

Environmental Code of Practice

March 2018

Myanmar: Climate-Friendly Agribusiness Value
Chains Sector Project

Chepa Seed Farm Subproject

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ENVIRONMENTAL CODE OF PRACTICE FOR CHEPA SEED FARM SUBPROJECT

1. INTRODUCTION

1. Chepa Seed Farm is one of the most strategic of the 15 Department of Agriculture (DOA) seed farms and is in need of a wide range of improved infrastructure that will improve productivity and address the access problem of private seed growers to registered seed. It is a crucial farm for DOA for the production of registered Paw San rice seed, a highly valuable geographical indication (GI) candidate rice seed, grown principally in the Shwebo District, and as a showcase for climate smart agriculture and seed certification.

2. The Chepa Seed Farm is 82 acres (33.2 ha) in size with 70 cultivatable acres (28.3 ha). It has perennial irrigation from Kar Bo Dam Irrigation Project, however this is through earthen irrigation canals, prone to heavy water losses, and are in need of renovation by providing proper lining, intakes and outlet structures, and multiple checks. The seed farm's roads need to be upgraded to all weather roads to allow for easy access for machinery and more effective and overall management, operation, and maintenance of the farm. New farm machinery and equipment are required to replace the farm's outdated and dilapidated equipment, and new types of farm implements are needed to improve farm efficiency. New machinery and equipment for harvest and post-harvest activities, such as, threshing, seed cleaning, drying, sorting, packaging, and labelling are needed to maintain the high-quality requirements of registered seed.

3. The subproject will also replace existing or add new buildings, including buildings for seed storage, seed laboratory, machinery, and training. The existing buildings have not been adequately maintained and/or are not adequate for the desired purpose. Replacement infrastructure would include: a machinery building; a covered cleaning and drying facility (vertical and flatbed types) and a drying ground with a transparent roof, to accommodate the seed cleaning and colour sorting equipment and to improve seed drying while protecting the seed from the weather; a storage building with good ventilation that is able to keep out pests; and a multi-purpose building for training and other meeting purposes.

4. The subproject will also invest in instrumentation for seed testing and for collecting weather information. A meteorological weather station will be installed to support the seasonal data demands of the seed farm, to provide accurate weather information for the crop insurance and weather indexed insurance projects underway, and to provide early warning, as well as post-disaster information.¹ Additional items include building a perimeter fence around the seed farm to keep out livestock and vagrants, and the provision of a computer laptop with accessories.

2. ENVIRONMENTAL SCREENING

5. Based on the ADB's Rapid Environment Assessment Checklist, the subproject is classified as Category C. i.e. unlikely to have adverse environmental impacts. However, the environmental implications are reviewed and the following environmental codes of practice will be followed, in particular by the selected civil works contractor² with the support and supervision of the township PIUs (led by DOA), in order to manage and mitigate potential negative environmental impacts.

¹ It is proposed to provide meteorological stations at all nine DOA seed farms to be improved through the Climate-friendly Agribusiness Value Chains Sector Project and the station at Chepa Seed Farm will be part of the network.

² The environmental code of practice (ECOP) will be included as part of the contract documentation.

3. GUIDELINES

A. General Guidelines (applicable to most rehabilitation and construction activities) Issue Environmental Prevention/Mitigation Measures

6. The following guidelines should be followed by the civil works contractor for all works at the Chepa farm site:

1. Noise during construction

- (a) Plan activities in consultation with communities in the vicinity of Chepa farm 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 fronds, 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 Chepa farm personnel 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. While this may not be so relevant for the Chepa seed farm, 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

B. Specific Environmental Codes of Practice/Technical Guidelines for Construction and/or Rehabilitation

The upgrading of Chepa seed farm includes the upgrading of the following infrastructure: (i) buildings (ii) farm feeder roads and (iii) irrigation infrastructure.

1. Buildings

- (a) Provide adequate drainage in the building's immediate surroundings to avoid standing water, insect related diseases (malaria, etc.) and unsanitary conditions;
- (b) Include sanitary facilities such as toilets and basins for hand washing; and
- (c) Avoid use of asbestos cement tiles as roofing.

2. Farm feeder roads

General Considerations:

- i. Control placement of all construction waste (including earth cuts) to approved disposal sites (at >300 m from rivers, streams, lakes, or wetlands). Dispose in authorised areas all of garbage, metals, and excess materials (fuels, oil, grease) generated during construction. Never dispose spent oils on the ground and in water courses as it can contaminate soil and groundwater.
- ii. Erosion control measures should be applied before the rainy season begins, preferably immediately following construction. Maintain, and reapply the measures until vegetation is successfully established.
- iii. Sediment control structures should be applied where needed to slow or redirect runoff and trap sediment until vegetation is established.
- iv. Spray water on dirt roads, cuts, fill materials and stockpiled soil to reduce wind-induced erosion, as needed.
- v. Avoid road construction through primary forests as it gives access to illegal logging.

- vi. Avoid road construction in unstable soils, steep slopes and nearby river banks. Additional measures (see the section below) need to be applied should there be no alternatives for road alignments.

Protect slopes from erosion and landslides by the following measures:

- (a) Plant locally available, fast-growing grass on slopes prone to erosion. These grasses help stabilise the slope and protect soil from erosion by rain and runoff. Locally available species possessing the properties of good growth, dense ground cover and deep root shall be used for stabilisation.
- (b) Provide interceptor ditch, particularly effective in the areas of high intensity rainfall and where slopes are exposed. This type of ditch intercepts and carries surface run-off away from erodible areas and slopes before reaching the steeper slopes, thus reducing the potential surface erosion.
- (c) For steep slopes, a stepped embankment (terracing) is needed for greater stability.
- (d) Place a retaining wall at the lower part of the unstable slope. The wall needs to have weeping holes for drainage of the road sub-base, thus reducing pressure on the wall.
- (e) Rocks (riprap) can be used in addition to protect the slope.
- (f) Prevent uncontrolled water discharge from the road surface by sufficiently large drainage ditches and to drain water away from the down slope.

3. Small-scale Irrigation

- (a) Masonry walls (along the road) or stone riprap should be built to prevent erosion on a sloped bank.
- (b) Make use of bamboo as bank protection along the rice fields as the loads are low.
- (c) A bar screen (vertical bars; about 20mm diameter with an approximate 10 cm clear distance for easy maintenance) is essential in front of any inlet structure (upstream) to prevent large objects and debris blocking the irrigation canal. The angle between the bottom of the canal and the screen shall be between 45 to 80 degrees.