

Advisory for all States/UT's on Geo-Tagging of 'Beneficiary led Individual House Construction' component of the Mission

The key objective of geo-tagging is to track progress of construction of individual houses through geo-tagged photographs, under the Beneficiary led Individual House Construction component of the PMAY (U) mission. In order to achieve optimum results, please find below an advisory for ensuring quality of the photos geo-tagged and actions points to be followed by the States/UT's

1. Quality of Photograph/Geotag (to be ensured by Surveyor's)

Quality of photograph is essential for correct assessment of the progress of BLC houses through different five construction stages. Following points should be considered while taking photographs of house constructed under PMAY (U):-

- 1.1 **Resolution and Size of the captured image:** It is suggested to use the camera resolution as **640 * 480 pixels or lowest possible for easy transfer of data from mobile to server**. The size of photo uploaded should be normally between **300k and 600k** depending on the composition of the image.
- 1.2 **Direction and Angle:** The direction and angle of the geotagged photograph should be such that entire construction stage or maximum portion of the construction stage of the house is visible in the photograph.
- 1.3 **Orientation of photograph:** The photos of all 5 construction stages should be captured by surveyor nearly from the same geo-coordinates location (latitude and longitude) of earlier construction stage geo-tagged.

- 1.4 **Photographs not against the sun:** Position of the sun should always be on the back of the person taking photograph of the construction stage of the house.
- 1.5 **Clear/Haze free photographs:** All surveyor's should avoid taking photographs in the fog, late in the evening and rains to ensure high quality images.
- 1.6 **Linking beneficiary with the photograph:** picture of all construction stages of house should have a picture of the beneficiary along with the house.
- 1.7 **States/UTs** to ensure that, the picture of beneficiary should not be capture with her/him holding a play-card/black board indicating beneficiary ID.
- 1.8 **States/UTs also** to ensure that while taking photo of beneficiaries care should be taken that beneficiary is not standing in water, roof tops or at any other locations which will put her life or health in danger.
- 1.9 **Accuracy of Photographs:** Before capturing photo of the construction stage of house, surveyor needs to wait for some moment so that the accuracy in the range of 10 meters or best possible is achieved. The surveyor is advised to wait for 10 - 20 sec after saving the photograph standing at the same location. Then go for capturing second photograph again wait for 10-20 sec after saving. The surveyor is advised to ensure GPS is switched-on with high accuracy mode before opening the app.

2. **Beneficiary ID Name and Details**

PMAY (U) MIS creates a data base with required beneficiary details and provision to login for authorized individuals into the data base from various cities and states. (Pre-requisite is to enter details of all the beneficiaries of CSMC approved projects in PMAY (U) MIS). For each BLC house constructed under PMAY (U), beneficiary ID has been

generated in PMAY (U) MIS and same has been shared to Bhuvan for geo-tagging. The detail of house and beneficiary is essential as it solely describes the house type, quality and descriptive location of the house. It also helps the surveyors to identify the house to be geo-tagged. There should be no mismatch in description of photograph as entered by surveyor while taking photo of the house constructed under PMAY (U).

3. Data and Images to be Collected from the Beneficiary Location :

The Surveyor is expected to upload additional information about the location by tapping "Attribute" icon. The information such as location captured from, photographs captured from, project name, type of construction, type of the house, stage of construction, etc or any other related description about the location can be collected using this option.

The key data to be collected from the beneficiary location are:

S.No	Data/ parameter	Options / Remarks
1.	Geo-location coordinates of house	To be captured by button click when the app displays the smart phone's GPS reading as < 10m.
2.	House location captured from	One option to be selected from drop-down box: Centre of Roof Top, Centre of House, Door Step, Rear Side of House
3.	Photo 1 to 4	2 photographs to be taken for initial 3 stages and at the time of completion, 4 photographs to be taken along with photograph of beneficiary
4.	Photo captured from	One option to be selected from drop-down box: Left, Right, Centre, Rear side. Preferably one side should have the name of the scheme and beneficiary

		ID can be displayed on the exterior wall of the house
5.	Construction Type	New House or Enhancement
6.	House type	01-Pucca (CC & Stone Slab),02-Semi-Pucca (Asbestos / Steel Sheet, Tiled),03-Katcha (Grass/Thatched, Tarpaulin, Wooden)
7.	Construction stage	One option to be selected from drop-down box: Not started*, Foundation, Lintel, Roof, Completed
8.	Occupation status	One option to be selected from drop-down box: Vacant, Occupied by Beneficiary, Rented, None
9.	Water supply status	To be selected from: Yes, No
10.	Sewerage status	To be selected from: Yes, No
11.	Electricity status	To be selected from: Yes, No
12.	Any other Details	Free text entry for capturing additional Information
13.	Automatically collected information tagged with each observation (without explicit user input)	Observer name, organization, mobile number, device unique ID, date time stamp, photo geo-coordinates
* Non Started' stage is mandatory for BLC Enhancement		

4. Roles and Responsibilities of Supervisors

- 4.1 **Supervisors should be a staff of ULB**, not below the level of Junior Engineer or equivalent who has been delegated supervisory responsibility by competent authority.
- 4.2 Should also have authority to verify beneficiaries and capable of validating geo-tagged images.
- 4.3 The credentials and capability of surveyor's should be verified/examined before selection.
- 4.4 Deployment of Surveyors with smart phones only after proper orientation of them on the details of data and images required and use of '**BhuvanApp**' and required information and images from the beneficiary location.
- 4.5 Supervisor to monitor progress and instruct surveyors to make subsequent visits.
- 4.6 Supervisor should regularly check the Bhuvan portal on daily basis and approve the uploaded details. If there are images/data which do not meet the required quality and details, surveyors or supervisors should make follow up visits.
- 4.7 There should be no pendency of moderation of photographs at supervisor level. Each geotagged photo uploaded by the surveyor, should be moderated maximum within 4 days by the supervisor.

5. Roles and Responsibilities of Surveyors

- 5.1 **Surveyors should have completed basic school level education (up to class 10+2) with computer literacy and knowledge on 'how to operate phone cameras', take pictures of 'reasonably good resolution' and 'GPS accuracy in the range of 10 meters.**
- 5.2 She or he should also have clear understanding of field survey / sample data collection techniques etc. Surveyors should be from the ULB staff itself. If that is not possible, the 'surveyor' work can be outsourced through competitive bidding process.

- 5.3 Surveyor while visiting beneficiary's house for capturing of photos of any construction stage, should behave properly with beneficiary during entire process of geo-tagging. He/she should be polite while communicating with beneficiary

6. Roles and Responsibilities of SLTC/CLTC

- 6.1 Regular Orientation of ULB supervisors through SLTC/CLTC.
6.2 Regular monitor quality and details of photos geo-tagged.
6.3 Regular monitor construction stage wise gaps in moderation of geo-tagged photos.

7. Roles and Responsibilities of States/UTs

- 7.1 States/UTs should ensure that whatever construction stage is completed (Not Started, foundation, lintel, roof or completed) w.e.f. 25th August, 2018 must be **geotagged within 5 days from date of completion of that construction stage.**
- 7.2 **SLTC/CLTC** should given the responsibilities to train/orient supervisors and monitor quality of photos geo-tagged.
- 7.3 SLNA should monitor the performance of surveyor's, supervisors and SLTC/CLTC on regular basis.
- 7.4 Monitor the progress of the implementation and resolve issues arising out in the field level.
- 7.5 Keep an oversight of the quality of the photographs
8. Houses already completed under PMAY (U) should be geotagged and moderated in a prioritised manner.
9. **The Ministry will do random check regularly to monitor the quality of photos geo-tagged, moderation gaps, working of surveyor's, supervisors and SLTC/CLTC.**
10. As per the scheme guidelines, the release of subsequent instalments of **central assistance to the beneficiaries through**

DBT is linked with the geo-tagging of various stage of construction of houses. It is also stated that physical progress submitted with Utilisation Certificate (UC) is reconciled the geo-tagged houses while releasing the subsequent instalments for BLC Projects to States/UT's.

11. Few sample images of quality photographs are as under:-

16.1 Not Started/Grounding



16.2 Foundation Stage



16.3 Lintel Stage





16.4 Roof Stage





16.5 Completed Stage

