

ASPIRE 1.5 MW Solar PV
installation at
Hulhumale' 1000
housing units
Tenant Feedback Survey
(Operational Phase)



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1. Introduction

Accelerating Sustainable Private Investment in Renewable Energy (ASPIRE) is part of the Maldives Scaling-up Renewable Energy Program (SREP). ASPIRE program aims to encourage involvement of private investors in the renewable energy sector of the Maldives. The first phase project involved installation of 1.5 MW solar PV in 1000 social housing units in Hulhumale (Figure 1). In this regard, 33 blocks of 1000 housing units were utilized for PV installation. The installation was undertaken by Hulhumale' Renewable Energy Company (HREC) Pvt. Ltd. a joint venture between China Machinery Engineering Corporation (CEMEC) and Graess Solartechnik Schwiz.SA (Switzerland).



Figure 1 Solar Pv installed at selected blocks of 1000 housing units

The installation commenced on December 2017 and was commissioned on March 2018. A feedback survey was undertaken during construction phase to determine any issues during construction. No major issues were noted during this survey, the two minor issues noted were immediately attended and addressed. Following commissioning yearly environmental and social monitoring activities have been undertaken by the investor and reported to the Ministry. Two reports have been received so far for the reporting periods 2018-2019 and 2019-2020. No major issues were noted by the investor in these reports.

The common areas of the housing blocks including the roof are currently owned by Housing Development Corporation (HDC) with whom the investor signed a Roof Lease Agreement (RLA) for 20 years.

This report is the first operational phase feedback survey undertaken for this project. The survey was undertaken online (Annex-1) by distributing online google survey form to all the tenants of the selected blocks using the contact numbers attained from HDC. This report presents the outcomes of the survey. This report first presents the details of previous engagement activities undertaken, followed by methodology adopted for the survey, the outcomes of the survey and conclusion.

2. Previous Engagement Activities Undertaken

The blocks of solar PV installation were selected through a comprehensive procedure. All tenants were provided opportunity to raise any objections. In this regard, HDC (site owner) sent out letters to all the tenants and two weeks were given to respond. Any blocks in which any of the tenants raised any issues were discounted and not considered for PV installation. In addition, the PMU visited all the top floor tenants and attained their views regarding PV installation prior to project implementation. Moreover, information package including project information leaflet with FAQ, Grievance Redress Mechanism (GRM) Flow Chart and project schedule was distributed to all the flats individually (Annex 2). Furthermore, structural assessments were undertaken by the project and the investor to ensure that the roofs are of adequate quality for Solar PV installation.

3. Methodology

Updated contact numbers of all the tenants of the selected blocks of 1000 housing units were attained through HDC. The survey form link (Annex 1) was sent to all the tenants through a text message on 02nd March 2021. The survey was closed on 06th March 2021, following three days of no additional responses to the survey. Attempt was made to deliver the survey to all of the 323 tenants, due to mobile number not working delivery failed to 23 tenants. Hence overall the survey form was delivered to 300 tenants. Of the 300 tenants that the survey reached, responses were attained from 52 tenants. Hence the response rate is 17.3%.

4. Outcomes

4.1 Demographic of Survey participants

The majority of survey respondents were between ages 35 and 55 with 71% of the respondents falling into this age group (Figure 2). In terms of gender majority of the respondents were male with 79% of the respondents being male (Figure 3). In terms of number of occupants in the flat, the majority of the households had 5 to 10 occupants (Figure 4).

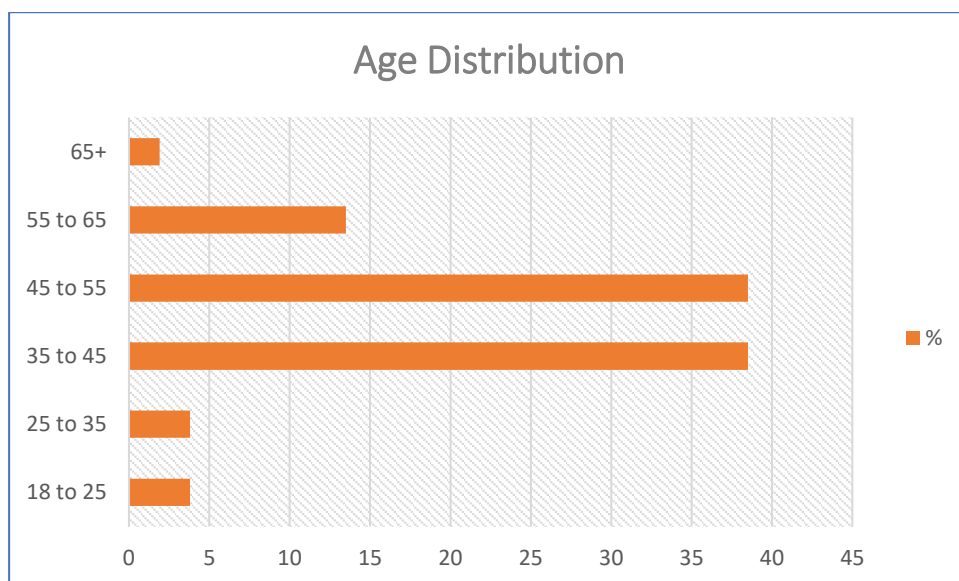


Figure 2 Age distribution of survey respondents

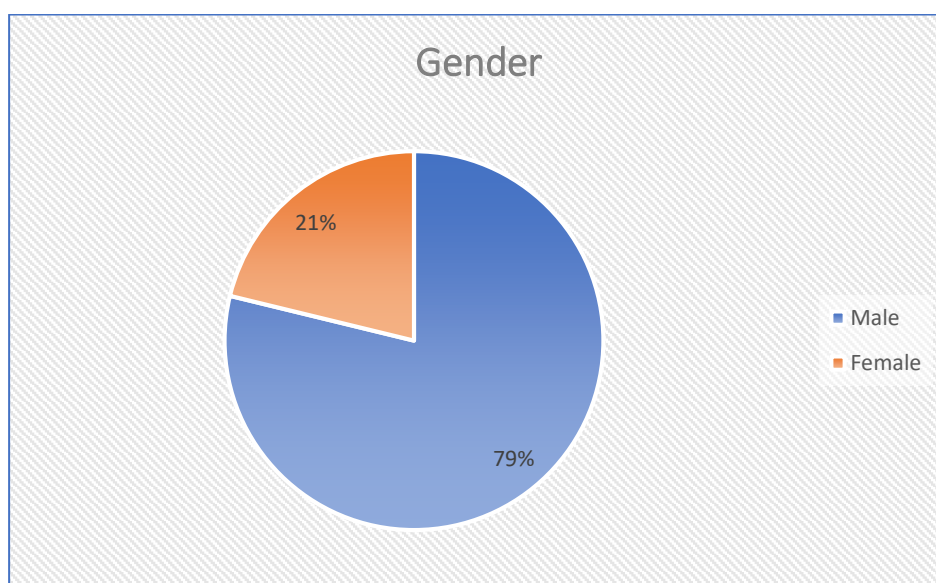


Figure 3 Age Distribution of Survey Respondents

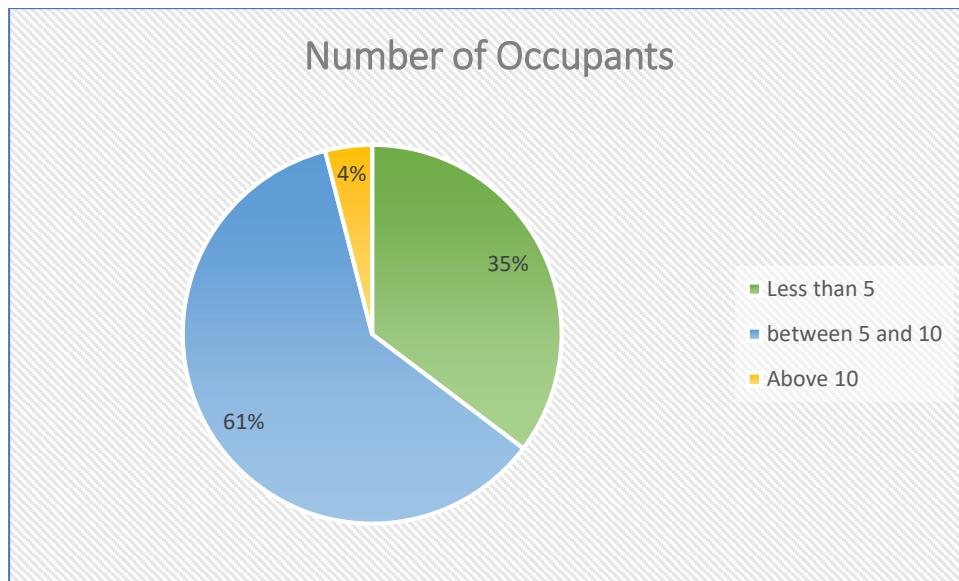


Figure 4 Number of Occupants at each household

4.2 Information Regarding Project

Despite the many approaches that was adopted to provide information to the tenants as briefed in section 2, it was surprising to see that majority of the survey respondents highlighted that they did not receive prior project information. In this regard, 57% of the survey participants highlighted that they did not receive any prior information regarding the project (Figure 5). Perhaps this is due to the time that has passed since project completion, the project was completed in 2018. Annex 2 provides delivery records of information pack that was distributed to all the tenants prior to project implementation. The packs were distributed on 26th and 27th November 2017.

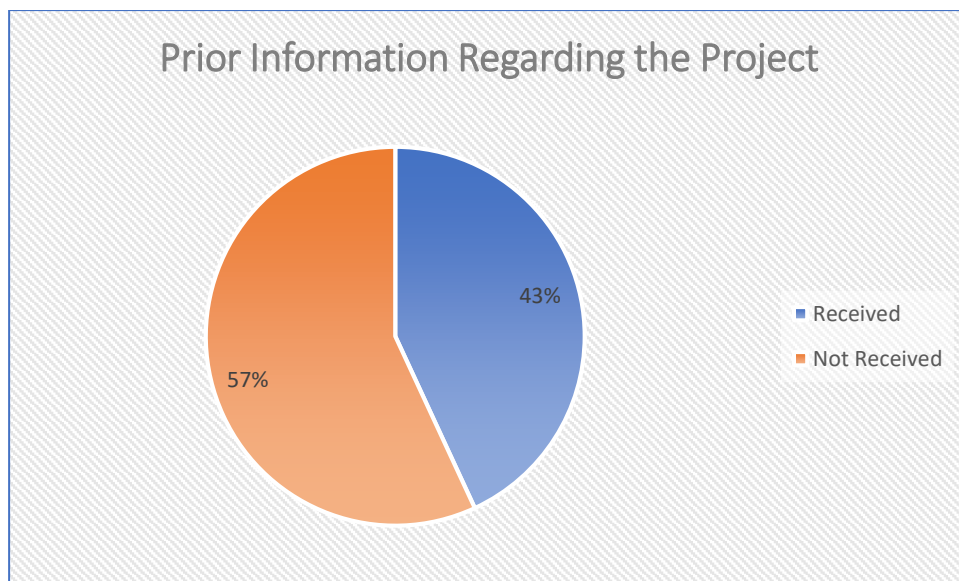


Figure 5 Prior information regarding project recieved

Of the 43% that claimed that information regarding the project was received 43.2% highlighted that the information was received through HDC and 24.3% highlighted that information was received through the Ministry (Figure 6). Considering that all engagement and information dissemination activities under the project were undertaken jointly with HDC, it can be inferred that 67.5% of those who claimed that prior information was received, received through direct project intervention. Media engagement is also often facilitated by the project as with each milestone media briefs are released, hence this can also be attributed to project interventions.

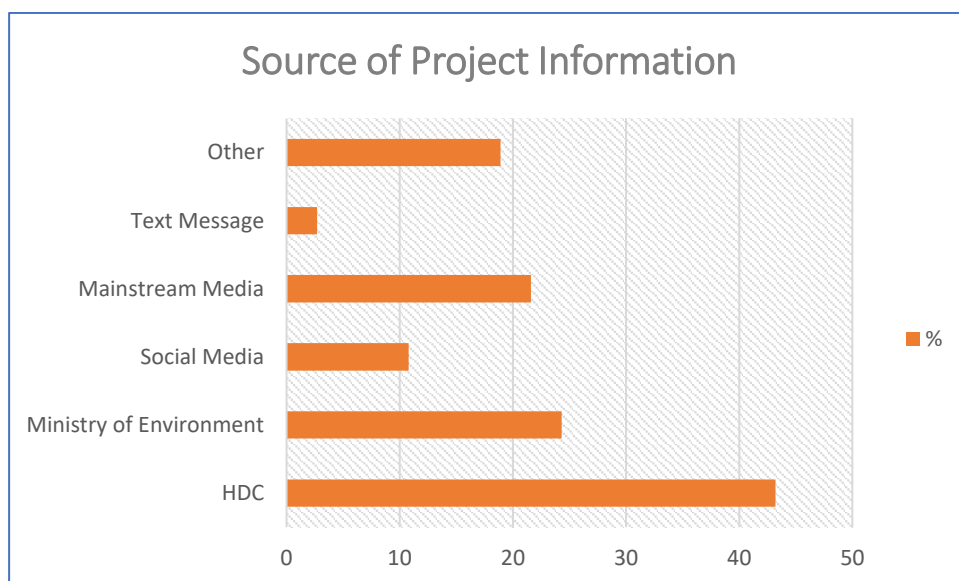


Figure 6 Source of project information

In addition, a board displaying project grievance contact information were displayed on the site on a during project construction period (Figure 7).

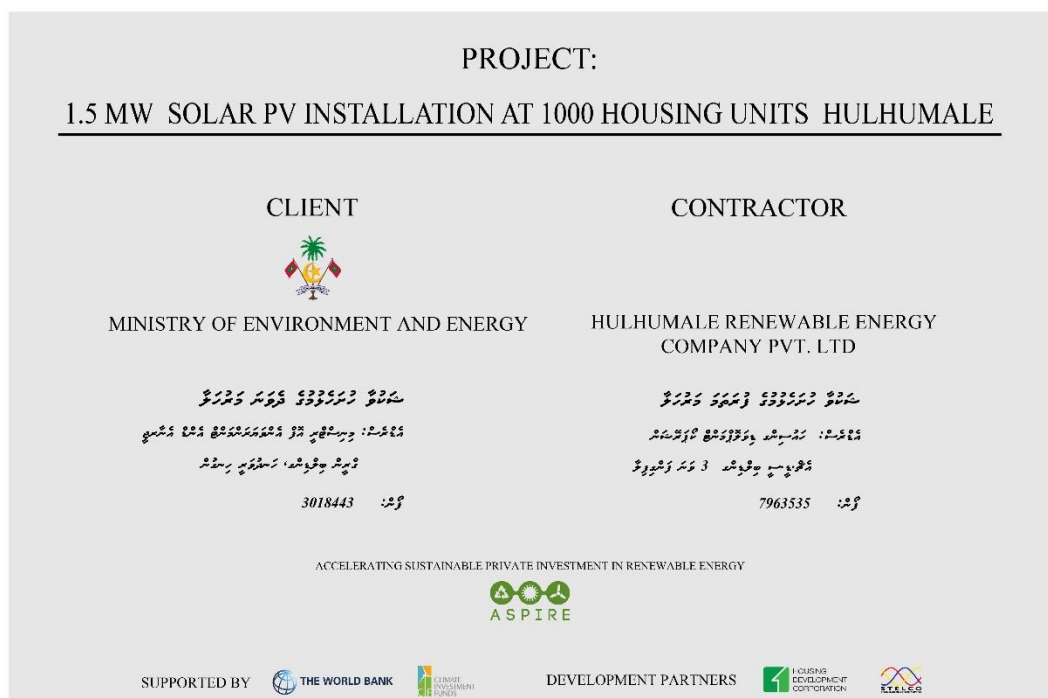


Figure 7 Grievance Contact Information Board

4.3 Overall views regarding the project

In terms of overall view regarding the project 42% of the survey respondents were not satisfied with the project, 41% had no particular view regarding the project and 17% of the survey respondents were satisfied and happy about the project (Figure 8). This is partly to be expected, as project does not involve any direct benefits to the tenants of the housing units. There is no impact on the electricity price as tariff is uniform throughout the country. The benefits of the project are primarily to the utility as they attain electricity at a cheap price. The one-off roof lease is also given to HDC as the roof owner, this also a nominal value as per the agreement framework.

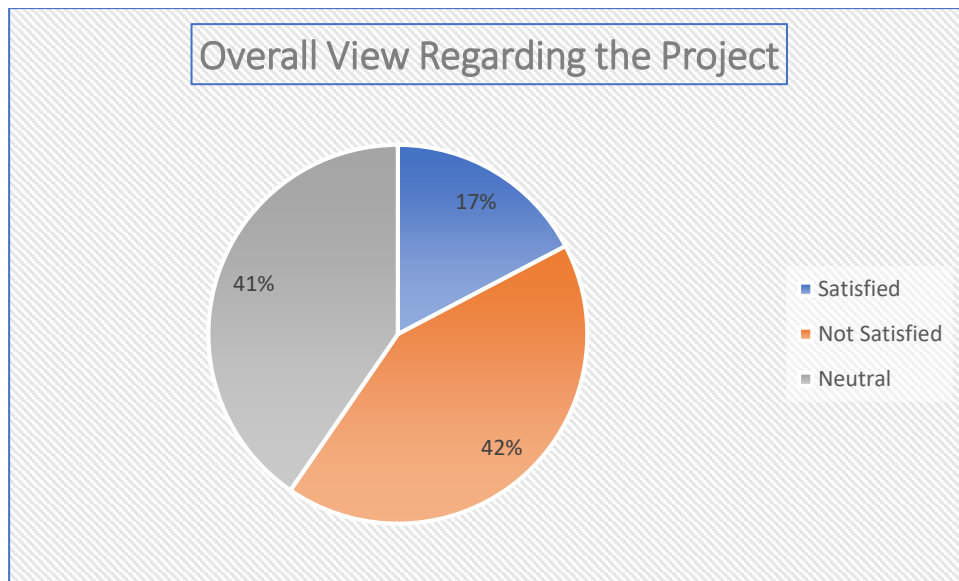


Figure 8 Overall view regarding the project

When formulating the currently under preparation 11 MW bid in selected islands in Maldives as the 3rd phase of ASPIRE operation, attempt has been made to address these concerns as repeatedly this concern of direct benefit have been raised in various consultative exercises undertaken through the project. The steps undertaken to address these are summarized below:

1. The previously nominal lease has been changed to a yearly license fee to be paid to the space/roof owner. This is in line with international best practice for such investment projects.
2. An MOU is signed with all space/roof owners ensuring that the license fee received will be used to the benefit of the community.
3. The investor is required to undertake CSR initiatives that benefit each of the communities within which they operate.
4. Instead of roofs, preference has been given to utilize land, that also in a way that add value to existing land. Like sides of roads, open market areas etc, that need shading. However, roofs are unavoidable in Maldives considering the limited land availability.

These changes will likely mitigate to an extent the concerns that the communities may have regarding the project and will lead to activities that directly benefit the communities.

The survey form also included question to identify specific grievances or issues that the survey respondents may have regarding the 1.5MW project during project operation phase period. Majority of the respondents 81% had no specific grievances regarding the project (Figure 9).

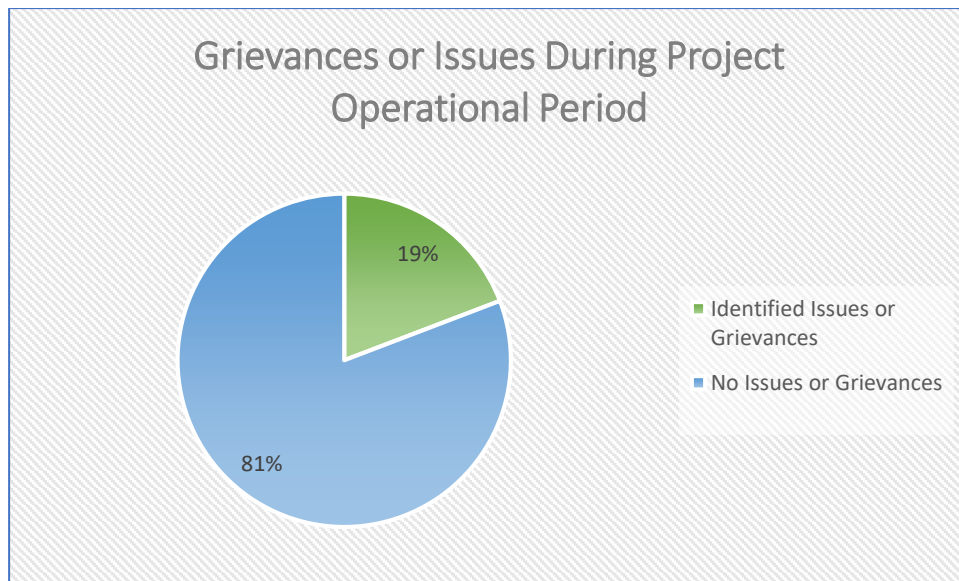


Figure 9 Specific grievances during operational phase

Of those who raised concerns only 03 respondents highlighted specific issues. The details of the concerns and actions taken are highlighted.

Concern	Reported the Grievance	Actions Taken
Wall control (invertor) creates noise and heating. Hence other than damaging the roof no other benefit of the project. There is no reduction in electricity bill as a result of this project.	No	Concern regarding invertor emailed to HREC to investigate address and report back (Annex 3)
After Panel Installation when it is windy it creates a sound.	No	Concern emailed to HREC to investigate address and report back (Annex 3)

I am totally unhappy & I really don't know how they installed them without getting a written permission from the owners (those who are paying to HDC) as a price of the apartments and I totally disagree with it, as we are loosing the opportunity to install our own solar panels to minimize the AC bill.	Yes (to investor)	No further action taken as due diligence procedure followed and any blocks where any tenants raised any objection removed from PV installation
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5. Conclusion

This is a project operational phase feedback survey undertaken to obtain the views of tenants of 33 blocks of housing units where PV was installed through first phase of ASPIRE project. Specific issues or grievances during operational phase were very minimal as majority of the respondents did not have any issues regarding the project. However, the issues identified have been reported to the investor and requested to undertake corrective actions. Moreover, in order to increase general acceptability of the project to the general public steps have been undertaken to increase direct benefit to the community in future engagements through ASPIRE.

Annex 1: Survey Form (translation)

First Section: General Information

1. Flat Number
2. Gender
 - (a) Male
 - (b) Female
3. Number of occupants?

Second Section: Information regarding the project

4. Did you receive any prior information regarding the project?
5. From which source did you receive the information?
 - (a) HDC
 - (b) Ministry of Environment
 - (c) Mainstream media
 - (d) Social media
 - (e) Through phone
 - (f) Other
6. What is your overall view regarding the project?
 - (a) Satisfied
 - (b) Not Satisfied
 - (c) Have no particular view

Third Section: Regarding Grievances as a result of PV installation

7. Do you have any issues/grievances during operational period of the project?
8. What is the issue? (note the survey form lists specific issues, noise, damage to property, access issues etc and gives option to write the issue as well)
9. Did you report the grievance? If so to whom?

Annex 2: Delivery Records Information Packs

(25-26 Nov 2017)

INFORMATION HANDOVER DETAIL

	STAIR CASE 1				STAIR CASE 2				STAIR CASE 3			
	FL1	FL2	FL3	FL4	FL1	FL2	FL3	FL4	FL1	FL2	FL3	FL4
83	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
85	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
86	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
87	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
93	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
94	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
95	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
96	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
99	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
100	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
102	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
103	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
104	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
107	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
109	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
110	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
111	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
113	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
114	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
115	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
117	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
118	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
119	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
120	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
124	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
125	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
127	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
129	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
130	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
131	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
132	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
133	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
134	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Note: the empty spaces are N/A as they are in 02 apartment blocks hence 03 apartments not there in these blocks.

Annex 3: Email sent to investor to investigate the issues raised

3/21/2021

Ministry of Environment Mail - ASPIRE project: 1.5MW solar PV installation in selected blocks of 1000 housing units Hulhumale



Hamdhaan Zuhair <hamdhaan.zuhair@environment.gov.mv>

ASPIRE project: 1.5MW solar PV installation in selected blocks of 1000 housing units Hulhumale

Hamdhaan Zuhair <hamdhaan.zuhair@environment.gov.mv>

Sun, Mar 21, 2021 at 9:14 AM

To: LI Gang <andyleecck@yahoo.com>, LI Gang <ligang@mail.cmec.com>

Cc: "ASPIRE | Min. of Environment and Energy, MV" <aspire@environment.gov.mv>

Dear Li,

We undertook a social survey of the housing flat tenants this month. The survey was undertaken through mobile. Overall no major issues were reported. However two issues have been raised by two different tenants. These are summarized below:

1. An issue has been raised by a tenant in block number 86 regarding noise and heat from the inverter. Could you please check the inverter and report back to us with the noise measurements and details of any corrective measures taken.
2. A tenant in block number 107 reported noise coming from the roof when it is windy following PV installation. Could you please check whether the panels are secured and there are no maintenance issues that need attending in this block. Please report back to us on details of this inspection as well and any corrective measures taken.

On another note we are yet to receive the yearly Implementation monitoring report (including environmental and social) for 2020-2021 reporting period. Please provide us with the monitoring report at your earliest convenience. Note that for this monitoring please provide us with individual noise measurements from each of the housing blocks near the inverter with exact figures, so as to ensure that no noise issues exist in the other flats as well. Moreover, please provide details of maintenance assessments undertaken for all the blocks.

Best Regards,

—

Mohamed Hamdhaan Zuhair
Environmental and Social Safeguards Specialist,
ASPIRE Project,
Ministry of Environment.

Annex 4: Information pack developed for the project

[illegible]