

Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity

Ministry of Agriculture and Forestry
Department of Planning and Finance
The World Bank – IDA



LAO AGRICULTURE COMPETITIVENESS PROJECT

LACP – P161473

Environment and Social Impact Assessment Report

For

**Dang-1 Pump Irrigation Scheme (180 ha)
Mahaxay district, Khammouane Province**

July 2021

CONTENT

I.	PROJECT DESCRIPTION	3
1	ANALYSIS OF ALTERNATIVES	4
II.	ENVIRONMENTAL AND SOCIAL CONTEXT	4
2.1	ENVIRONMENTAL CONTEXT	4
2.2	SOCIAL CONTEXT	9
III.	ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT	9
3.1	ENVIRONMENTAL IMPACT ASSESSMENT	9
3.2	SOCIAL IMPACT ASSESSMENT	10
IV.	ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN OR ECOP	10
4.1	ENVIRONMENTAL CODE OF PRACTICE (ECOP)	11
4.2	SOCIAL MANAGEMENT PLAN	12
V.	CONSULTATION AND INFORMATION DISCLOSURE	12
VI.	GREIVANCE REDRESS MECHANISM (GRM)	13
VII.	IMPLMENETATION, MONITORING AND REPORTING ARRANGEMENT	14
VIII.	CONCLUSION AND RECOMMENDATIONS	14
	ANNEXES	15
	Annex.1 Environmental and Social Code of Practice	15
	Annex 2: Minimum Requirements for the Bidder's Code of Conduct	17
	Annex 2: COVID-19 Rapid Assessment Form	Error! Bookmark not defined.
	Attachment 3: Contingency Plan for Response to COVID-19	19

TABLES

Table 1	Summary canal irrigation system of Dang-1 pump scheme	6
---------	---	---

LIST OF FIGURES

Figure 1.	Sub-Project Layout and proposed rehabilitation	5
Figure 2.	Proposed Construction Brick Masonry Concrete MC	5
Figure 3.	Existing and Proposed MC construction	6
Figure 4.	proposed LSC4 construction	7
Figure 5.	proposed farm inlet structure construction	8
Figure 6.	proposed bridges construction	8

I. PROJECT DESCRIPTION

The Lao Agriculture Competitiveness Project (LACP) seeks to enhance the competitiveness and sustainability of Lao PDR's agriculture sector through technical and financial support to increase in agricultural productivity and Competitiveness in selected strategic value chains. The project would focus on: (i) the geographical areas with high agricultural development potentials; (ii) the farming systems with high potentials for Competitiveness (i.e. paddy, maize, vegetables); (iii) promotion of good agricultural practices and climate smart agricultural technologies and farming system diversification to enhance food and nutritional security; (iv) building capacity for farmers' organizations, agribusinesses, public and private service providers; and (v) building on and developing synergies with other government/donor programs. The Project Development Objective (PDO) is to increase competitiveness of selected value chains in the project areas. The Project has an estimated budget of USD 29.3 million, including government co-financing of USD 0.5 million, agribusinesses contributions of USD 5.6 million, and an IDA loan of USD 25.0 million. It will be implemented within five provinces (Khammouane, Bolykhamxay, Xayabury, Vientiane province, and Vientiane Capital). The Project implementation schedule is within 06 years (2018-2024). The LACP is comprised of three components:

Component A: Improved Agricultural Efficiency and Sustainability.

This component will support (a) the increased adoption of improved varieties and high-quality seeds, (b) the increased application of GAP, (c) the provision of critical productive infrastructure, and (d) the strengthening of public services delivery.

(A3) Providing Critical Infrastructure. The project will finance rehabilitation of selected public infrastructure (mainly irrigation schemes). The project will also support PAFOs and Department of Irrigation (DOI) of MAF to provide training in new irrigation models aiming at reducing operation costs and improving water productivity through establishment and strengthening of water user groups to effectively operate and maintain existing and the newly built infrastructure supported by the project.

Total targeted subprojects in Khammouane province to be rehabilitated total 16 pump irrigation schemes, 3 gravity irrigation schemes of which 7 propose pump schemes (Batch-1). They shall be completed in the preparation stage (Assessment, Feasibility and Detailed design) in year 2020-2021 and the rehabilitation work is expected to be implemented at the end of year-2021. The remaining 13 schemes (Batch-2) will be done in the following year in FY 2021-2023.

One of 7 pump schemes that was proposed to rehabilitate for Batch-1 b is Dang-1 pump irrigation scheme. It is located at Dangsavanh village, Mahaxay district, Khammouane province. It is far from centre of Mahaxay district about 11 km to western road (Mahaxay-Boualapha district). The pump scheme borders the villages of Ban Souad in the north, Ban Somsanouck & Xebangfai river in the south, in the east, and with Ban Va in the western. The location of the headwork is at Northern N=526546, and for Eastern E=1929981

Proposed rehabilitation works include (1) Replacement of one 90 Kw motor (Kirloskar brand, capacity 300i/s); Supply and installation of 2 flexible pipe (L=8m); Supply and replacement of water seal at jointed of delivery pipes, Repair bed of stilling basin with normal concrete C20, and repairing of outlet of stilling basin (2) total main canal is 2,139 meters. Rehabilitate existing brick masonry main canal from station 0+864-1+264 and upgrade existing

earth main canal (station 1+750-1+865) to brick masonry rectangular canal, thickness 10 cm, size 0.9x0.9, include 2 farm turnout structures. (3) construction of rectangular brick masonry secondary canal (LSC4) from km 0+000 – 0+300, total length of 300 meters, dimension of 0.6 X 0.6-meter, thickness of 0.1 meter.

Component B: Enhanced Agricultural Competitiveness.

This subcomponent will support activities to promote good agricultural practices (GAP), including the provision of: (a) technical assistance for the establishment of FPGs and building their capacity to adopt GAP; (b) Matching Grants to selected FPGs to carry out Sub-projects that implement GAP; (c) technical and material assistance (i.e., small works, goods, equipment, training, etc.) to build the capacity of PAFOs, DAFOs, and relevant MAF technical departments to conduct training for FPGs on GAP and to carry out related extension and certification activities including soil analysis, organic fertilizer production, and organic farming; and (d) technical assistance to link FPGs with agribusinesses in marketing farm produce.

Component C: Project Management

The component will support (a) project management and (b) monitoring and evaluation (M&E).

1 ANALYSIS OF ALTERNATIVES

Improvement of irrigation systems is to improve the efficiency of rice production, improve and develop water user groups as future water user associations. Rice cultivation uses a large amount of water. Therefore, selected crop cultivation and techniques is alternative option to minimize water consumption during project implementation. The method includes sprinkler or drip irrigation crop cultivation.

II. ENVIRONMENTAL AND SOCIAL CONTEXT

2.1 ENVIRONMENTAL CONTEXT

Dang-1 scheme is a pontoon pumping flow irrigation system. The project was developed in 1999. At that time, the two electrical pumps were installed on a pontoon with two 90 KW motors and the canals were constructed, operated, and maintained by the Water User Group (WUG). The project was updated in a series as the year 2010 and 2012 by replacing of a motor that supported by Khammouane Development Project (KDP). At the same time, the earth main canal was upgraded to brick masonry concrete only Km 0+000 – 1+750. The remaining distance of the Km 1+175 – 2+139 is earth trapezoidal canal is required by upgrading rectangular brick masonry concreted canal. However, rehabilitate existing brick masonry main canal from station 0+864-1+264 and upgrade existing earth main canal from the Km 1+750 – 1+865 was granted by the LACP. See Figure 5.

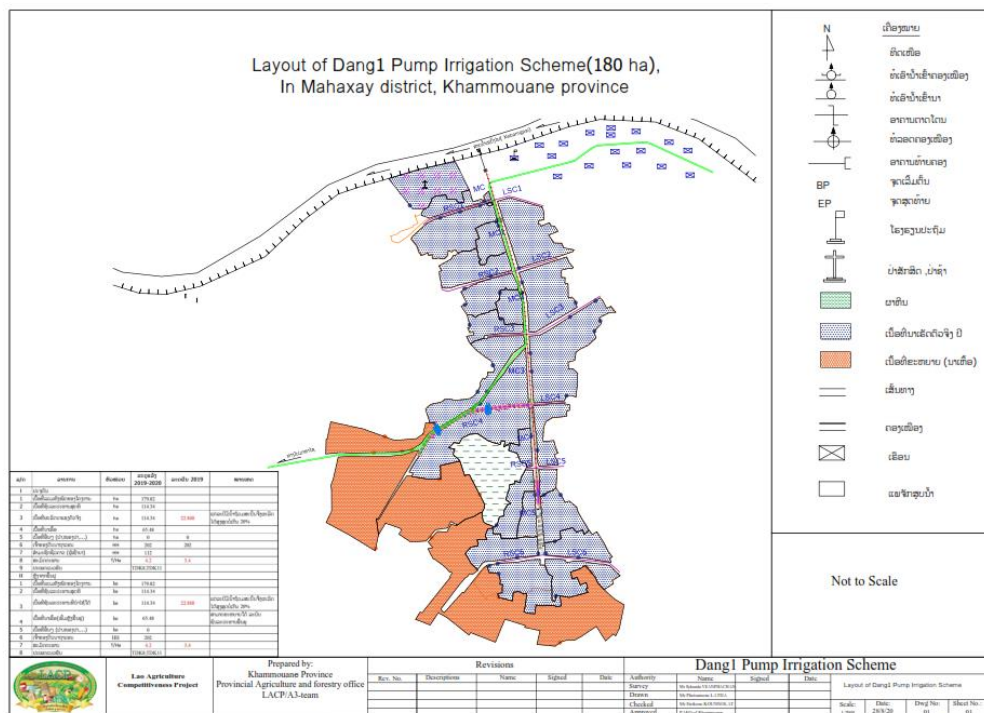


Figure 1. Sub-Project Layout and proposed rehabilitation

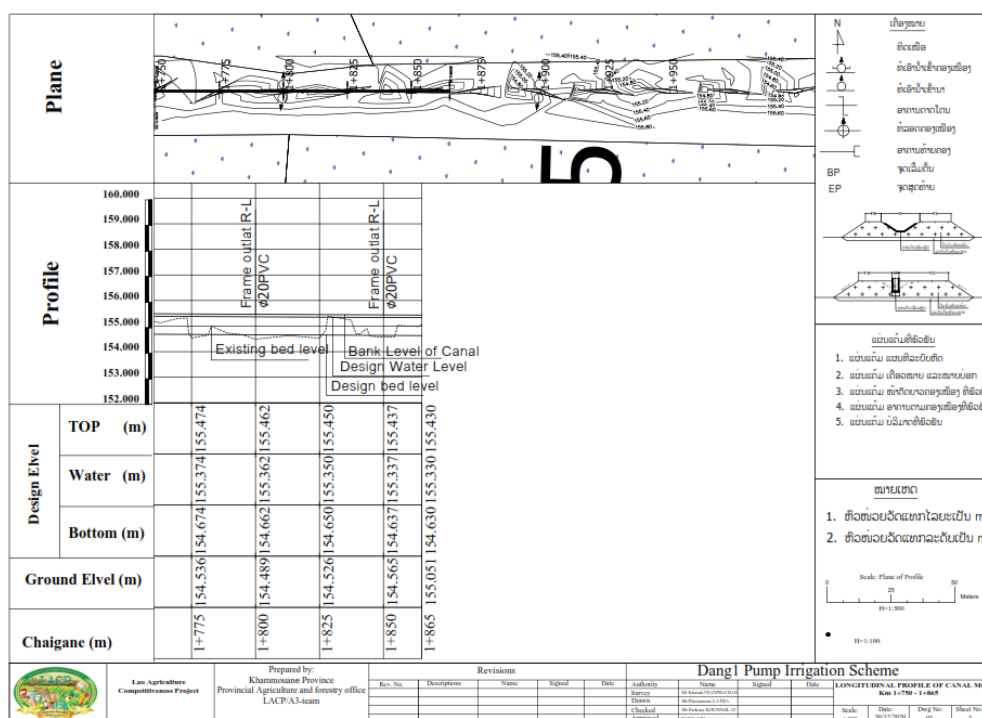


Figure 2. Proposed Construction Brick Masonry Concrete MC



Figure 3.Existing and Proposed MC construction

At the present, the water distribution networks such as LSC1, LSC2, LSC3, LSC4, LSC5 and LSC6 are not working properly due to high water seepage and slop erosion. Although, these networks have been regularly maintained by the WUG. As a reason that upgrading of rectangular brick masonry secondary canal (LSC4) from km 0+000 – 0+300, total length of 300 meters, dimension of 0.6 X 0.6-meter, thickness of 0.1 meter, is needed by the farmers. See figure 4.

Farmers in the project area usually produce rice during dry season as much as irrigated water covered to their command areas in order to subsistence wet season production, because the flood is happened frequently. Particularly, the 2018 flood destroyed all rice in the field causing a massive incomes loss. The water distribution network system is given in table 1.

Table 1 Summary canal irrigation system of Dang-1 pump scheme

Canal	Type, Length (m)	Structures numbers rectangle
Main Canal (MC)	Total length of MC is 2,139m. Where is station 0+000 – 1+750 is brick masonry rectangular main canal, and station Km 1+750 – 2+139 is earth trapezoidal canal with size $b=0.7\text{m}$, $B=2.5\text{m}$, $h=1.2\text{m}$.	6 division box structures and 9 farm tourn out structures within production farm road 2,139 m.
Left secondary canals (LSCs)	Left existing earth trapezoidal secondary canals such as: LSC1 = 290m, LSC2=245m, LSC3=270m, LSC4=190, LSC5=150m, LSC6=680m	No water supply structure system, but they use villager made structures,
Right Secondary canals (SRCs)	Left existing earth trapezoidal secondary canals such as: RSC1 = 530m, RSC2=440m, RSC3=220m, RSC4 = 1,164 RSC5=50m, RSC6=520m	No water supply structure system, but they use villager made structures,

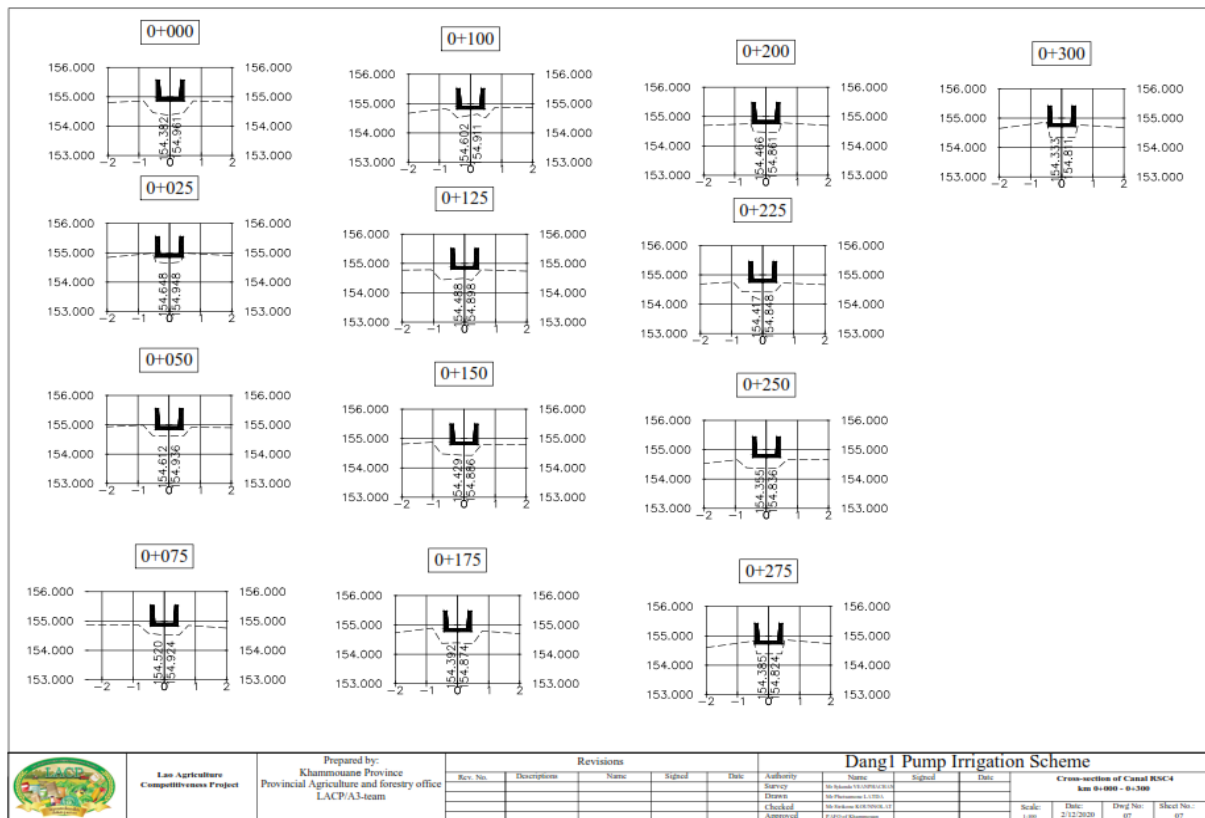
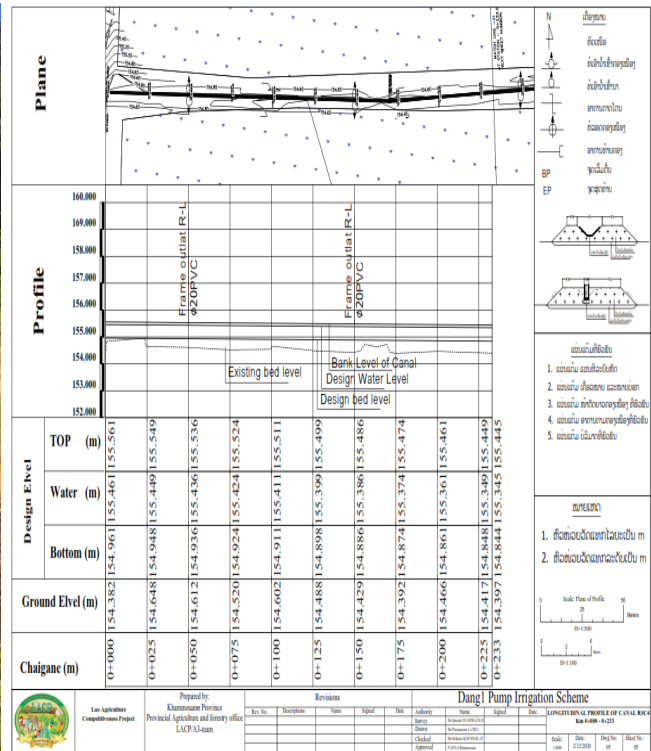


Figure 4. proposed LSC4 rehabilitation

Beside of the upgrading secondary canal, the inlet structures are important to supply water to paddy field. These structures will be constructed at the both left and right side of LSC4 at Km 0+050 and Km 0+150 with a frame outlet ϕ 20 cm to the L-R. see Figure 5.

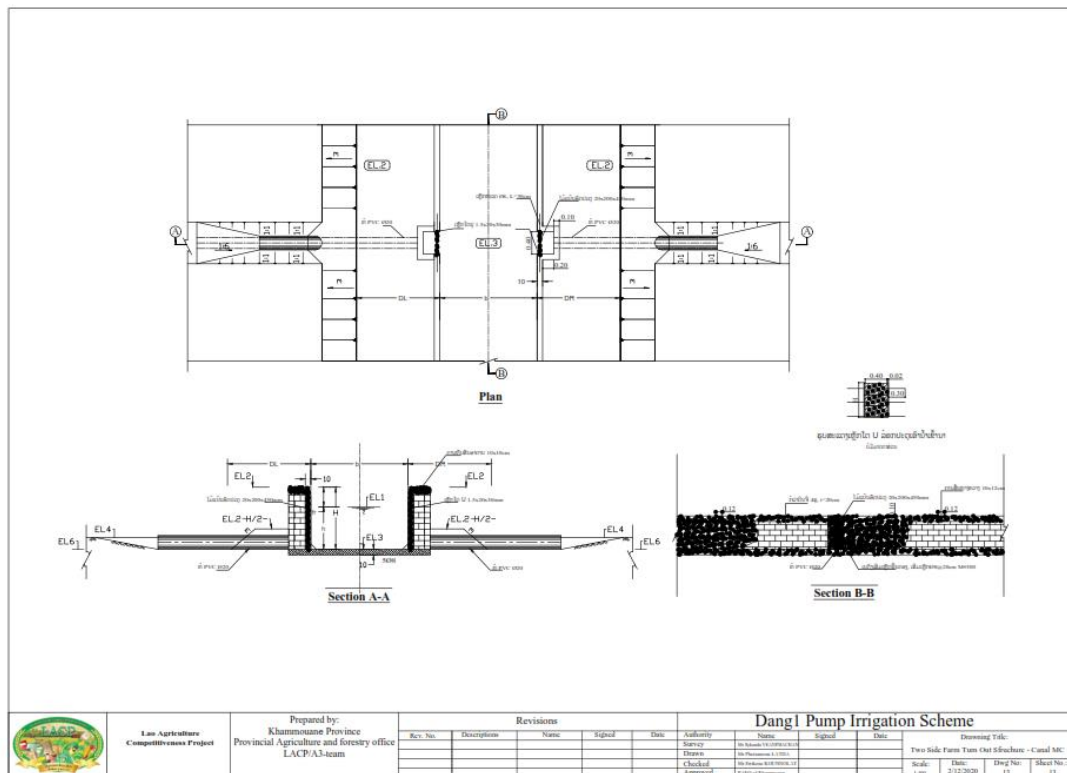


Figure 5. proposed farm inlet structure construction

In order to facilitate farmers, travel to their paddy field, bridges will be constructed at the current road site based on visit and consultation results. See Figure 6.

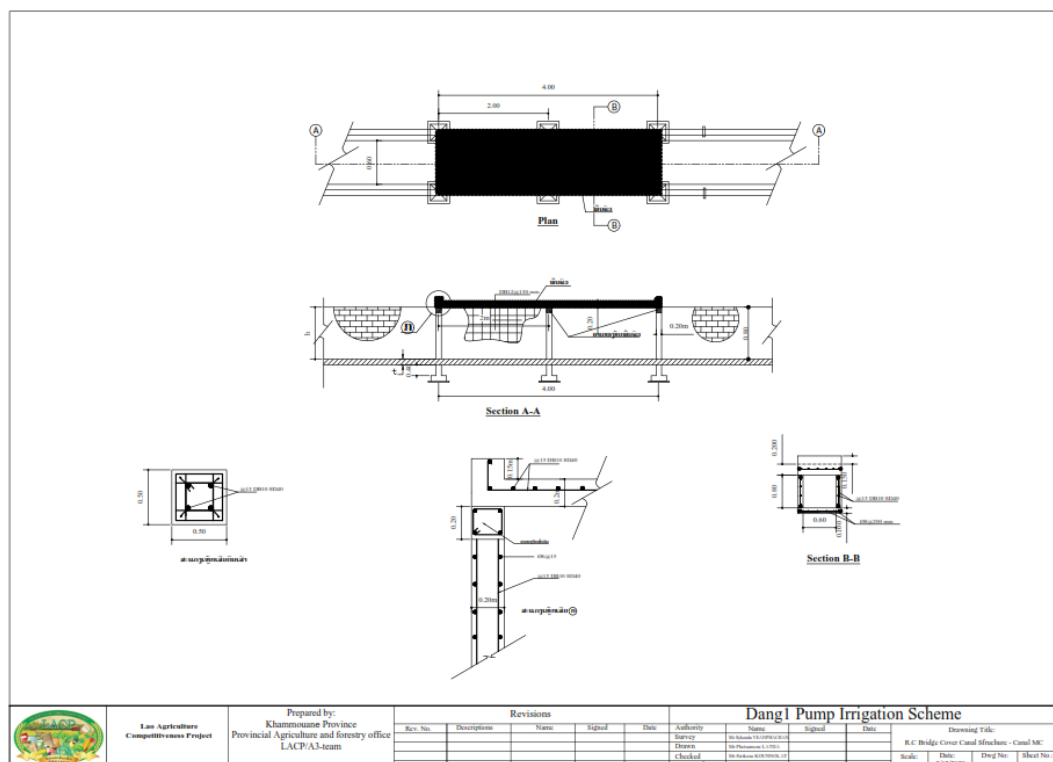


Figure 6. proposed bridges construction

2.2 SOCIAL CONTEXT

Dang 1 Sub-project is located in Dang Tai village, Mahaxay District, Khammouane Province. There are 133 households, total population 661, including 318 Women; most of them are Lao ethnic Tai (not considered as Indigenous People under the Bank policy OP/BP 4.10 on Ips)_ is living in Dang village, who believe Buddhist religion. According to the village consultation and group discussion during ESAR carried out, villagers are fully supportive for the project implementation.

Most of the income comes from agricultural production and animal raising (cattles, buffalos, pigs and poultries). Rice production in both wet and dry season is the main sources of livelihood and income followed by vegetables. There are primary schools, secondary schools in the project area. Water resources are mainly rivers and groundwater for domestic utilization. Tap water is available for the provincial town while gravity fed systems are available for some villages, and wells and boreholes are main used in local communities.

Transportation by road can access village all year round to commute and transport their agricultural products to the market in the district and provincial towns. Dang village has electricity grid and tele-communication network.

The beneficiary village of this project is Dang Tai village. However not only Dang Tai villagers can cultivate rice in the project areas, but also the neighboring villagers/farmers can cultivate rice or other crops by renting lands/paddy fields. An actually, only Dang Tai village benefits from Dang 1 Sub-project. The total households (HH) in Dang Tai village are 133 households, of which the project benefited households are 118 households. The benefited households accounted for about 84.21% of the total village's households. There are 585 people expected to benefit from this sub-project, of which women are 287 people.

The actual irrigation areas of this project are 180 ha for Wet Season and around 114 ha for Dry Season. The expected irrigation areas after rehabilitation of the scheme will be around 180 ha for Wet Season and around 180 ha for Dry Season. About 66 ha of Dry Season cropping areas will be increased after rehabilitation work.

III. ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

3.1 ENVIRONMENTAL IMPACT ASSESSMENT

Field visit was conducted after the feasibility study (FS) and Detailed Design (DD) have been completed with scope and corridors of impacts are determined. During the site visit, consultation was conducted with the targeted village that potentially affected by this sub-project with sub-project detailed design and information disseminated. The reassessment of the sub-project activities is shown that the sub-project location is not located near the protected areas or sensitive habitats or its buffer zone. The sub-project does not have impacts on any cultural resources (both physical and intangible) and to result in restrictions access to land and forest resources. According to the discussion with villagers, subproject locations are potential to have a risk of floods due to climate change. Floods have been occurred frequently since the year 2018 by the water level rise from Xebangfai River. Currently, only dry season rice cultivation has been practiced. However, the irrigation scheme cannot supply irrigated water to all command area due to high water seepage and slop erosion of earth main canal and

secondary canals. Therefore, brick masonry concrete construction of main canal from Km 1+750 – 1+865 and the rehabilitation of the distribution network system (LSC4 from km 0+000 – 0+300) will bring benefit to farmers not only rice cultivation but also vegetables and other cash crops as well as animal feed.

However, Potential environmental impacts related to construction are minor due to the scale of activities and their nature. However, they can be mitigated by providing the environmental code of practice (ECOP) such as transportation of material to the construction site may sometimes generate dust and noise. Farmers will be temporarily disturbed and has insufficient water to supply for rice field due to the construction of civil work will be implemented by the dry season which most of farmers working for dry season rice cultivation. However, construction works will spend approximately a month and half; a number of workers are estimated 20-25 people and local people willing to be workers during construction of sub-project activities. therefore, no camp will be constructed in the work site due to workers will be returned to their home after working hours.

3.2 SOCIAL IMPACT ASSESSMENT

The main component of Dang 1 irrigation Sub-project consist of (1) one set of pontoon, (2) Two 90 kw electricity motor pumps, (3) delivery supply pipes, (4) Supports electricity elemental subcomponents and (5) Stilling basin structure. The water distributive network of the scheme consists of one main canal (MC), 6 left secondary canals, and 6 right secondary canal.

The total length of MC is 2,139 meters, the canal is brick masonry rectangular from the station 0+000-1+750, from the station 1+750-2+139 is earth trapezoidal canal with its size is $b=0.7$ meter, and $B=2.5$ meters, and $h=1.2$ meters.

The rehabilitation of Dang-1 irrigation scheme includes (1) Replacement of one 90 Kw electric motor (Kirloskar brand, capacity 300i/s); supply and installation of 2 flexible pipe ($L=8m$); Supply and replacement of water seal at jointed of delivery pipes, Repair bed of stilling basin with normal concrete C20, and repairing of outlet of stilling basin (2) total main canal is 2,139 meters. Rehabilitate existing brick masonry main canal from station 0+864-1+264 and upgrade existing earth main canal (station 1+750-1+865) to brick masonry rectangular canal, thickness 10 cm, size 0.9×0.9 , include 2 farm tourn out structures. (3) construction of rectangular brick masonry secondary canal (LSC4) from km 0+000 – 0+300, total length of 300 meters, dimension of 0.6×0.6 -meter, thickness of 0.1 meter.

Given that the work is mainly to rehabilitate the existing canals within the same alignment and that the work will be mostly undertaken by the community workers no significant social impacts are envisaged. However, a Field Technical Inspection Team will be assigned to supervise and give them technical supervision guide during construction phase to prevent and manage community health and safety at work. During the operation phase, potential competition and dispute over water from the improved irrigation scheme may be arising between those who can access and those who cannot benefit from the subproject and between upstream and downstream water users.

Potential Positive social and economic impacts:

The potential positive impacts of the Rehabilitation of the Dang 1 Irrigation Scheme are included:

- Improved crop productivity of farmers;
- Employment generation during rehabilitation, farm operations and maintenance phases;
- Enhanced income and livelihoods of farmers;
- Increased food production and food security in the village, district and the provincial at large;
- Improvement in the local and national economy.

Potential Negative social impacts:

- **Vibration & noise nuisance:** sources of noise will be from the movement and operation of machines, trucks and equipment. The operation of heavy construction equipment may also result in minor vibrations at the immediate project site under construction.
- **Occupation health & safety workers:** Workers will be exposed to noise, dust and vibrations especially without the use of appropriate PPEs. There is a high risk of accidents and injury from the use of machinery and equipment if safety procedures are not adhered to.
- **public safety:** communities may be at risk from the movement of trucks/vehicles and other machinery, as well as unsecured excavations (i.e. canals, laterals and drains). This is particularly critical for children and animals.
- **influx of workers and migrant workers:** Construction activities may result in the movement of workers to the project area and people from other communities in search of job opportunities. Influx of people during the construction period may promote COVID-19 prevention and protection, irresponsible sexual behaviour which could lead to teenage pregnancies HIV/AIDS and other STD infections.
- **obstruction of access ways to communities:** Construction works at the project may render portions of the roads inaccessible, temporarily closed or unmotorable during the constructional phase. Alternative routes will have to be provided for use by commuters/motorists. This may create inconvenience and increase travel time to and from the communities.
- potential competition and dispute over water from the improved irrigation scheme may be arising between those who can access and those who cannot benefit from the subproject and between upstream and downstream water users.

IV. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN OR ECOP

4.1 ENVIRONMENTAL CODE OF PRACTICE (ECOP)

To avoid and mitigate the potential environmental impacts related to each stage, mitigation measures in ESMF and ESCOP proposed in this report ANNEX.1 will be used; transportation material vehicles should be small and limited load for passing the village, spray water and limit working hours from 7:30 am-17:00pm to avoid noise and dust from transportation, contractor may purchase construction material from legal source. woods and timbers use as formworks during construction are not allowed to buy with local villagers in order to avoid supporting cut the trees. To monitor and follow activities, district natural resources and environment office in cooperation with DAFO will participate in follow up and advise contractor to dump waste in specific site as local authority specify before construction will be implemented, to avoid waste generation and improper waste management. After completion of the project, wastes from construction will be removed and properly scoured before hand over to concerned organization.

To facilitate transportation during construction, villagers will be informed through village meeting and consultation for the project commencement and completion date before starting

civil works. No temporary access road is required due to the canal embankment can be transported all construction material to the site. It is important to consult with village proper location for bridge across the irrigation canal. It should be safe for school children travelling across the bridge. The bridge may equip with guard rail as necessary.

4.2 SOCIAL MANAGEMENT PLAN

To mitigate and manage social risks and impacts anticipated during subproject construction and operation, villagers were and will be informed and consulted through village meeting before starting civil works. To minimize disturbance and restriction of access to farm land, sub-project impacts and a work schedule will be consulted and agreed with the affected framers. The work schedule will be closely supervised by the field inspection team to ensure that the contractor strictly observe and complete their work as planned.

Speed limit should be applied for the truck or vehicle that transport construction material to construction site. These environmental and social code of practice and below social management plan should be included as part of the contract's contract.

During the operation phase, potential competition and dispute over water from the improved irrigation scheme may be arising between those who can access and those who cannot benefit from the subproject and between upstream and downstream water users. The following are measures proposed to manage such risks:

-The technical O&M manuals of Irrigation project need to be prepared and provided by Project Consultants, who will be responsible for O&M and WUG development.

-Guide the WUG to operate and maintain the irrigation scheme properly, the mandates and rules of WUG need to be revised to meet the actual situation and needs. The capacity of WUG board members needs to be strengthened in the following topics (1) Operation and maintenance of the irrigation scheme: planning and implementing of cropping and water supply; (2) Management of the WUG/WUA: how to implement mandates, rules, WUG/WUA financial management, conflict management, general WUG/WUA management and so on; (2) Production techniques including the Pest Management.

-Measures to mitigate potential conflicts among Water users include (iii) inclusion of downstream residents (who have no access to the improved irrigation schemes) in other economic activities of the project, (iii) include representatives of downstream water users in the Water User Groups/Association for join decision making and management of the irrigation scheme; (iv) where necessary and feasible, construct high-drums to supply downstream residents with water for micro-irrigation systems and domestic use.

V. CONSULTATION AND INFORMATION DISCLOSURE

Consultation with the local communities and farmers/water user groups was conducted in Dang Tai village on 14 July, 2021. 77 people from 133 households participated in the consultation meeting. This draft ESAR was distributed to the community 7 days before the consultation. Main outcomes of the consultation are provided below:

- Potential positive and negative impact during water pump replacement.
- Covid19 prevention preparation

- Collaboration among villagers, provincial and district technical team including construction company

The relevant feedback and information provided by the farmers during consultation meeting included

1. The Dang-1 irrigation scheme was developed in 1999 by the government of Laos (GOL). It was transferred, maintained by the water user group since then. A series of rehabilitation Dang-1 irrigation scheme included replacement of electric motor in 2010, another electric motor also replaced in 2012. Currently, a pump is not functioning due to its motor was broken. One of a motor borrowed temporally from Phova village in order to supply water to the command area during dry season. At the present, farmers are waiting for the coming rehabilitation after FS/DD was conducted by the NPMO's consultant team and DAFO.
2. Before starting construction work; the consultation in detail is needed to be conducted between company and villagers to make clear bilateral understanding as what company will be done while expectation, consideration and incorporation into the subproject design and implementation arrangement of villagers.
3. Local labour for the subproject construction suggested to consider if possible.
4. more detail about construction work is needed and consulted between contractor and villagers to discuss on how cooperation and implementation arrangement work.

The final ESAR will be disclosed onto the MAF's website and hard copy will be available in POFO and DAFO prior to the subproject implementation.

VI. GRIEVANCE REDRESS MECHANISM (GRM)

Social and environmental related grievances either from directly or indirectly affected people, (including affected people from ethnic groups) will be resolved through the Grievance Redress Institution/Mechanism (GRI/M)

However, complainant retains the right to bypass this procedure and as such can direct their grievance directly to the PAFOs or the Provincial Assembly, as provided by law in Lao PDR. At each level within the GRI/M process, discussions and outcomes of lodged complaints will be documented and recorded in a grievance logbook. The status of the grievances submitted and grievance resolution will be reported to PAFOs in monthly reports. In order to effectively and quickly resolve grievances of PAP, the following process will can be followed:

Stage 1: if PAP and PAH are not satisfied with the resettlement plan or its implementation, PAP and PAH can issue a verbal or written complaint to the Village Mediation Unit or Committee (VMU/C). If it is a verbal complaint, the village should deal with this complaint and document it in a written record. The VMU/C should resolve the complaint or grievance within two weeks or calendar 15 days;

Stage 2: if PAP and PAH are not satisfied with the result in Step 1, PAP and PAH can file an appeal with the District Office of Justice (DOJ) via DAFOs after PAP and PAH receives the decision made in Step 1. The DOJ should make a decision within two weeks or 15 calendar days;

Stage 3: if PAP and PAH are not satisfied with the result of Step 2, PAP and PAH can file an appeal with the Provincial Assembly (PA) via PAFO for administrative arbitration after receiving the decision made by the DOJ. The administrative arbitration organization should make the arbitrated decision within 20 calendar days; and

Stage 4 :if PAP and PAH are still unsatisfied with the arbitrated decision made by the administrative arbitration organization, after receiving the arbitrated decision, PAP and PAH can file a lawsuit in a civil court according to the relevant laws and regulations in Lao PDR.

VII. IMPLEMENTATION, MONITORING AND REPORTING ARRANGEMENT

The implementation of the environment and social safeguard is followed by the project implementation arrangement. The project implementing agencies include MAF, MOIC, and the five project provinces. LACP is joining implementing by MAF and MOIC; MAF is the central agency responsible for coordination with concerning stakeholders and overall project implementation. MAF is core of implementing project activities and focusing on component A, C and coordinate with component, working with farmer and production group, upgrading on-farm infrastructure, farmer's production facilities and farm equipment. Technical department involved include DOPF, DOA, DOI and DTEAP.

MOIC is part of the project responsible implementing their respective activities under component B (Enhancing agricultural competitiveness) such as establishing productive partnerships between Abs and FOs and Matching grants for agribusiness (Abs) and farmer groups (FGs) to leverage investments in on-farm infrastructure, post-harvest machines, drying facilities, storages, cool rooms, packaging facilities.

DAFO is taken a lead responsible role at district level to supervise E&S consultant and PMU to conduct screening process, review and endorse sub-project proposal, monitor compliance of sub-project proposal implementation.

DAFO is taken a lead responsible role at district level to supervise E&S consultant and PMU to conduct screening process, review and endorse sub-project proposal, monitor compliance of sub-project proposal implement.

E&S consultant will work closely with PMU and focal point to provide support to farmers and project proponents to prepare sub-project proposal, conduct E&S screening and prepare appropriate safeguard instrument .E&S consultant will also supervise and monitor the implementation of the ESCOP and review an environmental and social monitoring report from PAFO and DAFO before submitting to the World Bank.

VIII. CONCLUSION AND RECOMMENDATIONS

The potential social and environmental impacts associated with the proposed subproject are expected to be minor and insignificant, mostly temporary, site specific and manageable during both construction and operation phases. The construction impacts can mostly be minimized through the ESCOP, which combines ECOP (equivalent to site specific EMP and Social Management Plan as well as mitigation measure proposed in this report, which should form part of the construction contractor contract. Key provisions of ESCOP will be include in bidding documents and contract to be complied with by the contractor and supervised by the field inspection engineer and E&S consultants to minimize and address such impacts anticipated from the subproject implementation

NNEXES

Annex.1 Environmental and Social Code of Practice

Potential Impacts during Construction period	Negative during	Mitigating Measures
Construction material storage		<ul style="list-style-type: none"> Construction material needs to be safely stored in the approved area in consultation with communities and local authorities. Keep stockpile of aggregate materials covered to avoid suspension or dispersal of fine soil particles during windy and rainy days or disturbance from stray animals
Safety hazards and risk of accidents during installation and operation of electric pumping system to workers and local people		<ul style="list-style-type: none"> Allocation of responsibility for site safety to the Contractor's site supervisors staff, who will ensure that all reasonable safety measures, (for both occupational health and safety for construction activities and safety measures during COVID-19 outbreak), such as use of proper personal protective equipment, safety boots, gloves, medical masks and equipment and placing of hazard warnings sign are taken.
Solid waste		<ul style="list-style-type: none"> At all places of work, the Contractor shall provide litter bins, containers and refuse collection facilities. Solid waste may be temporarily stored on site in a designated area approved by the Construction Supervision Consultant and relevant local authorities prior to collection and disposal. Waste storage containers shall be covered, tip-proof, weatherproof and scavenger proof. No burning, on-site burying or dumping of solid waste shall be allowed. Collect and properly dispose of small maintenance materials such as oily rags, oil filters, used oil, etc. Never dispose spent oils on the ground and/or water courses as it can contaminate to soil and groundwater. Safe disposal of spent by burning as a fuel. Recyclable materials such as wooden plates for trench works, steel, scaffolding material, site holding, packaging material, etc. shall be collected and separated on-site from other waste sources for reuse, for use as fill, or for sale.
Community Health and safety Issues and Risks Effects of temporary worker populations		<ul style="list-style-type: none"> Community Health and Safety measures provided in the World Bank Guideline on Environment, Health and Safety (EHS) to be applied by contractor and its workers. Arrangements for collection of solid waste and proper handling with spoil from earth excavation, assignment of responsibility for worker and local peoples' welfare, health and safety to a senior member of the Contractor's staff. Employ local people as workers during construction as many as possible. Establish a Grievance Redress Mechanism (GRM) based on the existing structure (village mediation committee, district and provincial office of Justice or courts and DAFO/PAFO). Brief information on GRM with the contact detail of responsible persons (site engineer, safeguard focal staff from DAFO and PAFO) and their phone numbers.

Potential Negative Impacts during Construction period	Mitigating Measures
COVID-19 outbreak	<ul style="list-style-type: none"> • Observe the applicable national and WHO regulations and guidelines and the WBG COVID-19 Advisory note on Contingency Planning for Existing Operations dated March 16, 2020 and WBG Safeguard Interim Note on COVID-19 Considerations in Construction/Civil Works Projects, April, 2020 • Please refer to Annex 2: Template of Contingency Plan for Response to COVID-19
Impacts during Operation	
Effects of intensified agricultural production	<ul style="list-style-type: none"> • instruction in purchase and use of pesticides, • promotion of the informed use of mineral fertilizers, • promotion of the concept of integrated pest management, and • emphatic discouragement of the use of persistent pesticides and introduce IPM instead.
Obstruction of water flows in the canals from sediment or other deposits	<ul style="list-style-type: none"> • Support to water user groups so that users discourage or prevent any placing of material or solid waste in the canals.
Collapse of canals	<ul style="list-style-type: none"> • Routine and periodic maintenance, according to a well-designed and adequately resourced maintenance program
Extraction of water during the dry season	<ul style="list-style-type: none"> • Monitoring of river flows and extraction levels, ensuring that an adequate riparian flow is maintained.
Leaching of nutrients	<ul style="list-style-type: none"> • Promotion of sustainable irrigated agriculture and soil management methods
Occurrence of water related diseases	<ul style="list-style-type: none"> • promoting improved operation and maintenance of the irrigation scheme and road through water user groups • raising awareness on hazards posed by poor sanitation, water logging and use of untreated irrigation water for drinking.
Potential competition and conflict over water from the improved irrigation scheme	<ul style="list-style-type: none"> • Prepare O&M manual/guideline covering water management and water use regulations • Provide training and support to the Water Users and Water User Association on the O&M and water use/management regulations • Include residents with no access to the irrigation scheme in other economic activities of the project • Include representatives of downstream water users in the Water User Groups/Association for joint decision making and management of the irrigation scheme, and where necessary and feasible, construct high-drums to supply downstream residents with water for micro-irrigation systems and domestic use.

Annex 2: Minimum Requirements for the Bidder's Code of Conduct

A minimum requirement for the Code of Conduct should be set out by the Employer, taking into consideration the issues, impacts, and mitigation measures identified for example, in:

- project reports e.g. ESIA/ESMP
- any particular GBV/SEA requirements
- consent/permit conditions (regulatory authority conditions attached to any permits or approvals for the project)
- required standards including World Bank Group EHS Guidelines
- relevant international conventions, standards or treaties, etc., national, legal and/or regulatory requirements and standards (where these represent higher standards than the WBG EHS Guidelines)
 - relevant international standards e.g. Workers' Accommodation: Process and Standards (IFC and EBRD)
 - relevant sector standards e.g. workers accommodation
- grievance redress mechanisms.

The types of issues identified could include. risks associated with: labor influx, spread of communicable diseases, sexual harassment, gender-based violence, violence against children illicit behavior and crime, and maintaining a safe environment etc.]

A satisfactory code of conduct will contain obligations on all Contractor's personnel (including sub-contractors and day workers) that are suitable to address the following issues, as a minimum. Additional obligations may be added to respond to particular concerns of the region, the location and the project sector or to specific project requirements. The code of conduct shall contain a statement that the term "child" / "children" means any person(s) under the age of 18 years.

The issues to be addressed include:

1. Compliance with applicable laws, rules, and regulations
2. Compliance with applicable health and safety requirements to protect the local community (including vulnerable and disadvantaged groups), the Employer's personnel, Project Manager's personnel and the Contractor's personnel, including sub-contractors and day workers (including wearing prescribed personal protective equipment, preventing avoidable accidents and a duty to report conditions or practices that pose a safety hazard or threaten the environment)
3. The use of illegal substances
4. Non-Discrimination in dealing with the local community (including vulnerable and disadvantaged groups), the Employer's personnel, Project Manager's personnel, and the Contractor's personnel including sub-contractors and day workers (for example on the basis of family status, ethnicity, race, gender, religion, language, marital status, age, disability

(physical and mental), sexual orientation, gender identity, political conviction or social, civic, or health status)

5. Interactions with the local community(ies), members of the local community (ies), and any affected person(s) (for example to convey an attitude of respect, including to their culture and traditions)
6. Sexual harassment (for example to prohibit use of language or behavior, in particular towards women and/or children, that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate)
7. Violence, including sexual and/or gender-based violence and violence against children (for example acts that inflict physical, mental or sexual harm or suffering, threats of such acts, coercion, and deprivation of liberty)
8. Exploitation including sexual exploitation and abuse (for example the prohibition of the exchange of money, employment, goods, or services for sex, including sexual favors or other forms of humiliating, degrading behavior, exploitative behavior or abuse of power)
9. Protection of children (including prohibitions against sexual activity or abuse, or otherwise unacceptable behavior towards children, limiting interactions with children, and ensuring their safety in project areas)
10. Sanitation requirements (for example, to ensure workers use specified sanitary facilities provided by their employer and not open areas)
11. Avoidance of conflicts of interest (such that benefits, contracts, or employment, or any sort of preferential treatment or favors, are not provided to any person with whom there is a financial, family, or personal connection)
12. Respecting reasonable work instructions (including regarding environmental and social norms)
13. Protection and proper use of property (for example, to prohibit theft, carelessness or waste)
14. Duty to report violations of this Code
15. Non-retaliation against workers who report violations of the Code, if that report is made in good faith.

The Code of Conduct should be written in plain language and signed by each worker to indicate that they have:

- received a copy of the code;
- had the code explained to them;
- acknowledged that adherence to this Code of Conduct is a condition of employment; and
- understood that violations of the Code can result in serious consequences, up to and including dismissal, or referral to legal authorities.

A copy of the code shall be displayed in a location easily accessible to the community and project affected people. It shall be provided in languages comprehensible to the local community, Contractor's personnel (including sub-contractors and day workers), Employer's and Project Manager's Personnel, and affected persons.

Contingency Plan for Response to COVID-19

1. In a situation when there is a spread of COVID-19, contractor has to apply or comply with the government guidelines launched in line with WHO. Additional suggestions which are adapted from WBG Response to COVID-19 Advisory note on Contingency Planning for Existing Operations dated March 16, 2020, and WBG Safeguard Interim Note on COVID-19 Considerations in Construction/Civil Works Projects, April, 2020.
2. It is worth noting that the WBG Response to COVID-19 Advisory note and Interim Note may be updated from time to time. Where there is a conflict with government or WHO guideline, the government or WHO guideline prevail.

(a) Preparing for Covid-19

- Contractor's senior manager or project manager should inform PCO and/or PAFO details of the preparations being made on site. PCO and/or PAFO will, as necessary assist the projects with these preparations. The senior manager should be taking the advice of their healthcare team and their health and safety specialists in preparing the site, although the PCO, and/or PAFO may also need to assist, for example with coordinating responses and/or connecting project sites with national/local healthcare official and/or specialists.
- Contractor should put in place measures to minimize the chances and contain the spread of the virus as a result of the movement of workers, ensure their sites are prepared for an outbreak, and develop and practice contingency plans so that personnel know what to do if an outbreak occurs and how treatment will be provided. These preparation measures should be communicated not only to the workforce but also the local community, to reassure them that the movement of staff is controlled, and to ensure that stigma or discrimination is reduced in the event of an outbreak.

(b) Movement of Staff

- Movement of staff can increase the risk of transmission of Covid-19 to a work site and the local community. Overseas, international and transient workers should adhere to government requirements and guidelines with respect to Covid-19 when travelling to or from worksites.
- Workers coming from or passing through countries/regions with cases of the virus¹ (a) Should not return if displaying symptoms and (b) Should self-isolate for 14 days following their return.

Self-Isolation arrangements: For self-isolation, the following actions should be considered (as appropriate):

¹ WHO also updates information on countries reporting Covid-19 infection

- Workers should be provided with a single room that is well-ventilated (i.e., with open windows and an open door). If a single room is not available for each worker, adequate space should be provided to maintain a distance of at least 2 meters and a curtain to separate workers sharing a room. Men and women should not share a room. A dedicated bathroom should be provided for the isolation facilities and there should be separate bathroom facilities for men and women.
- Workers in isolation should limit their movements in areas which are also used by unaffected workers (shared areas), and should avoid using these areas when unaffected workers are present. Where workers in isolation need to use shared spaces (such as kitchens/canteens), arrangements should be made for cleaning prior to and after their use of the facilities. The number of staff involved in caring for those in isolation, including providing food and water, should be kept to a minimum and appropriate Personal Protection Equipment (PPE) should be used by those staff.
- At a minimum, isolation areas should be cleaned daily and healthcare professionals should visit workers in the isolation areas daily. Cleaners and healthcare professionals should wear appropriate PPE and ensure good hygiene when visiting workers in isolation. Further information is provided by WHO in [*Home care for patients with suspected novel coronavirus \(COVID-19\)*](#)
- Visitors should not be allowed until the worker has shown no signs and symptoms for 14 days.

(c) Preparing for an Outbreak

3. Medical staff at the facilities or medical service personnel for the facilities should be trained and be kept up to date on Country and WHO advice (<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance>) and recommendations on Covid-19. They should take stock of the equipment and medicines that are present on site and ensure that there are good supplies of any necessary treatments, including paracetamol/acetaminophen and other medicine in line with country and WHO guideline.
4. The following measures should be considered (as appropriate):
 - Ensure medical facilities or camp site are stocked with adequate supplies of medical Personal Protective Equipment (PPE), as a minimum: (a) Gowns, aprons; (b) Medical masks and some respirators (N95 or FFP2); (c) Gloves; and (d) Eye protection (goggles or face screens).
 - Cleaners also need to be provided with PPE and disinfectant. Minimum PPE to be used when cleaning areas that have been or suspected to have been contaminated with Covid-19 are: (a) Gowns, aprons; (b) Medical masks; (c) Gloves; (d) Eye protection (goggles or face screens); and (e) Boots or closed work shoes. Cleaners should be trained in how to safely put on and use PPE by medical staff, in necessary hygiene (including hand washing) prior to, during and post cleaning duties, and in waste control (including for used PPE and cleaning materials).
 - The medical staff should run awareness campaigns, training and arrange for appropriate posters, signs and advisory notices to be posted on site to advise workers on how to minimize the spread of the disease, including: (a) to self-isolate if they feel ill or think they may have had contact with the virus, and to alert medical staff; (b) to regularly wash hands thoroughly with soap and water – many times per day; (c) how to avoid disease spread when coughing/sneezing (cough/sneeze in crook of elbow or in a tissue that is immediately thrown away), and not to spit; and (d) to keep at least 2 meters or more away from colleagues.
 - Hand washing stations should be set up at key places throughout site, including at entrances/exits to work areas, wherever there is a toilet, canteen/food and drinking water,

or sleeping accommodation, at waste stations, at stores and at communal facilities. Each should have a supply of clean water, liquid soap and paper towels (for hand drying), with a closed waste bin (for used paper towels) that is regularly emptied and disposed off following government guideline.

- Where wash stations cannot be provided (for example at remote locations), alcohol-based hand rub should be provided.
- Enhanced cleaning arrangements should be put in place, to include regular and deep cleaning using disinfectant of catering facilities/canteens/food/drink facilities, latrines/toilets/showers, communal areas, including door handles, floors and all surfaces that are touched regularly. Worker accommodation will be in good state for keeping clean and hygienic, and for cleaning to minimize spread of infection.
- Working methods should be reviewed and changed as necessary to reduce use of PPE, in case supplies of PPE become scarce or hard to obtain. For example, water sprinkling systems at crushers and stock piles should be in good working order, trucks covered, water suppression on site increased and speed limits on haul roads lowered to reduce the need for respiratory (N95) dust masks.

(d) Contingency Planning for an Outbreak

5. The contingency plan to be developed by contractor should set out what procedures will be put in place in the event of Covid-19 reaching the site and it should be developed in consultation with national and local healthcare facilities and PCO or PAFO, to ensure that arrangements are in place for the effective containment, care and treatment of workers who have contracted Covid-19.
6. The contingency plan should also consider the response if a significant number of the workforce become ill, when it is likely that access to and from a site will be restricted to avoid spread. The following measures should be considered, as appropriate:
 - Contingencies should be developed and communicated to the workforce for: (a) Isolation and testing procedures for workers (and those they have been in contact with) that display symptoms; (b) Care and treatment of workers, including where and how this will be provided; and (c) Getting adequate supplies of water, food, medical supplies and cleaning equipment in the event of an outbreak on site, especially should access to the site become restricted or movements of supplies limited. The contingency plan shall be align with the government guideline.
 - Specifically, the plan should set out what will be done if someone is suspected to become ill with Covid-19 at a worksite. The plan should: (a) Set out arrangements for putting the person in a room or area where they are isolated from others in the workplace, limiting the number of people who have contact with the person and contacting the local health authorities; (b) Consider how to identify persons who may be at risk (e.g. due to a pre-existing condition such as diabetes, heart and lung disease, or as a result of older age), and support them, without inviting stigma and discrimination into your workplace; and (c) Consider contingency and business continuity arrangements if there is an outbreak in neighboring communities.
 - Arrangements for the storage and disposal arrangements for medical waste, which may increase in volume and which can remain infectious for several days (depending upon the material). The support that site medical staff may need, as well as arrangements for transporting (without risk of cross infection) sick workers to intensive care facilities or into the care of national healthcare facilities should be discussed and agreed.
 - How to maintain worker and community safety on site should works be suspended or illness affect significant numbers of the workforce at any point. It is important that worksite safety

measures are reviewed by a safety specialist and implemented prior to work areas being suspended.

(e) Communicating the plans

7. In order to reduce the risk of social stigma² or discrimination, and to ensure that individuals roles and responsibilities are clear, the preparation measures and contingency plans should be communicated widely. Workers, sub-contractors, suppliers, adjacent communities, and local healthcare authorities should all be made aware of the preparations that have been made.

When communicating to the workforce, their roles and responsibilities should be outlined clearly, and the importance for their colleagues, the local communities and their families that the workers follow the plans should be stressed. Workers may need to be reassured that there will be no retaliation or discrimination if they self-isolate as a result of feeling ill, and also with respect to the compensation or insurance arrangements that are in place. Further guidance on preventing social stigma as a result of Covid-19 is available in WHO guidelines

² Social stigma in the context of health is the negative association between a person or group of people who share certain characteristics and a specific disease.