

## **i. Standard Operating Procedures for Distribution and Management of Solar Lanterns, Solar Street lights and stoves in Refugee Camps**

### **1. Purpose**

This Standard Operating Procedure (SOP) is to provide a guide for different stake holders involved in the distribution of solar lanterns, street lights and stoves to refugees. The distribution will be made by ARRA, RCC, SO-UNHCR field officers/ community services/ and energy and environment focal person. The document also encompasses methods for distribution and the possible control/tracking mechanisms for the solar lanterns, street lights and stoves

### **2. Scope**

The scope of this SOP covers in general, terms, activities, processes and procedures undertaken by the SO-UNHCR Energy and Environment person/focal person, field officer/community service, ARRA, RCC teams within the operation in all camps. The SOP is to be followed by various teams during the distribution of solar lanterns, stoves and installation of solar street lights.

### **3. Rationale**

The SOP is developed to support SO-UNHCR-Energy and Environment person/focal person field officer/community service, ARRA, RCC teams within the operation in all camps for the entire operation to adopt a harmonised and systematic approach. The SOP is important for these goods and services management and to improve accountability and compliance with UNHCR's policies and guidelines for the management items issued. It is expected that through this SOP, the operation will be able to improve evidence of stewardship of donor funding and UNHCR's obligations to Persons of Concern in all camps.

### **4. Coordination, distribution and control mechanisms of Lanterns, Street Lights and Stoves**

**4.1.** A complete list of the refugee families entitled to receive the lanterns, street lights and stoves is prepared on computerized spread sheet

**4.2.** When the lantern or stove is distributed to a family/household, the SERIAL NUMBER of the lantern and the stoves attached at the bottom is printed against the ration card of the head of the family receiving the lantern or stove for frequent checking. Whereas the visibility sign, ID, Location of camp to which the street light will be installed is to be written on the poles, batteries, Lamps etc...

**4.2.1.** Field officers or food distributors (ARRA/UNHCR/RCC) will ask heads of the families who received the lantern or stove on the status of the item when they come to collect rations. This assists in indirect monitoring of the lanterns or stove; their performances as well as to check whether the lantern or stove are not sold, lost or not functioning.

**4.2.2.** If the lamp or stove is found outside the camp in market or with an ineligible person, the serial number will be crosschecked to the original receiver by removing the base cover and checking the identification label placed under the base of the lantern or stove invisible to the holder/receiver.

**4.2.3.** If the identification is proven to be correct that the lantern or the stove is found in wrong place or in the hands of an ineligible person, an appropriate action will be taken on the person responsible for the misuse in accordance to the disciplinary measures. These measures are agreed between the camp management committee members comprising of ARRA, SO-UNHCR and RCC which may include restricting/reducing other NFI's, restricting access to additional benefits or services etc. These measures, if opted, will remain enforced until such time that full and satisfactory explanation is provided by the faultier to the committee members mentioned above.

**4.3.** SO-UNHCR will organise distribution according to identified needs in collaboration with ARRA.

**4.4.** Each beneficiary Household will receive a solar lamp or stove coded with its ration number as in sub-article 7 below.

**4.5.** The requested items with tracking codes should be delivered to the distributing partners at least three working days prior to agreed distribution date.

**4.6.** The distribution partner reserves the right to postpone or cancel the distribution date at any time if it entails security treats.

## **5. Logistics and Authorization**

The Field officer/community service/ with the SO-Energy & environment/focal/person of the SO-UNHCR shall request the SO-UNHCR Program to prompt/order the SO-UNHCR supply to release the amount of solar lanterns, street lights and stoves to be distributed. The goods issuing request form shall include the following;

- ✓ The amount of solar lanterns, solar street lights and stoves required
- ✓ The proposed distribution date and camp location
- ✓ List of persons involved in the distribution by institution (ARRA, UNHCR, RCC)
- ✓ Relevant logistical arrangements (Transportation and loading and unloading cost (if any))
- ✓ List of beneficiary households together with their ration card number
- ✓ Additional Support and or incentive workers required to assist in the distribution or erection and cost detail (if any)

## **6. Beneficiary Selection and awareness creation**

Identification and awareness creation to the beneficiaries on solar lantern distribution, street lights and stoves is the responsibility of the UNHCR SO-Energy and Environment person/focal person field officer/community service, program and supply unit in coordination with the distribution partners- ARRA and RCC. These include:

- ✓ The translation of user manual instruction in to the local languages is made available for trainers
- ✓ Practical demonstration on the use, management, accessories and additional facilities of solar lanterns, stoves and solar street lights
- ✓ An awareness creation on the management and use of solar lanterns, stoves and solar street lights

## **7. Marking and Labelling**

The identification label of the items to be distributed; invisible to the receiver; is placed under the base of the solar lanterns and the stoves, before distribution. One way of labelling would be: UN-S-R-No-C-B-C-S-No;

Where, UN = UNHCR; S = item Serial Number; R= Ration Card Number, Camp name, Block, compartment, Shelter No.

- ✓ Each solar lanterns, stove or street light is given specific code number prior to distribution, by the UNHCR SO-Energy and Environment person/focal person field officer/community service
- ✓ The ration card number of each household is used as a tracking code
- ✓ The code will be attached inside the lamp box or base of stove invisible to the user

## ii. Additional Note on the Installation and Management of Solar street lights in Refugee Camps

Given the above inclusive advises following points stress unique to the stand alone solar street light.

### 1. UNHCR Solar Street Lights

- 1.1. UNHCR Solar Street Lights has been designed by an inter-agency expert product development team adapted to be used in refugee camps in remote and emergency affected areas.
- 1.2. It is expected that, the product should last to a minimum of three years and has 1000 charging cycles.
- 1.3. One Standalone Solar Street light provides illumination to an average of 16 households
- 1.4. The approximate distance between two poles is set at 100 meters interval
- 1.5. A solar street light with an LED lamp of 10W covers a 50 meter radius area of illumination

### 2. Orientation of the panels

- 2.1. The solar panels face to the South for a country in the Northern hemisphere and face towards North for a country in the Southern hemisphere
- 2.2. Ethiopia is located in the Northern hemisphere, so that all the solar panels should face to the SOUTH
- 2.3. The inclination angle (tilt angle) of solar panels are directly proportional to the Latitude of the location to be installed. However, for places with Latitudes of less than 15°, a tilt angle of 15° is recommended for self-cleaning purpose.
- 2.4. All locations in Ethiopia has a Latitude of less than 15°. Therefore the optimum tilt angle of solar panels to be installed in Ethiopia is 15°.
- 2.5. In light of the above, the stand alone solar street light to be installed in Ethiopia Should Face **towards South** at a **tilt angle of 15°**.

### 3. Placement of the Batteries

- 3.1. Batteries may be placed under ground, ground, middle of the pole and top of the pole, while Top of the pole and underground are the most common practices
- 3.2. In any cases, the battery has to be placed properly in raised ground sealed within a case (coming together with battery) to avoid the battery from contacting with water.
- 3.3. Both underground and top of the pole may present problems related to safety, since batteries are in general problematic targets for thefts. Taking the above into consideration and reduced cost of installation, top of the pole installation seems to be most reliable and safe solution.

#### 4. Installation Locations

- 4.1. Care should be taken not to erect the street lights on grounds where flooding, water logging, drainage, water diversions, road sides, trails, etc... are frequent
- 4.2. Solar Street Lights should not be installed at any **Shadow** of trees, houses, etc...
- 4.3. The lay out of the street lights should be placed/marked on the physical map of the shelters before starting erection. This support can be obtained from the shelter/physical planner
- 4.4. The installation should be done with an IP that has experience and expertise

#### 5. Management and Monitoring

- 5.1. All households must share or hold the responsibility for the protection and supervision of the solar street lights installed in front of their shelters
- 5.2. The RCC together with ARRA/UNHCR will establish protection and supervision committee (Churta) for the overall protection, management and supervision of the street lights erected around or in institutions, public gathering, market places, etc...

### iii. General Consideration

1. Although the focus is to our dignified refugees' protections; allocations should also consider institutions, public gathering, market places etc. This is meant to their services and security sensitive gateways identified by ARRA/UNHCR and RCC.
2. The distribution of lanterns and installation of Street Lights need to consider the host communities for the sake of maintaining the integrity, coherence and better coexistence between the refugees and host communities. In circumstances, sparing lanterns and street lights will become compulsory for host communities living right in the middle or closer to the refugee camps
3. ARRA, being responsible for the management of the camps will provide more advice on this issue.

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*Energy and Environment Unit*