and the farmer is or can be governed by a contract. Indeed, this is an emergency programme, and so time to dive into mitigation measure that are not applicable is not available.

Questions/Comments	Answer
Souheil Kadamani (Cooperative of beekeeping production in Rachaya/APIMED focal point) asked about the procedure and criteria for the selection of beneficiaries. Which agencies will be involved in the selection of smallholder farmers? People who benefit from such programmes are usually those who have connections, and are active. So if the programme is aiming to support smallholder farmers, it would be great, especially for farmers in rural areas.	Dr. Maurice Saade (FAO) explained that there are several criteria set for the selection of the beneficiaries. Some of these criteria are: the land area for crop production should be less than 50 dunums[5]; agricultural activities should contribute to at least 40% of the farmer's total income; maximum 10 cattle heads (dairy cattle); maximum of 75 heads of sheep and goats; fish farms basins should not exceed 200 sqm; and a maximum of 50 beehives for beekeepers. When the programme will be launched, all the necessary information will be communicated, the eligibility criteria, the locations to apply, and the documents needed for the application. Also, 15% of the pre-approved applications will be validated through field visits to make sure that the information provided by each farmer is correct. The applications will be submitted through the centres of the MoA. A committee will organize a weekly meeting to audit the applications and approve the selected applications.
Dr. Salem Darwich (MEFOSA/ LU Lecturer) asked Dr. Maurice to confirm whether tobacco farmers are excluded from the programme.	Dr. Maurice Saade (FAO) confirmed that only food productions are supported by the programme: fruits and vegetables. Fodder producers might be included, but tobacco farmers are not.
Cathy Chami Tyan (NCLW) inquired about the component related to roads rehabilitation and whether there are any standards or measures that will be followed to study the environmental impact of the road rehabilitation activities?	Rana Kobrossi Zbeidy (ELARD) replied that the project was launched is 2017. The ESMF for that component was drafted. The roads were not selected at that stage, but the plan was to cover all governorates in Lebanon except Beirut. Following selection of the roads to be rehabilitates, Consultants were selected to prepare ESMPs for the sub-projects to provide details about the environmental, social and safety impacts of each road section, and the associated mitigation measures. Also, a settlement policy framework was prepared with the ESMF to be implemented in case of land acquisition during actual implementation. Rita Stephan (CDR) also added that the 25 ESMP studies prepared under the REP project for the selected roads have been cleared by the World Bank and are available to the public on the CDR website. The execution phase of the roads rehabilitation is about to start soon.
Cecile Obeid (LIBNOR) mentioned through the chat box that LIBNOR is working on a document related to GAP. Once it is issued, the right implementation and enforcement by MoA would help in achieving the scope of this project, especially with respect to the impacts on the environment.	The comment was duly noted.

[5] The eligibility criterion of 50 dunums was later revised to 20 dunums

APPENDIX E6 – QUESTIONS RAISED AFTER THE STAKEHOLDER CONSULTATION AND ANSWERS PROVIDED BY MOA/ FAO

Question	Answer provided
Questions relating to REP Components 1, 2, and 3	
It is a very big surprise to me to do a lot of presentation and explanation for the creation of internal annexe in the project for a sum of 10 Millions of US Dollars, and we don't see or hear about the big project concerning the roads and the rehabilitation for around 200 Millions USD for related Budget. I don't know how to work this heterogeneity in this project… and who is the professional whom attend the engineering part where its need a lot of experimentation and support With all my reserve and respect, Rached Sarkis – Civil Engineer Consultant	The preparation for the US$200 million Road and Employment Project (REP) began in 2016 through the following steps: 1) Starting in 2016, CDR conducted a full safety and pavement assessment using iRAP road safety assessment method to eventually select candidate roads for rehabilitation. This assessment was prepared in 2016 by the University of Zagreb \ Faculty of Transport and Traffic Sciences (FPZ) in Croatia. FPZ is an accredited iRAP supplier with international experience. The Faculty of Transport and Traffic Sciences – FPZ has a developed system and a set of tools (based on EuroRAP / iRAP specifications) to prepare inspection data that is then used to calculate risks and identify priority network safety upgrading schemes and aid investment decisions. FPZ coding tool is a WebGIS application that needs to be hosted on a server and is distributed to the client via web browsers. For field related activities (such as visual survey), FPZ obtained the services of two Lebanese consulting firms : 1) Khatib & Alami Consolidated Engineering Company s.a.l. 2) Dar Al-Handasah Nazih Taleb & Partners; Visual Survey was conducted by using video cameras on approximately 6,000 km of road sections along the entire road network of Lebanon. The visual survey, which recorded short videos while driving on the survey road sections, sequentially recorded items related to traffic safety such as road conditions, presence of pedestrians and traffic safety facilities and the information recorded was compiled for each route. The road surface conditions and its facilities at any road section can be confirmed through the recorded video. By using the information surveyed, traffic safety ratings are automatically generated for four different road users (vehicle occupants / pedestrians / motorcyclists / bicyclists). A master list of candidate road sections for the sub-projects of the REP were developed according to the three following criteria: • Road pavement damage specified by iRap • Traffic safety level specified by iRap. • Annual average daily traffic as computed by FPZ based on existing traffic data. This study is available at the CDR website. 2) The REP is classified under Category "B" project as per World Bank safeguard policies, with two policies triggered OP4.01 regarding Environmental Assessment and OP4.12 regarding Involuntary Resettlement. Accordingly, an Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF) were prepared, consulted, cleared by the World Bank and disclosed. The ESMF and RPF are published on CDR website under the project.
It is very important to obtain the program of roads rehabilitation, even if in a 1st stage for only part of the Lebanese territories, furthermore please be reminded that you didn't answer to Mr Rached Sarkis request. as well as we remind you that a detailed hydrogeological study is required for every kind of stratigraphic geology of roads separately, not just a global approach as submitted by yourself in the presentation (no any meaning to rehabilitate as is any existing road on top of inappropriate land support and / or surrounds as for example: Chekka (repetitaly) / Hammana (lately) / Berkayel Akkar (lately) etc.... Regards, Raja Noujaim	

Question	Answer provided
	(https://www.cdr.gov.lb/en-US/Studies-and-reports/Roads-and-Employment.aspx). 3) To meet Lebanon's developmental needs in the road sector while also stimulating the economy and creating jobs, the World Bank approved in February 2017 the Road and Employment Project (REP) through a US$200 million Loan (Loan No. 8705-LB) from the International Bank for Reconstruction and Development (IBRD). The REP has been declared effective on October 30, 2018 when the Lebanese Parliament endorsed Law 90 that allowed the Lebanese Government to sign the Loan agreement with IBRD for the implementation of REP. The REP is implemented by the Council for Development and Reconstruction (CDR) representing the Government of Lebanon (GOL). 4) From the master list of candidate road sections, a short list of roads was selected based on it several criteria including pavement condition, road safety levels, traffic volumes, and importance. This selection was followed in all 25 Cazas. Budgets per Casa was also determined based on the number ok poor km of road versus the total km of road present in the casa. The list of roads that are financed under the project has been approved by the Council of Ministers (COM) Decision Number 1 on June 27, 2019. As approved by COM Decision, the CDR determined the funds allocated by Caza, and then tabulated a short-list of roads from the master list by order of priorities based on consultation with Ministry of Public works and Transport (MoPWT), Union of municipalities and municipalities. 5) Following the selection of roads, field visits have been done by the design engineering consultants to confirm the status of the roads through details surveys and assess the needed interventions as part of the rehabilitation project. Based on the quality of the road, specific road works have been identified varying from full rehabilitation to implementation of only road safety measures as needed. The maintenance and rehabilitation activities include asphalt overlays, drainage works, base and subbase reconstruction on selected sections, slope stabilization works, retaining walls, road safety activities (edge safety barriers, marking, signing, etc...) as well as roadside improvements. The REP originally had three components as follows: 1) Roads Rehabilitation and Maintenance (US$185 million), will primarily finance work for the rehabilitation and maintenance of about 500 kilometers of primary, secondary, and tertiary roads, including road safety and spot improvements as well as supporting consultancy services. 2) Improving Road Emergency Response Capacity (US$7.5 million), aims at improving the capacity of the Ministry of Public Works and Transport (MPWT) to deal with road emergency works, especially those induced by snow and climate extremes.

Question	Answer provided
	3) Capacity Building and Implementation Support (US$7.5 million), is aimed at building the capacity of the Lebanese agencies in the planning and management of the road sector. By the end of 2020, a new component has been added to the above three which is Component 4 about the support to farmers. It was added upon the request of Ministry of Agriculture (MoA) and following the approval of Lebanese Parliament through Law No. 186 of October 7, 2020 where part of the loan was reallocated for the benefit of small Lebanese farmers in the light of the financial and economic crisis and covid-19. The Roads Rehabilitation and Maintenance covers classified roads (based on the official Ministry of Public Works road classification) in 25 Districts (or Caza) throughout Lebanon and grouped into six lots as follows: • Lot 1: roads in Cazas of Jbeil, Kesrouane and El Maten. • Lot 2: roads in the Cazas of Aley, Baabda, Chouf and Zahle. • Lot 3A: roads in the Cazas of Nabatiye, Marjaoun, Hasbaya, Rachaya and Bekaa West. Lot 3B: roads in the Cazas of Bent jbeil, , Jezzine, Saida, and Sour. • Lot 4: roads in the Cazas of Akkar, Minieh-Danniyeh and Zgharta. • Lot 5: roads in the Cazas of Batroun, Bcharre, Koura and Tripoli. • Lot 6: roads in the Cazas of Baalbeck and Hermel. As for the environmental and social safeguards for the selected roads, 25 site-specific Environmental and Social Management Plan (ESMP) were prepared between 2019 and 2020, cleared by the World Bank and disclosed on the CDR website (https://www.cdr.gov.lb/en-US/Studies-and-reports/Roads-and-Employment.aspx). Those reports examined the baseline environmental conditions of each road under study (including the hydrological setting), assessed all site-specific Environmental and Social (E&S) risks and impacts, determined the appropriate mitigation measures and put in place E&S management plans to appropriately manage and monitor the implementation of the safeguard requirements. The ESMP reports only targeted the first component of the REP which is Roads Rehabilitation and Maintenance. The consultancy for the design and supervision of the rehabilitation works have been completed by Engineering Firms. Six civil work contracts have been signed, and are now in early stages of implementation. **For further information please send inquiry to CDR GRM at the following email address GRM.REP@cdr.gov.lb or contact 01980096 ext:317**
Questions relating to REP Component 4	

Question	Answer provided
on top of the fact that it has from the beginning a big weakness (an obvious and clear opening to unfairness, injustice and iniquity) as declared by yourselves the total number of beneficiaries (small agricultures) doesn't even reach 20% of the actual existing ones (26700 from 156000 agricultures) !!?? on top of the fact that a one year plan only reaches a kind of "nonsense" as it should be at least for a 3 years plan covering all the small agricultures, accordingly and in view of the actual situation of Agriculture in Lebanon a real useful financing for this 4th additional component should reach around 50 million US$ (not 10) even though the balance could be deducted from the value of the 1st component of 180 million US$... (especially in view of the non-professionalism and corruption within the administration in charge of roads and complement).	The funding of Component 4 (US$10m) is allocated from an already existing World Bank loan for the Roads and Employment Project (REP) (Loan No. 8705-LB). Upon the request of Ministry of Agriculture (MoA) and following the approval of Lebanese Parliament through Law No. 186 of October 7, 2020, part of the loan was reallocated for the benefit of small Lebanese farmers in the light of the financial and economic crisis and covid-19. The application process will be demand-driven. The selection process will take place based on pre-determined selection criteria to be announced and the documents to be provided by applying farmers will be announced too. The MoA acknowledges the fact that the $10 million are not enough. Therefore, the MoA is currently working to mobilize additional funding resources to support a large number of farmers through the Voucher system from other UN agencies including FAO, WFP and the World Bank.
Furthermore another discrepancy appears in the presentation where only Akkar and Bekaa Valley are noted as largest agricultural areas without any consideration to other zones as Mount Lebanon (north to south) for instance being the most damaged and exposed, as these criterias prevails in this study... !!??	This slide shows the land cover and land use in Lebanon under the baseline information section. In general, the agricultural practices in Lebanon are most intensive in the Bekaa Valley and Akkar because the greatest concentration of agricultural lands is in the Bekaa Valley (43% of the total cultivated area), followed by northern Lebanon-Akkar (26%). Please note that the program covers all Governorates in Lebanon (except Beirut) and not only Bekaa and Akkar.
1- description and quantities of all and every item to be purchased and distributed to agricultures who btw should be Lebanese only	The tentative list of eligible items is included in the project document and it will be finalized during preparation/inception phase. Farmers should be Lebanese; this is a requirement.
2- what are the: names / number / areas / villages... of the 26700 small agricultures that were chosen based on the criterias that were fixed especially that corresponding needed data exist (further comments regarding these fixed criterias and number of beneficiaries will be given afterward).	Farmers will be called to apply through a nationwide detailed programme announcement utilizing all channels to reach target groups with all stakeholders including farmers groups and cooperatives, syndicates, municipalities, NGOs social media and media channels, MoA website etc. Selection process will take place based on pre-determined selection criteria to be announced. The documents to be provided by applying farmers will be announced too. This will be validated and verified by an independent Third Party based on Terms of References to be cleared by the World Bank, CDR and MoA. Only eligible farmers will benefit from Project support. A Grievance Redress Mechanism (GRM) is developed and will be managed by FAO for Component 4. In addition, another GRM is in place at the CDR to cover all REP components including component 4. Concerned persons can inquire about additional information and/or submit a complaint (if any) by contacting the Grievance Redress Mechanism (GRM) Unit from Monday to Friday between 9:00AM and 3:00PM, on: Phone: 01980096 ext:317

Question	Answer provided
	Email: GRM.REP@cdr.gov.lb Register an official letter at the CDR (Address: Tallet al Serail - Riad el Solh, Beirut – Lebanon). Noting that all complaints filed under CDR GRM for component 4 will be transferred to FAO for response.
3- how import or purchase is forecast to be done and how distribution will be handed over ? with specifying especially and in detail the "power", responsibility... of the ministry of agriculture and dependent departments, knowing that this is not the 1st time such action is done through this administration, and the discrepancies &" الزبائنية المعتمدة" that occurred then are very well known and all direct or indirect interferences mainly in these stages should be avoided this time. and btw we consider that FAO alone cannot handle properly these tasks without the help and support of civil society and concerned specialized associations.	The Programme will not be involved in any importation of inputs (except for the animal vaccines which will be procured by FAO). The Programme will distribute inputs vouchers to eligible farmers and the farmer can redeem those vouchers with the selected suppliers who will be contracted by the Programme (through FAO). This will also be validated by an independent Third Party based on Terms of Reference to be cleared by the World Bank. **For further information please contact directly the Office of the Minister of Agriculture on 01848443 or reach out to Ms. Randa Rahal (Executive Minister Cabinet) email: rrahal@agriculture.gov.lb**

APPENDIX E7 – LIST OF PARTICIPANTS DURING THE SECOND VIRTUAL MEETING

List of Participants Who Attended the Virtual Meeting

Dated: February 10, 2021

Full Name	Gender	Institution	E-amil address
Raja Noujaim	M		rajanoujaim@gmail.com
Antoine Hoayek	M		tono155@hotmail.com
Amal Salibi	F	MoA	asalibi@agriculture.gov.lb
Jean Stephan	M		dr.jeanstephan@gmail.com
Karim Shaar	M	ELARD	kshaar@elard-group.com
Lamia Tawm	F	MoA	ltawm@agriculture.gov.lb
Maurice Saade	M	FAO	Maurice.Saade@fao.org
Mona Siblini Halwany	F	MoA	msiblini@agriculture.gov.lb
Rana Kobrossi Zbeidy	F	ELARD	rzbeidy@elard-group.com
Rita Al Hachach	F		ralhachach@gmail.com
Rita Stephan	F	CDR	rstephan@cdr.gov.lb
Wafaa Al-Dika-Hamzeh	F	MoA	wdikah@gmail.com

APPENDIX E8 – QUESTIONS AND COMMENTS RAISED DURING THE SECOND VIRTUAL MEETING

Questions/Comments	Answer
Mr. Raja Noujaim stressed on the need to deliver the financial support to the farmers in USD and not LBP for them to benefit without losing the value of the voucher.	Mrs. Wafaa Dikha-Hamze (MoA) clarified that the value of the voucher will be in USD, especially that FAO will be distributing the vouchers.
Ms. Amal Salibi (MoA) explained that the selection of eligible farmers is based on two (2) criteria: Contribution to total sales and thus food security; and Holding size relative to the type of production The total sales should be less than USD 15,000 per year. There are roughly 70,000 smallholder farmers in Lebanon who make less than USD 15,000 per year. Based on calculations, the USD 300 that can be redeemed with the voucher will cover around 30% of the total cost of production for a holding of 50 dunums. In addition, the total number of smallholder farmers in Lebanon (which accounts for 70,000) contributes to 2% of the total agriculture production in the country only. This is why Component 4 could not target only these, noting that they will also benefit from the WB Social Safety Net. This is why the MoA and FAO targeted the second category mentioned in Mr. Noujaim's proposal, which led to the ≤50 dunum criterion.	The comment was duly noted.
Mr. Noujaim wished that the MoA and FAO reconsider the criteria of the holding size, as 50 dunums[6] can be considered as a large agricultural land. This threshold will hinder the equity of the support Programme. He also noted that the data and numbers can be retrieved from the MoA Regional Centers to identify eligible candidates. He also noted that the Law 186, regarding the loan reallocation and restructuring, should not be considered as an obstacle to modify the eligibility criteria to ensure a fair distribution of the financial support provided to the smallholder farmers across Lebanon.	Mr. Maurice Saade (FAO) explained that during a pilot project implemented by the FAO in Baalbek-Hermel, they could not identify any farmer owning a holding of less than 10 dunums who depended on farming as a main source of income. Based on the Agricultural Census of 2010, out of 170,000 farmers, 85,000 have shown to rely on agricultural activities for a living. He also noted that due to the emergency nature of Component 4, meticulous studies could not be carried out to identify those most affected by the crisis, due to the fact that such studies will consume part of the available budget, and will be time consuming. To simplify things, the voucher value (of USD 300) contributes to 20% of the total production cost calculated for an average 5 du holding; it could not be set to be proportional to holding or herd size, or to the size of the crisis impact.
	Ms. Salibi (MoA) clarified that in the Agricultural Census of 2010, the farmers are not classified as full-time, part-time, or seasonal workers. The

[6] The eligibility criterion of 50 dunums was later revised to 20 dunums

Questions/Comments	Answer
	statistics cannot serve as a solid material to choose the beneficiaries. Hence, the two criteria adopted under Component 4 are based on the international definition of smallholder farmers.
	Mrs. Dikah-Hamze (MoA) addressed the concern about the Law 186. She explained that latter is not binding or an obstacle for the implementation of Component 4; it mainly specifies the sub-sectors to be targeted.
Mr. Antoine Hoyek raised the concern of nepotism, and highlighted the need to have a national agricultural register, in order to be fair when implementing interventions such as Component 4.	Mrs. Dikah-Hamze (MoA) ensured that the MoA is currently working on developing a national agricultural register and seeking funding for this purpose.
Mr. Hoyek noted that the national farmers registry needs to be issued in a legislative text (law) by the Parliament and not the MoA, and that political interferences and conflict by chambers of agriculture and other parties are hindering the process. He also emphasized the importance of having all Lebanese regions benefit from the intervention.	Participants agreed that if the farmers registry was available, the data on eligible farmers would have been readily available without all the efforts currently spent.
Mr. Noujaim questioned the “first come, first served” principle to be adopted during the selection phase of the beneficiaries, suspecting it might lead to inequity in the distribution of vouchers.	Mrs. Dikah-Hamze (MoA) addressed the question and clarified that the “first come first served” method is intended to specify a specific timeframe for the farmers to apply for support. During this period, applications will be reviewed, and simultaneously eligible candidates will be accepted, while others can still apply. A comprehensive nation-wide information campaign will be launched to make sure all farmers are informed about the support program and the eligibility criteria, and those in need obtain the needed support. She noted that the voucher system is new to Lebanon and is costly to implement.
Mr. Noujaim suggested that in order to have a faster implementation of Component 4, the MoA and FAO can contact the MoA Regional Centers, collect detailed information on the registered farmers, their holdings and herds size, and choose the eligible ones. He also noted that a validation rate of 15% of the total pre-approved applicants is not significant.	Mr. Saade (FAO) clarified that in international best practice the percentage of validation is set at 15-20% to be significant. Due to the lack of financial resources and time, the MoA and FAO will validate 15% of the pre-approved applications. Moreover, FAO is trying to make sure that most of the US$ 10 million support value reaches farmers and minimize the amount to be spent on studies and logistics.
	Mrs. Dikah-Hamze (MoA) explained that the first step of the program will be assigned to the MoA Regional Centers; the MoA Regional Centers will receive the applications. She also mentioned that the vouchers system is

Questions/Comments	Answer
	costly; since the programme is an emergency response to the COVID-19 and financial crises, MoA and FAO have managed to make the most out of the Component 4 budgeting dedicated to beneficiaries instead of conducting field surveys and studies.
Mr. Noujaim stated that fishery farms are not affected by the crisis as much as other productions.	The comment was duly noted.
Mr. Noujaim and Mr. Hoayek suggested restructuring the voucher system in order to reach the 70,000 smallholder farmers in Lebanon. He added that the increase in the operational cost is negligible as the MoA personnel are available, and will not require additional personnel. Additionally, he suggested reconsidering the financial value of the voucher to be proportional to the holding size for each farmer. Famers themselves would not accept receiving the same voucher amount.	Mrs. Dikah-Hamze explained that if the number of beneficiaries increases, the total operational cost will also increase. Mr. Saade noted that data available at MoA's regional centers relates to herd sizes more than holding sizes. It is probably not comprehensive. He added that FAO relies on surveys conducted by MoA to plan and implement interventions. He agreed on the importance of the farmers' registry, but highlighted that the project is an emergency intervention that cannot await the registery establishment; thus the most suitable way to define eligibility was adopted. And the validation process will further ensure that the vouchers reach those eligible farmers who need them.
Mr. Noujaim requested from MoA to send/publish the data gathered as part of agricultural census conducted in 2017, which would serve to revise the eligibility criteria.	Mrs. Dikah-Hamze (MoA) ensured to Mr. Noujaim that the agricultural production survey of 2017 will be published on the MoA website soon for public access and that they will email that data as requested. Ms. Salibi added that more recent survey data (2018, 2019 and 2020) will be progressively analyzed and published on MoA's website as well. However, the 2010 is the most recent census conducted so far.

APPENDIX E9 – STAKEHOLDERS' RECEIVED CONCERNS AND SUGGESTIONS

APPENDIX F – TECHNICAL NOTE: PUBLIC CONSULTATION AND STAKEHOLDER ENGAGEMENT IN WB-SUPPORTED OPERATIONS WHEN THERE ARE CONSTRAINTS ON CONDUCTING PUBLIC MEETINGS

APPENDIX G – SAMPLE CODE OF CONDUCT (COC) TO BE SIGNED BY FAO AND MOA STAFF WORKING ON THE PROJECT

GENDER BASED VIOLENCE, SEXUAL EXPLOITATION, SEXUAL ABUSE, AND CHILD ABUSE/EXPLOITATION
CODE OF CONDUCT

I, _____, do herby acknowledge adhering to the following core principles and minimum standards of behavior without exception following the project's requirements to prevent Gender Based Violence (GBV), Sexual Exploitation, Sexual Abuse, and Child Abuse/Exploitation:

I agree that while working on this project I will:

1. Carry out my duties competently and diligently;
2. Consent to Police background check;
3. Comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health and well-being of other individuals;
4. Complete relevant training courses that will be requested and provided by my employer related to the social aspects of the Contract, including but not limited to Gender-Based Violence (GBV), Sexual Exploitation, and Sexual Abuse (SEA);
5. Adhere to a zero-alcohol policy during work activities, and refrain from the use of narcotics or other substances which can impair faculties at all times;
6. Treat women, children (persons under the age of 18), and men with respect, and not discriminate others regardless of race, color, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status;
7. Not use language or behavior towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate;
8. Not sexually exploit or abuse project beneficiaries and members of the surrounding communities;
9. Not engage in sexual harassment of work personnel and staff —for instance, making unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature is prohibited. E.g. looking somebody up and down; kissing, howling or smacking sounds; hanging around somebody; whistling and catcalls; in some instances, giving personal gifts;
10. Not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another.
11. Not engage in Rape and/or Sexual Assault;
12. Not use prostitution in any form at any time;
13. Not participate in sexual contact or activity with children under the age of 18— including grooming, or contact through digital media. Mistaken belief regarding the

age of a child is not a defense.; consent from the child is also not a defense or excuse; and

14. Consider reporting through the GRM or to my manager any suspected or actual GBV by a fellow worker, whether employed by my company or not, or any violations of this Code of Conduct.

With regard to children under the age of 18:

1. Bring to the attention of my manager the presence of any children at the work site or engaged in hazardous activities;
2. Wherever possible, ensure that another adult is present when working in the proximity of children;
3. Not invite unaccompanied children unrelated to my family into my home, unless they are at immediate risk of injury or in physical danger;
4. Not use any computers, mobile phones, video and digital cameras or any other medium to exploit or harass children or to access child pornography;
5. Refrain from physical punishment or discipline of children;

Sanctions

I understand that if I breach this Individual Code of Conduct, my employer will take disciplinary action which could include:

1. Informal warning;
2. Formal warning;
3. Additional Training;
4. Loss of up to one week's salary;
5. Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months;
6. Termination of employment; or/and
7. Referral to the police or other authorities as warranted.

I do hereby acknowledge that I have read the foregoing Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to GBV, SEA, and child abuse/exploitation. I understand that any action inconsistent with the Code of Conduct or failure to take action mandated by the Code of Conduct may result in disciplinary action.

Signature _____
Title _____
Date _____