

**Output 3: Cambodia's capacity on medical waste management to respond to COVID-19 improved**
**Instructions**

Investment Estimation Details	Name	Type of Detail	Specification/Size	Amount*	Unit*	Unit Price*	Subtotal	Remark	Percentage%
<b>Activity 3.1: Provision of technical support on COVID-19 healthcare waste treatment to contain the epidemic and protect the environment</b>							<b>585,200</b>		<b>73.61%</b>
Activity 3.1.1: Provision of appropriate equipment for treatment of solid waste and wastewater using non-incineration and non-chemical technologies in accordance with WHO standards	Steam sterilizer with an integrated shredder for Khmer-Soviet Friendship Hospital (e.g. Sterilwave 440),including the transportation, installation and life cycle maintenance costs	Provision of Materials and Equipment	70kg/hr. The equipment is \$160,000/pc (including transportation and installation), with additional 30% of the price for life cycle maintenance costs. The total price for 1 equipment is \$208,000.	1	Pcs	208,000	<b>208,000</b>		<b>26.16%</b>
	Steam sterilizer with an integrated shredder for National Pediatric Hospital (e.g. Sterilwave 250 for medium size institutions),including the transportation, installation and life cycle maintenance costs	Provision of Materials and Equipment	50 kg/hr.The equipment is \$130,000/pc (including transportation and installation), with additional 30% of the price for life cycle maintenance costs. The total price for 1 equipment is \$169,000.	1	Pcs	169,000	<b>169,000</b>		<b>21.26%</b>
	Washing Machines for Khmer-Soviet Friendship Hospital	Provision of Materials and Equipment	120-130g	2	Pcs	16,000	<b>32,000</b>		<b>4.03%</b>
	Washing Machines for National Pediatric Hospital	Provision of Materials and Equipment	100kg	2	Pcs	12,000	<b>24,000</b>		<b>3.02%</b>
	Medical wastewater treatment equipment,including the transportation, installation and life cycle maintenance costs	Provision of Materials and Equipment	The equipment is \$30,000/pc (including transportation and installation), with additional 30% of the price for life cycle maintenance costs. The total price for 1 equipment is \$39,000.	2	Pcs	39,000	<b>78,000</b>		<b>9.81%</b>
	Recruit 1 National consultant to coordinate all the technical inputs to meet project targets managed by UNDP including the coordination required to procure appropriate equipment for treatment of solid waste and wastewater.	Provision of technical support	1 National coordinator who will coordinate all technical inputs including procuring appropriate equipment (20 days/person, 300USD/day/person, the total is 6000USD)	20	person days	300	<b>6,000</b>	1 National coordinator who will coordinate all technical inputs including procuring appropriate equipment, in close coordination with Chinese experts	<b>0.75%</b>
Activity 3.1.2: Provision of equipment for collection of wastes and construction of storage facilities	Trolleys	Provision of Materials and Equipment		6	Pcs	300	<b>1,800</b>	2* 3 hospitals	<b>0.23%</b>
	Reusable containers	Provision of Materials and Equipment		12	Pcs	100	<b>1,200</b>		<b>0.15%</b>
	Disinfecting guns	Provision of Materials and Equipment		3	Pcs	1,500	<b>4,500</b>		<b>0.57%</b>
	Medical disposable sterilization test pack in the autoclave/steriliser validation	Provision of Materials and Equipment	Box of 200	50	Pcs	50	<b>2,500</b>		<b>0.31%</b>
	Color-coded plastic bags	Provision of Materials and Equipment	Box of 200	50	Pcs	50	<b>2,500</b>		<b>0.31%</b>
	Color-coded waste bins	Provision of Materials and Equipment		27	Pcs	100	<b>2,700</b>	9 types of waste *3 hospitals	<b>0.34%</b>
	Technical guidance, logistic, delivery including transport, operation and quality assurance	Provision of Materials and Equipment		1		2,000	<b>2,000</b>		<b>0.25%</b>
	MASK - SURGICAL Medical/surgical mask Type IIR	Provision of Materials and Equipment	Box of 50	200	Pcs	50	<b>10,000</b>		<b>1.26%</b>

Activity 3.1.3: Providing appropriate personal protective equipment (PPEs) to ensure the safety of the waste handling, disposal, transport and incineration	HAND SANITIZER 80 or 100 ml	Provision of Materials and Equipment	Box of 200	60	Pcs	150	9,000		1.13%
	Protective Suits and Goggles	Provision of Materials and Equipment	Box of 200	100	Pcs	200	20,000		2.52%
	GLOVES	Provision of Materials and Equipment	Box of 100	200	Pcs	50	10,000		1.26%
	Technical guidance, logistic, delivery including transport, operation and quality assurance	Technical assistance, operation support and management		1	package	2,000	2,000		0.25%
<b>Activity 3.2:Provision of training courses on waste management to the targeted groups</b>							<b>190,800</b>		<b>24.00%</b>
Activity 3.2.1: Develop guidelines and communication materials for health care facilities, service providers about the collection, storage, treatment, and disposal of waste	International consultant to provide technical inputs for developing guidelines and communication materials for health care facilities, service providers, about the collection storage treatment and disposal of waste based on international standards	Provision of technical support	Medical waste expert (WHO)	30	person days	400	12,000	The guidelines and materials will include technical inputs of the Chinese experts, based on the condition of Cambodia.	1.51%
	Recruit 1 national consultant to provide technical inputs for developing guidelines and communication materials for health care facilities, service providers, about the collection storage treatment and disposal of waste	Provision of technical support	1 national medical waste expert who will provide technical inputs for developing guidelines and communication materials (15 days/person, 300 USD/day/person, the total is 4,500USD)	15	person days	300	4,500		0.57%
	Recruit 1 International consultant to develop high quality guidelines and communication materials for health care facilities, service providers, about the collection storage treatment and disposal of waste	Provision of technical support	1 international communication expert to develop high quality guidelines and communication materials	18	person days	400	7,200		0.91%
	Translation of materials from EN to Khmer	Provision of technical support	Translator	1	package	1,000	1,000		0.13%
	Digital / in-print training materials (simple booklet) as well as posters for healthcare workers	Provision of technical support	Designing and printing	3	ckages/hosp	3,000	9,000		1.13%
Activity 3.2.2: Provide training for health facility workers based on the WHO guidelines	Recruit 1 international consultant to provide training for health facility workers based on the WHO guidelines	Provision of technical support	1 international medical waste expert to provide training for health facility workers based on the WHO guidelines (21 days/person, 400USD/day/person, the total is 8,400USD)	21	person days	400	8,400	The training sessions will be co-delivered along with Chinese experts.	1.06%
	Recruit 1 national consultant to provide training for health facility workers based on the WHO guidelines	Provision of technical support	1 national medical waste expert to provide training for health facility workers based on the WHO guidelines (30 days/person, 300USD/day/person, the total is 9,000USD)	30	person days	300	9,000		1.13%
	Meetings/workshops/Online Delivery	Training, Workshop Conference	3 hospitals*2 trainings/hospital	6	person days	500	3,000		0.38%
	Recruit 1 National consultant to provide technical medical waste inputs for guidelines and training materials for proper management of equipment to treat infectious solid waste and wastewater and proper operation of existing incinerators to minimize environmental hazards	Provision of technical support	1 national medical waste expert to develop guidelines and training materials (30 days/person, 300USD/day/person, the total is 9,000USD)	30	person days	300	9,000		1.13%
	Recruit 1 International consultant to provide technical air quality and incineration inputs for guidelines and training materials for proper management of equipment to treat infectious solid waste and wastewater and proper operation of existing incinerators to minimize environmental hazards	Provision of technical support	1 international air quality and incineration expert to develop guidelines and training materials (15 days/person, 400USD/day/person, the total is 6,000USD)	15	person days	400	6,000		0.75%

	Recruit 1 national consultant to provide technical waste water and air quality inputs for guidelines and training materials for proper management of equipment to treat infectious solid waste and wastewater and proper operation of existing incinerators to minimize environmental hazards	Provision of technical support	1 national waste waster/air quality expert to develop guidelines and training materials (20 days/person, 300USD/day/person, the total is 6,000USD)	20	person days	300	<b>6,000</b>		<b>0.75%</b>
	Recruit 1 International consultant to develop high quality guidelines and training materials for proper management of equipment to treat infectious solid waste and wastewater and proper operation of existing incinerators to minimize environmental hazards	Provision of technical support	1 international Communication expert to develop high quality guidelines and training materials (18 days/person, 400USD/day/person, the total is 7,200USD)	18	person days	400	<b>7,200</b>		<b>0.91%</b>
	Translation of materials from EN to Khmer	Translator		1	package	1,000	<b>1,000</b>		<b>0.13%</b>
	Digital / in-print training materials (simple booklet) as well as posters for healthcare workers	Communication and printing		3	ckages/hosp	3,000	<b>9,000</b>		<b>1.13%</b>
Activity 3.2.4: Provide technical training materials and courses for health care professionals about the abovementioned types of technology and equipment	Recruit 1 International consultant to provide technical medical waste inputs for technical training materials and courses for health care professionals about the abovementioned types of technology and equipment	Provision of technical support	1 international medical waste expert provide technical medical waste inputs for technical training materials and courses (15 days/person, 400USD/day/person, the total is 6,000USD)	15	person days	400	<b>6,000</b>	The training materials will include technical inputs of the Chinese experts, based on the condition of Cambodia. The training sessions will be delivered along with Chinese experts.	<b>0.75%</b>
	Recruit 1 national consultant to provide technical medical waste inputs for technical training materials and courses for health care professionals about the abovementioned types of technology and equipment	Provision of technical support	1 national medical waste expert to provide technical medical waste inputs for technical training materials and courses (15 days/person, 300USD/day/person, the total is 4,500USD)	15	person days	300	<b>4,500</b>		<b>0.57%</b>
	Recruit 1 International consultant to provide technical wastewater inputs for technical training materials and courses for health care professionals about the abovementioned types of technology and equipment	Provision of technical support	1 international wastewater expert to provide technical air quality and incineration inputs for technical training materials and courses (15 days/person, 400USD/day/person, the total is 6,000USD)	15	person days	400	<b>6,000</b>		<b>0.75%</b>
	Recruit 1 International consultant to provide technical air quality and incineration inputs for technical training materials and courses for health care professionals about the abovementioned types of technology and equipment	Provision of technical support	1 international air quality and incineration expert to provide technical air quality and incineration inputs for technical training materials and courses (15 days/person, 400USD/day/person, the total is 6,000USD)	15	person days	400	<b>6,000</b>		<b>0.75%</b>
	Recruit 1 national consultant to provide technical waste water and air quality inputs for technical training materials and courses for health care professionals about the abovementioned types of technology and equipment	Provision of technical support	1 national waste waster/air quality to provide technical waste water and air quality inputs for technical training materials and courses (10 days/person, 300USD/day/person, the total is 3,000USD)	10	Person days	300	<b>3,000</b>		<b>0.38%</b>
	Meetings/workshops/Online Delivery	Training, Workshop Conference	3 hospitals*2 trainings/hospital	6	person days	500	<b>3,000</b>		<b>0.38%</b>
Activity 3.2.5: Provide PPEs to sanitation and waste collection workers to protect against the risk of infection to ensure safe waste handling, disposal, transport and off-site incineration	MASK - SURGICAL Medical/surgical mask Type IIR	Provision of Materials and Equipment	Box of 50	90	Pcs	50	<b>4,500</b>		<b>0.57%</b>
	HAND SANITIZER 80 or 100 ml	Provision of Materials and Equipment	Box of 200	60	Pcs	150	<b>9,000</b>		<b>1.13%</b>
	Protective suits and goggles	Provision of Materials and Equipment	Box of 200	60	Pcs	200	<b>12,000</b>		<b>1.51%</b>
	GLOVES	Provision of Materials and Equipment	Box of 150	150	Pcs	50	<b>7,500</b>		<b>0.94%</b>
	Logistic, delivery of PPE including transport, operation and quality assurance	Technical assistance		1	package	2,000	<b>2,000</b>		<b>0.25%</b>

Activity 3.2.6: Provide technical training materials and courses on health precautionary measures to waste collection workers and other exposed populations	Recruit 1 International consultant to provide technical training materials and courses on health precautionary measures to waste collection workers and other exposed populations	Provision of technical support	1 international medical waste expert to provide technical training materials and courses on health precautionary measures to waste collection workers and other exposed populations (20 days/person, 400USD/day/person, the total is 8,000USD)	20	person days	400	8,000	The training materials will include technical inputs of the Chinese experts, based on the condition of Cambodia. The training sessions will be delivered along with Chinese experts.	1.01%
	Recruit 1 national consultant to provide technical training materials and courses on health precautionary measures to waste collection workers and other exposed populations	Provision of technical support	1 national medical waste expert to provide technical training materials and courses on health precautionary measures to waste collection workers and other exposed populations (30 days/person, 300USD/day/person, the total is 9,000USD)	30	person days	300	9,000		1.13%
	Meetings/workshops/Online Delivery	Training, Workshop Conference		6	person days	500	3,000		0.38%
	Digital / in-print training materials as well as posters for healthcare workers	Communication and printing		3	ckage/hospi	3,000	9,000		1.13%
Activity 3.2.7: Procurement of audio and communication equipment	Computers/Printers	Audio and communication equipment		2	package	3,000	6,000		0.75%
<b>Activity 3.3: Communication and visibility of the project at local level</b>							19,000		2.39%
Activity 3.3.1: Launch and hand-over events, by UNDP and Embassy of China	Conduct launch and hand-over events, by UNDP and Embassy of China	Communication	conduct and hand-over events, by UNDP and Embassy of China (3 packages, 3,000 USD/package, the total is 9,000USD)	3	NA	3,000	9,000	Including coordination, transportation and others	1.13%
Activity 3.3.2: Publicity and communication	Produce various forms of project promotional materials such as photo collections, videos, media press releases, brochures, posters, publications, etc.	Communication	Produce various forms of project promotional materials and media press releases such as photo collections, videos, brochures, posters, publications, etc. Photos and 1 video : USD5000 3 successful stories, 5 reports on social media Poster design and printing : USD25/pc*20pcs=USD500 Brochure design and printing : USD25/pc*180pcs=USD4500	1	package	10,000	10,000		1.26%
<b>Total</b>							795,000.00		100.00%
<b>Management Fee 5%</b>							39,750.00		
<b>Grand Total</b>							834,750.00		