Environmental Code of Practice

March 2018

Myanmar: Climate-Friendly Agribusiness Value Chains Sector Project

Kunn Village Tubewell Subproject

Prepared by the Ministry of Agriculture, Livestock and Irrigation for the Asian Development Bank.

ENVIRONMENTAL CODES OF PRACTICE FOR KUNN VILLAGE TUBEWELL SUBPROJECT

A. INTRODUCTION

1. The Kunn Village Tubewell is a proposed subproject under the Climate-friendly Agribusiness Value Chains Sector Project. The subproject has been environmentally screened using the Environmental Assessment and Review Framework prepared for the project.

B. ENVIRONMENTAL SCREENING

2. Based on the ADB's Rapid Environment Assessment Checklist (attached), the Subproject is classified as Category C, i.e., unlikely to have adverse environmental impacts. However, the Subproject's environmental implications have been reviewed and environmental codes of practice (ECOP) have been developed manage and mitigate potential negative environmental impacts.

3. These ECOP are to be strictly followed by civil works contractors with the support and supervision of the township Project Implementation Unit (PIU) (led by Department of Agriculture (DOA).[1]

4. The ECOPs are to be incorporated into tender documents, construction contracts, and operational management procedures. Contractors, the project implementation consultant, the PIU and regional DOA office will implement these measures, depending upon subproject phase. The effectiveness of these measures will be carefully monitored to ensure they are effective and to make adjustments, as required.

C. PROJECT DESCRIPTION

5. The subproject proposal is to install a shallow tubewell with diesel pump (although this may be changed to a solar pump during implementation).

6. The farmers of Kunn village are at the tail end of the Kyi Ywa irrigation scheme in Pakokku, and due to water supply issues and upward sloping land these farmers receive a limited wet season irrigation service but no dry season service. The installation of tubewells will provide water for dry season cropping. Currently a group of some 8 farmer households are pumping water from an old surface well during the dry season, using diesel pumps however due to the lack of water the farmers have to operate their diesel pumps for long periods and also wait for the well water to replenish before continuing pumping. This proves to be expensive for diesel fuel and also the farmers have to provide their own pumps and long hoses. This proves too expensive for the poorer farmers.

7. The project irrigation specialists reviewed those underserviced areas farmed by the Kunn community and indicated that conditions would be significantly improved by the installation of a new tubewell (and also using solar pumps rather than diesel fueled pumps).

8. Local farmers grow green and black gram, rice, maize, tobacco, soy, chick and pigeon pea, tomato and cotton. Many farmers in the area are able to get three crops per year. The target group in Kunn Village, being at the tail end of the Kyi Ywa scheme are underserved and rely on two crops. The proposed improvements will secure a third crop.

[1] The ECOP will be included as part of the contract documentation.

9. **Impacts.** Potential adverse impacts include the drawdown of source of water for the proposed tube wells. The subproject site is in a low lying area in Kunn Ywa (near Daungza), where the ground water is continuously recharged from the percolation from higher environs, the monsoon rains and the nearby Ayeyarwaddy river. Estimations regarding potential water demand has been consolidated from inputs from (i) the farmers who will access the water, (ii) the local government water engineers, and the (iii) consulting PPTA engineer on the team. All have indicated that as the water used will be supplementary, it is expected to be sustainable at the project site as witnessed by a pilot tube well they had drilled in the area, which has been yielding a continues supply of well water; fresh and clear.

Figure 1: Existing surface well used for pumping water

Figure 2: Existing tubewell on residential land

D. ENVIRONMENTAL CODES OF PRACTICE

1. Contractors Responsibilities

10. The following environmental codes of practice are followed by the civil works contractor for all works at this and other tubewell sites.

1. Noise during construction

(a) Plan activities in consultation with communities in the vicinity of the tubewell so that the noisiest activities are undertaken during periods that will result in least disturbance.
(b) Use noise-control methods such as fences, barriers or deflectors (such as muffling devices for combustion engines)
(c) Minimize project transportation through the surrounding community areas

2. Soil erosion

(a) Schedule construction during the dry season
(b) Contour and minimize length and steepness of slopes – this is relevant to work in rehabilitating the farm irrigation system
(c) Use mulch, grasses or compacted soil to stabilize exposed areas
(d) Cover with topsoil and re-vegetate (plant grass, fast-growing plants/bushes/trees) construction areas quickly once work is completed
(e) Design channels and ditches for post-construction flows and line steep channels/slopes (e.g., with palm frowns, jute mats, etc.)

3. Air quality

(a) Minimize dust from exposed work sites by applying water on the ground regularly
(b) Do not burn site clearance debris (trees, undergrowth) or construction waste materials
(c) Keep stockpile of aggregate materials covered to avoid suspension or dispersal of fine soil particles during windy days or disturbance from stray animals

4. Water quality

(a) Activities should not affect the availability of water for communities for drinking and hygienic purposes
(b) No soiled materials, solid wastes, toxic or hazardous materials should be poured or thrown into water bodies for dilution or disposal
(c) The flow of natural waters should not be obstructed or diverted to another direction, which may lead to drying up of river beds or flooding of settlements
(d) Separate as best as possible concrete works in waterways and keep concrete mixing separate from drainage leading to waterways

5. Solid and hazardous waste

(a) Collect and transport construction waste to appropriately designated/ controlled dump sites
(b) Maintain waste (including earth dug for foundations) at least 300 meters from rivers, streams, lakes and wetlands
(c) Use secured area for refueling and transfer of other toxic fluids distant from settlement area (and at least 50 meters from drainage structures and 100 meters from important water bodies); ideally on a hard/non-porous surface
(d) Train workers on correct transfer and handling of fuels and other substances and require the use of gloves, boots, aprons, eyewear and other protective equipment for protection in handling highly hazardous materials
(e) Collect and properly dispose of small maintenance materials such as oily rags, oil filters, used oil, etc.

6. Health and safety

(a) Provide personal protective gear for workers as necessary (gloves, dust masks, hard hats, boots, goggles)
(b) Keep worksite clean and free of debris on daily basis
(c) Keep corrosive fluids and other toxic materials in properly sealed containers for collection and disposal in properly secured areas
(d) Ensure adequate toilet facilities for workers
(e) Rope off construction area and secure materials stockpiles/ storage areas from the public and display warning signs. Do not allow children to play in construction areas.
(f) Fill in all earth borrow-pits once construction is completed to avoid standing water, water-borne diseases and possible drowning
(g) Each construction sub-project to have a basic first-aid kit with bandages, antibiotic cream, etc.

7. Other

(a) No cutting of trees or destruction of vegetation other than on construction site
(b) No hunting, fishing, capture of wildlife or collection of plants
(c) No use of unapproved toxic materials including lead-based paints, un-bonded asbestos, etc.
(d) No disturbance of cultural or historic sites – although note that no such sites are believed to exist on Chepa seed farm

2. Supervision and Monitoring by Project Implementation Unit (PIU)

11. The ECOPs are incorporated into tender documents, construction contracts, and operational management procedures. Contractors, PIC, PMU and regional MOALI office will implement these measures, depending upon subproject phase. The effectiveness of these measures will be carefully monitored to ensure they are effective and to make adjustments, as required.

12. During implementation, the township PIU should monitor groundwater levels in the area periodically to ensure no over-extraction. It is recommended that the community could limit pumping times to allow for recharging and prevent over extraction of the ground water resources.