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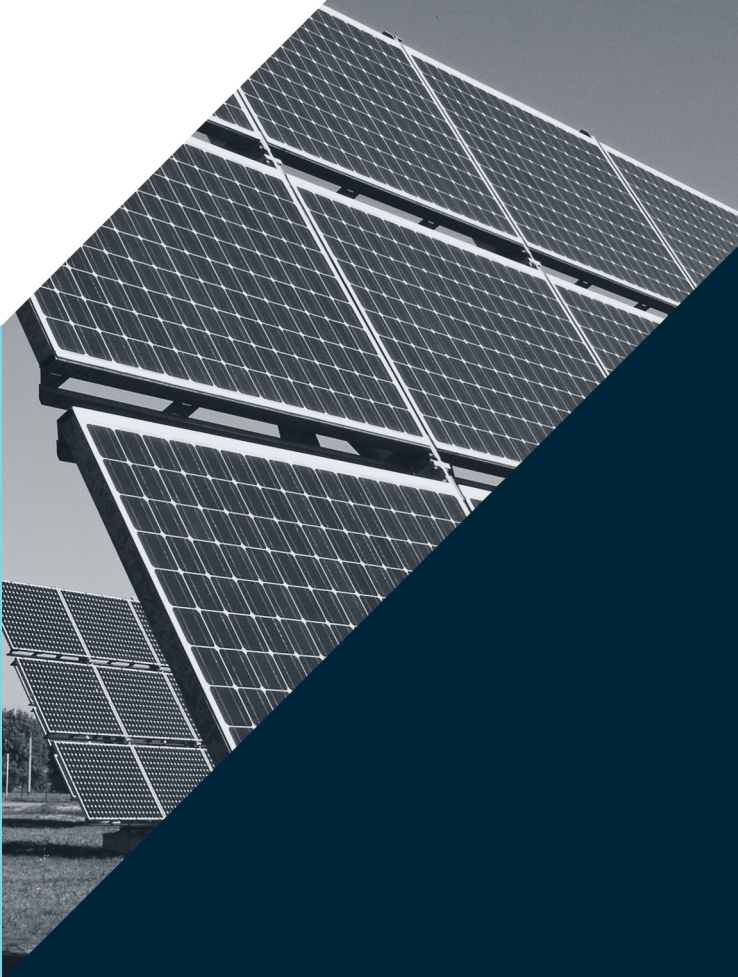
Land Acquisition and Livelihood Restoration Plan

Ayg-1 200MW PV Plant

Armenia

October 2023

MASDAR 



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1 Executive Summary

Masdar Armenia CSG (hereafter referred to as “Masdar” or the “Developer”) a private developer, intends to build and operate a PV Plant (the “Project”) in the Aragatsoth Marz region of Armenia. The proposed Project will have an installed capacity of 200MW.

The Armenian Government have selected Masdar as their company of choice to develop the Project in partnership with the Armenian National Interests Fund (ANIF). The land for the Project was provided by the Armenian Government, and prior to allocation to the Project it was communal land of Talin (156.31 hectares) and Dashtadem (363.05 hectares). The land acquisition for the Project site was undertaken by the Government of Armenia through an agreement with the communities, and transferred to ANIF, which participates in the Project Company. ANIF will sign a transfer agreement which donates the land to the Project.

The Government tender for the PV Plant requires Masdar to undertake a donation¹ of 320 million Armenian Dram to the Talin and Dashtadem communities, which owned the land.

The communities indicated during the public consultation that the donation agreement was considered insufficient, for a number of reasons, mainly loss of purchasing power of the donation amount since the tender was announced due to inflation. The Government agreed to provide an additional 700 million on budgetary support to Tallin municipality (which includes both Talin and Dashtadem). In addition, the Government matches social investments made by communities. The communities and the local Government officials were satisfied with these benefits resulting from the Government led land acquisition / allocation.

The Project is expected to cause negligible to minor economic displacement during all phases of the Project by impacting grazing areas used in pastoral agriculture. The Project site is used as pastureland by herders in Dashtadem, and a lower number of users from Talin, Ashnak and Katnaghbyur communities. Community herders have access to a significant amount of alternative grazing land, and the quality and accessibility of the Project land for herding is low.

There is not a fixed number of herders using the land, different households indicated that they may use the land depending on the season and weather. A large number of households in the Affected Communities has small numbers of livestock, and graze it outdoors in the summer (often in communal lands).

In addition to the direct donation to the Talin and Dashtadem communities, the Project will implement livelihood restoration measures in the four affected communities mostly focused on herders, but also benefiting the wider communities,.

The budget for the LRP programme was determined by the calculation of the productivity of the land for cattle feeding by an Armenian agronomist.

Following several discussions with the communities, a milk processing plant, owned by the municipality, was selected as the preferred compensation option. However,

¹ The term ‘donation’, as used in the Presidential Decrees for land allocation to the Project, refers to a mandatory payment, not a voluntary contribution.

following a more detailed assessment of this proposal by the local government, it was identified that a private investor was looking at a similar initiative and that the buildings owned by the Municipality were not be suitable for the initiative. Following further discussions, the community selected the LRP measures listed below:

- Support for irrigation improvements in Dashtadem;
- Construction of herder shelters in communal pastureland;
- Priority construction employment for herder households;
- Training for herders; and
- Training for women on career progression and employment opportunities.

The proposed combination of measures includes one key measure of specific targeted support for Dashtadem community, which has a higher proportion of affected communal pastureland than the other communities, and four measures that benefit all four communities. It includes three measures focused on supporting herders / livestock management, two measures with wider community impacts and one measure designed to specifically support women. All the measures are expected to have a higher positive impact on poorer households, which have a higher reliance on agriculture and herding activities. A specific budget has been assigned to support households that meet vulnerability criteria which may reduce their ability to take advantage of the proposed livelihood restoration.

This LRP outlines the timelines, responsibilities and budget for successful implementation and monitoring.

2 Introduction

Masdar Armenia CSG ('The Company' or 'Masdar') is developing and planning to build and operate a 200MW Solar Photovoltaic (PV) Power Plant (AYG- 1 or the 'Project') in the Aragatsotn Marz region of Armenia.

The Project Company is seeking to obtain international funding for the Project. The Project aims to manage its E&S aspects by ensuring it is fully aligned with all applicable regulations and with international best practice. In addition to Armenian laws and requirements, the Project will comply with the International Finance Corporation Standards on Environmental and Social Sustainability (2012), EBRD Performance Requirements (2019) and ADB's Safeguard Requirements (2009) and other Lender requirements.

The Project was subject to an ESIA process, and EIA approval was obtained from the Ministry.

Following international requirements, the project is required to assess and compensate for involuntary resettlement impacts. The Project does not cause physical displacement. However, the Project is expected to cause negligible to minor economic displacement within the Project area by restricting access to grazing areas used for pastoral agriculture.

This document is the Livelihood Restoration Plan (LRP) for the Project. The economic displacement impacts caused by the Project are identified, assessed and mitigated herein following Lender and Armenian requirements.

The LRP is part of the ESIA package and will be integrated into the ESMS for implementation during construction and operations as relevant.

3 Land Acquisition Regulatory Framework

The following national policies, laws, regulations and lender requirements are applicable E&S obligations for the Project, and therefore shall be complied with and taken into consideration during the design, construction, operational and decommissioning phases of the Project.

3.1 Constitution of Armenia (1995, rev 2015)

According to Article 10 of the Constitution of the Republic of Armenia the right of ownership is acknowledged and protected in the Republic of Armenia. According to Article 60 of the Constitution of Armenia everyone has the right to freely own, use, dispose of and bequeath his/her own property. As per the Constitution, the expropriation of property for prevailing interests of the public shall be performed in exceptional cases stipulated by law and in the manner stipulated by law, and only with prior adequate compensation.

3.2 Armenian Laws and Regulations

Key Armenian Laws and Regulations relevant to the land acquisition process are outlined below. It should be noted that not all the Laws described below have been triggered by the Project, but are described below in the event that they could potentially be triggered in the future. A more detailed legislative framework addressing wider E&S and procedural aspects is included in the main ESIA report.

3.2.1 Land Code and Civil Code

The process of land/property acquisition is mainly governed by the law on the Expropriation of Property for Public Interests.

The Land Code (2001) classifies land of the Republic of Armenia into the following 9 land use categories:

- Agricultural;
- Settlements/Residential;
- Industrial, Mining and Production;
- Power, Transport, Communication, Utility Infrastructure Facilities;
- Protected Land for Special Purposes;
- Special Significance;
- Forested;
- Water; and
- State Reserve Lands.

Lands fall into the following three groups as per their ownership status:

- Lands with private ownership: these are lands belonging to individuals or entities, with the ownership rights to them being registered in the Armenian Government State Committee of Real Estate Cadaster.
- Community lands: these are lands belonging to the community and managed by the Local Authorities. Community lands may be unused, used for common purposes, such as pastures for community members, rented to a person or entity, used illegally (unregistered) by households/entities.
- State lands: these are lands, belonging to the Armenian Government. State lands may be unused, used for main roads, state objects, military and other purposes. Some state lands may be rented or be illegally (with no registration) used by households/entities.

The lands for the Project (i.e. lands within the site boundary) were allocated in accordance with Article 65 of the Land Code, part 1 and part 6. According to Article 65, public lands falling under the ownership of communities may, upon the consent of the Government, and on the basis of the donation contract as well as under the gratuitous right of ownership, be allocated for the implementation of social or charity programmes or investment programmes approved by the Government of Armenia. Communities shall be informed of land allocation decisions of the Head of Community or Council of Elders through mass media or other means. Goals and conditions for the use of lands must be indicated in the relevant decision of the Government and in the donation contract. The relevant decree of the Government should determine the land use purposes, terms and conditions.

Other potentially relevant articles of the Land Code, which have not been triggered by the Project, are summarised below.

Article 210 of the Civil Code (as well as Article 50 of the Land Code) states that the owners/users of a land plot can demand from the owner of the land plot neighbouring with theirs and/or from the owners of other land plots to grant the right of limited use of their land plots (servitude). A servitude may be established to provide right for walking and riding through the neighbouring land plot, installation and exploitation of lines of electric transmission, communication and pipelines, provision of water supply and melioration. The servitude can be voluntary or compulsory, if the agreement on servitude is not reached between the parties. Article 212 (3) of the Civil Code stipulates that for preservation and maintenance of pipelines, engineering infrastructures established to serve the public needs, a compulsory permanent free of charge servitude shall be established.

Articles 102 and 104 of the Land Code and Article 218 of the Civil Code prescribe property acquisition for the purpose of supremacy of the public interest, in exceptional cases of paramount public interest based on law and with prior equivalent compensation.

This was adopted in the Law on Alienation of Property for the Purpose of Supremacy of the Public Interest (hereinafter “the Law”) following the requirements of the Constitution and the above-mentioned legal acts. The Law considered to be the major law regulating land acquisition and compensation procedures in the country. The Law defines the basis and procedure for property acquisition for public and state interests, the procedure for giving compensation for the expropriated property, the goals, principles of property acquisition for public and state interests, and the procedure for recognizing the public and state interests.

The first paragraph of Article 3 of the Law prescribes that the Constitutional basis for acquisition of property for public and state purposes is the exclusive prevailing public interest, and the application of its Constitutional requirements are as follows: a) land acquisition as prescribed by the law and b) prior equivalent compensation for the acquired land.

Paragraph 1 of Article 4 of the above-mentioned Law constitutes the principles of determination of exclusive cases of prevailing public interest for the acquisition of property for the public and state purposes, and Paragraph 2 of the same Article constitutes the possible purposes followed by exclusive prevailing public interest. The Law defines the fundamental principle according to which a) public benefit must outweigh the expropriated property owner's loss, b) an efficient application of the public interest would not be ensured unless that property is acquired) the acquisition of the

property must not unjustifiably harm the property owner, d) the public interest must be declared as prevailing by a Government decree, e) there may be filed a lawsuit on the exclusive public interest matters.

The Law also regulates requirements on acquisition of property, compensation and rules on decision-making with regards to property alienation.

In particular, Article 5 of the Law defines that in case of alienation of the land relevant real estate (buildings, structures and other attached property, etc.) located on the land as well as all existing improvements on the land are also subject to alienation. In case of acquisition of the building or construction, the relevant servicing lands shall be subject to alienation as well.

3.2.2 Law on Alienation of Property for the Purpose of Supremacy of the Public Interest

The Law ratified in 2006 sets regulations for physical and legal entities, and community owned properties (‘owners’) and all other properties (movable and immovable property, property rights, securities, etc.) located or registered in the Republic of Armenia according to Armenian legislation or recorded (hereafter ‘property to be acquired’) and regulations for property acquisition and compensation major procedures. In particular:

- Upon enactment of the government decree on recognition of property as exclusive prevailing public interest, the relevant authority shall prepare a description protocol prescribing the acquired property according to the procedure and deadlines stated by the government; acquiring party, property owners and those possessing property rights on the acquired property may participate in preparing of the description protocols if the latter was not prepared during the preliminary survey of the property. Within no later than three days after its preparation, one copy of the description protocol describing the acquired property shall be, duly submitted to the property owner and persons possessing property rights on such property, who are authorized to lodge claims with relevant authorities and/or court within ten days after the due receipt thereof.
- An equivalent compensation is paid to the property owner for the acquired property. An equivalent compensation is considered to be 15% (fifteen presents) more than the market price of the property. The market value evaluation of the property or the property rights of the real estate is carried out according to “Armenian Law on Evaluation Procedure of Real Estate” (2005).
- The property shall be acquired upon the agreement between the acquirer and the owner of the property to be acquired. In this case, the provisions on the compensation price, form, procedure, deadlines, terms and obligations defined only by mutual agreement of the parties.
- If the acquisition contract is not signed within three months after its submission, the acquirer, is required to transfer the property acquired price to court’s or notarial deposit account within a month by submitting a duly notice to the property owner and to the persons knowing to have ownership rights for the property. The compensation price shall be calculated no later than a week before transferring it to the deposit account.
- If the acquisition contract is not signed within 7 days after the property compensation price is transferred to the deposit account then the acquirer is

required to lodge an application with the court for claiming property acquisition within a month period. In this case there could only be considered the amount of the compensation at the court.

The law prescribes the rights and guarantees of the property owner to be acquired in public and state interests, stating that the property owner prior to its acquisition or state registration of the rights resulted from its acquisition, has the right to own, use, dispose and make only such improvements, which ensure the property use according to its purpose. The Law prescribes certain limitations for the property to be acquired, which is the acquiring property description protocol preparation day in accordance with the procedure stipulated by the government. No compensation is provided for additional improvement (taking into account the guarantees stated by the Law) as well as any encumbrance or rights on the property to be acquired given or obtained by third parties if they were applied after the above-mentioned day.

To date, the Project has not required of the provisions in this Law for its land acquisition process.

3.3 Lender Requirements

3.3.1 European Bank for Reconstruction and Development Performance Requirements

The European Bank for Reconstruction and Development (EBRD) Environmental and Social Policy (ESP) (2019) and the accompanying Performance Requirement (PR) 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement addresses impacts of Project-related land acquisition, including restrictions on land use and access to assets and natural resources; which may cause physical displacement (relocation, loss of land or shelter), and/ or economic displacement (loss of land, assets or restrictions on land use, assets and natural resources leading to loss of income sources or other means of livelihood).

The term “involuntary resettlement” refers to both of these impacts and the processes to mitigate and compensate these impacts. Resettlement is considered involuntary when affected persons or affected communities do not have the right to refuse land acquisition or restrictions on land use, other assets and natural resources, even if compulsory acquisition is used only as a last resort after a negotiated process. Unless properly managed, involuntary resettlement may result in long-term hardship and impoverishment for affected persons and communities, as well as environmental damage and adverse socio-economic impacts in areas to which they have been displaced. The client shall consider feasible alternative project designs and sites to avoid or minimise land acquisition or restrictions on land use, other assets and natural resources while balancing environmental, social, and financial costs and benefits, and paying particular attention to gender impacts and impacts on vulnerable persons.

Where it cannot be avoided through design, displacement shall be minimised and appropriate measures to mitigate adverse impacts on affected persons and host communities shall be carefully planned and implemented.

The objectives of PR5 are to:

- Avoid involuntary resettlement or, when unavoidable, minimise involuntary resettlement by exploring feasible alternative project designs and sites;
- Avoid forced eviction;

- Mitigate unavoidable adverse social and economic impacts from involuntary resettlement on affected persons by: (i) providing timely compensation for loss of assets at full replacement cost; and (ii) ensuring that land acquisition, restrictions on land use, other assets and natural resources and involuntary resettlement activities are implemented with meaningful consultation, participation, and disclosure of information, in accordance with the requirements of PR 10: Information Disclosure and Stakeholder Engagement;
- Improve, or as a minimum restore the livelihoods and standards of living of affected persons compared to pre-displacement levels; and
- Improve living conditions of physically displaced persons through the provision of adequate housing (including essential services and utilities) with security of tenure at resettlement sites.

The objectives of PR 10: Information Disclosure and Stakeholder Engagement are to:

- Outline a systematic approach to stakeholder engagement that will help the client build and maintain a constructive relationship with their stakeholders;
- Provide means for effective and inclusive engagement with project stakeholders throughout the project cycle;
- Ensure that appropriate environmental and social information is disclosed, and meaningful consultation is held, with the project's stakeholders and where appropriate, feedback provided through the consultation is taken into consideration; and
- Ensure that grievances from stakeholders are responded to and managed appropriately.

The Project will cause economic displacement as per PR5 definition. The Project is expected to cause a limited disruption of livelihoods for herder and potential herders within the communities, therefore a Livelihood Resettlement Action Plan (LRP) is required. Specific requirements related to EBRD Involuntary Resettlement and Economic Displacement Policy and PR5 are highlighted throughout this document, as relevant.

3.3.2 Asian Development Bank Safeguard Policy Statement

The Asian Development Bank (ADB) Safeguard Policy Statement (June 2009) contains details of their Safeguard Requirements 2: Involuntary Resettlement which are accompanied by Operations Manual sections in Involuntary Resettlement. The objectives of Safeguard Requirements 2: Involuntary Resettlement are to avoid involuntary resettlement wherever possible; to minimize involuntary resettlement by exploring project and design alternatives; to enhance, or at least restore, the livelihoods of all displaced persons in real terms relative to pre-project levels; and to improve the standards of living of the displaced poor and other vulnerable groups.

Safeguard Requirements 1: Environmental Safeguards contains provisions relating to information disclosure and stakeholder engagement which are to:

- Carry out meaningful consultation with affected people and facilitate their informed participation. Ensure women's participation in consultation;

- Involve stakeholders, including affected people and concerned nongovernment organizations, early in the project preparation process and ensure that their views and concerns are made known to and understood by decision makers and taken into account;
- Continue consultations with stakeholders throughout project implementation as necessary to address issues related to environmental assessment;
- Establish a grievance redress mechanism to receive and facilitate resolution of the affected people's concerns and grievances regarding the project's environmental performance.

ADB's Access to Information Policy (September 2018) focuses on guiding principles and exceptions to disclosure. This includes the following policy principles:

- Clear, timely, and appropriate disclosure. ADB discloses information about its operations in a clear, timely, and appropriate manner to enhance stakeholders' ability to meaningfully engage with ADB and to promote good governance;
- Proactive disclosure. ADB proactively shares its knowledge products and information about its operations in a timely manner to facilitate participation in ADB decision making. While the ADB website remains the primary vehicle for proactive disclosure, ADB also uses other appropriate means to disclose and communicate information;
- Providing information to project-affected people and other stakeholders. ADB works closely with its borrowers and clients to ensure two-way communications about ADB projects with PAPs and other stakeholders. This is done within a time frame, using relevant languages, and in a way that allows PAPs and other stakeholders to provide meaningful inputs into project design and implementation.

3.3.3 International Finance Corporation (IFC) Performance Standards

The IFC Environmental and Social Sustainability Framework defines the IFC's approach towards sustainability and the environment. It describes best practices for managing the environmental and social risks associated with asset development and management.

Performance Standard 5 recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons that use the area. A Resettlement Action Plan (physical displacement) or a Livelihood Restoration Plan (Economic Displacement) shall be prepared to assess, anticipate and avoid, or where avoidance is not possible, minimize adverse social and economic impacts from land acquisition or restrictions on land use by (i) providing compensation for loss of assets at replacement cost and (ii) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected; to improve, or restore, the livelihoods and standards of living displaced persons; and to improve living conditions among physically displaced persons.

The Project triggers Involuntary Resettlement as per IFC PS 5. Project activities will not cause any physical displacement (as detailed in chapter 6 below) but will cause

negligible to minor economic displacement, so as per the IFC PS 5, a Livelihood Restoration Plan shall be prepared.

Specific requirements as per IFC PS 5 and IFC PS 5 Guidance Notes are highlighted throughout this document, as relevant.

In addition, the following IFC guidelines will be used as benchmarks of international good practice for the resettlement process and the consultation process for the project:

- IFC Handbook for Preparing a Resettlement Action Plan;
- IFC Stakeholder Engagement- Good Practice Handbook for Companies Doing Business in Emerging Countries;
- IFC Good Practice Note – Addressing Grievances from Project-Affected Communities & IFC Good Practice Manual- Doing Better Business Through Effective Public Consultation and Disclosure.

3.4 Involuntary Resettlement Requirements & Project Approach

The table below outlines Involuntary Resettlement requirements as per National Law and Lender Requirements. When requirements diverge, the most stringent requirement applies. The table below also summarises the Project approach to each requirement.

Aspect	National Law	Lender Requirements	Project Approach
Public Land Allocation to Investments / Projects	<p>States lands falling under the ownership of communities may, upon the consent of the Government, and on the basis of the donation contract as well as under the gratuitous right of ownership, be allocated for the implementation of social or charity programmes or investment programmes approved by the Government of Armenia.</p> <p>Communal lands can also be transferred to the central Government which can then be allocated to a specific investment.</p>	<p>Clients (i.e. Masdar AYG-1 or the Company) to collaborate / support / assess the Government-led land acquisition / allocation process to achieve alignment with PS5 / PR5 requirements, including the following:</p> <p>Evictions and forceful expropriations to be avoided (including informal users of public lands).</p> <p>Impacts on land users to be compensated and livelihoods restored.</p> <p>Consultations, consideration of vulnerable groups and monitoring to be implemented, as detailed in the following items on this table.</p>	<p>To assess the Government led land acquisition / allocation process and implement (directly or supporting/advising the Government) additional measures to address any identified gaps between national procedures and lender requirements.</p>
Resettlement Avoidance	<p>The Law defines the specific situations in which different types of land acquisitions, including involuntary acquisitions, are permitted.</p> <p>This law applies to natural and legal entities as well as the community owned properties and all other properties movable and immovable property, property rights, securities, etc located, registered or recorded in Armenia according to the legislation and regulations.</p>	<p>The client shall consider feasible alternative project designs and sites to avoid or minimise land acquisition or restrictions on land use, other assets and natural resources while balancing environmental, social, and financial costs and benefits, and paying particular attention to gender impacts and impacts on vulnerable persons.</p> <p>Where it cannot be avoided through design, displacement shall be minimised and appropriate measures to mitigate adverse impacts on affected persons and host communities shall be carefully planned and implemented.</p> <p>In the case of projects involving economic</p>	<p>The Land was allocated by the Project to the Government, following the legal process of land donation of public and community land for investment Projects.</p> <p>Additional land acquisition for road access or potentially other uses (e.g. temporary rental of land by the EPC during construction) will fully avoid physical displacement and avoid or minimize economic displacement.</p> <p>When full avoidance is not possible (e.g. community herders using the Project land), compensation has been designed through this LRP. An LRP addendum will be prepared in the unlikely event that further</p>

Aspect	National Law	Lender Requirements	Project Approach
		<p>displacement only, the client will develop an LRP to compensate PAPs and/or communities with transitional support and opportunities to improve, or at least restore, their means of income-earning capacity, production levels, and standards of living.</p>	<p>economic displacement is caused by the Project.</p>
<p>Stakeholder Engagement & Access to Information</p>	<p>For community land allocation, public hearings and community meetings are carried out by local government to ensure a transparent and participative approach to community land allocation.</p> <p>For private property, a copy of the description protocol of the property to be acquired, draft contract of the property to be acquired is sent to the property owner and persons possessing property rights.</p> <p>The property acquirer shall provide information on transferring the compensation into the court or notary deposit account. If the acquirer is conducting a preliminary survey on the property to be acquired, adequate information shall be provided to the property owner, the possessor and user on the nature and matter, legal consequences of those proceedings prior to its initiation.</p>	<p>The client will engage with affected land owners and users through stakeholder engagement.</p> <p>Stakeholder engagement should include information on resettlement options, alternatives, and choices.</p> <p>The client will disclose relevant information during the planning, implementation, monitoring and evaluation of compensation payments, livelihood restoration activities, and resettlement activities.</p> <p>Resettlement related documents to be timely disclosed in the language available for PAPs.</p> <p>Meaningful public consultations are to be held with the PAPs. PAPs should be informed about their entitlements and options, as well as resettlement alternatives.</p>	<p>An extensive stakeholder engagement process was carried out for the Project, including the discussion of land uses at the Project site and economic displacement, positive and negative impacts, mitigation strategies, road access and livelihood restoration options.</p> <p>Specific efforts were made to facilitate participation of community members for the communities that donated the land, and potential land users from other nearby communities.</p> <p>Specific focus groups with PAPs were proposed, but the PAPs generally preferred to voice their concerns and options in open public meetings with the wider community.</p> <p>Further consultations with communities and PAPs will be carried out upon disclosure of the LRP and during LRP implementation.</p> <p>Implement the Project Stakeholder Engagement Plan (SEP) and external Grievance Mechanism to ensure ongoing communication with Project affected communities and to manage Project expectations by community members.</p>

Aspect	National Law	Lender Requirements	Project Approach
Eligibility & Compensation	<p>Persons having documented ownership over the property are eligible to receive compensation for the land being alienated, damages/ demolition and lost crops caused by a project, or in the cases their lands are not alienated but partially used for public projects (servitude). Persons who do not have formal legal rights to the assets, but could have such, should register their rights according to the law in 15 days after Eminent Domain decree enters into force to be eligible for compensation.</p> <p>Those who have property rights on the acquiring property are compensated from the acquired property compensation amount. Property owners are entitled to an equivalent compensation for the acquired property plus 15% of its market value. The market value is the most probable market price of property, which could be determined by an independent qualified property evaluator.</p> <p>If there is no open or competitive market for the expropriated property, the market value for the property is determined by a method, which would be assessed fair by the court.</p> <p>No separate compensation is calculated for the informal crop losses or informal (illegal) buildings/structures.</p>	<p>Clients must offer displaced communities and persons compensation for loss of as-sets at full replacement cost, and other assistance to ensure that livelihoods are meaningfully restored.</p> <p>Where livelihoods are land-based, the client will offer land-based compensation. The client will take possession of the acquired land and related assets only after compensation has been made available, and resettlement sites and moving allowances have been provided.</p> <p>The client will provide opportunities to displaced communities and persons to derive appropriate development benefits from the Project.</p> <p>The client will establish a cut-off date for eligibility, after which any land-related improvements will not be eligible for compensation. Information regarding the cut-off date will be well documented and disseminated throughout the project area.</p> <p>PAPs with formal title have to be compensated for lost land/other assets. PAPs with legalizable title have the right to be compensated for lost land and assets (in some projects, in some cases only after legalizing their assets). PAPs with no legal title have right to receive compensation (allowance) for non-land assets lost.</p> <p>Leased land losses. Based on replacement of lost income through cash compensation of gross income times the remaining lease years or through a replacement land lease.</p>	<p>Both formal / legal and informal land users will receive compensation.</p> <p>The Project does not cause physical displacement.</p> <p>Impacts on land based livelihood are of negligible magnitude, no land for land compensation is required since there is a large amount of remaining communal pastureland available and livestock herding is not constrained by lack of land availability.</p> <p>Community based livelihood restoration measures will be implemented for the communities providing land for the Project and other communities informally grazing in the land. Livelihood restoration measures to be focused on livestock management, agricultural activities and vulnerable groups.</p> <p>Any additional involuntary resettlement impact as a result of access road construction or temporary construction land uses (e.g. minor impacts on cultivated plots as a result of road widening) shall be compensated at full replacement costs plus 15% of the market value. Road construction or temporary contraction land uses shall not result in physical displacement.</p>

Aspect	National Law	Lender Requirements	Project Approach
Support for Vulnerable Groups	<p>The system for land acquisition and expropriation is similar for all citizens and entities. Additional support measures for lost income and livelihood, compensation or resettlement costs for vulnerable groups are not considered.</p>	<p>The Lenders Standards require mitigation measures and rehabilitation for income/livelihood impacts, resettlement support during the relocation process as well as living improvements for the relocated vulnerable population, including but not limited to those living in poverty, women, the elderly and people with disabilities.</p> <p>These PAPs are to be identified and special assistance is provided to restore/ improve their pre-project level of livelihoods.</p>	<p>Vulnerable groups have been identified and assessed during the E&S assessment process (ESIA, SEP, LRP) and specific management and monitoring measures to be developed to address identified vulnerabilities.</p> <p>The Project will also inform and consult with stakeholders, specifically consider the needs of vulnerable groups and set up a grievance mechanism considering the needs of vulnerable persons.</p> <p>This LRP has also specifically and explicitly considered access to proposed livelihood restoration measures by vulnerable groups.</p>
Grievance Management & Remedy	<p>Submission of applications, complaints, objections and suggestions to the acquirer and to the relevant authorities as well as filing a complaint to the court, during every stage of the acquisition process.</p> <p>According to the Constitution, every person has a right to an effective remedy before courts and before state authorities.</p>	<p>Projects are required to implement and publicise an accessible, fair and effective grievance mechanism to address PAP concerns.</p> <p>The Grievance Mechanism does not prevent access to other legal remedies.</p> <p>A Grievance Redress Mechanism is to be established for each project. Information on GRM should be communicated to the PAPs.</p>	<p>The Project shall put in place a Grievance Mechanism to address concerns from all stakeholders, including PAPs. Grievances from PAPs are categorised and tracked.</p> <p>Grievance boxes have been placed in the Heads of Community Offices. The PAPs have been informed about their location and the process of recording a grievance during consultations. The GRM has also been outlined in all disclosure materials.</p> <p>The PAPs will continue to be informed of the Grievance Mechanism.</p>

Aspect	National Law	Lender Requirements	Project Approach
Monitoring	<p>The National legislation provides no provisions for livelihood monitoring and evaluation, or for the external completion audit.</p>	<p>The client will establish procedures to monitor and evaluate the implementation of the RAP or LRP. PAPs will be consulted during the monitoring process.</p> <p>Monitor and assess resettlement outcomes, their impacts on the standards of living of displaced persons, and whether the objectives of the resettlement plan have been achieved shall be confirmed through external auditing when resettlement impacts are significant.</p>	<p>This LRP establishes KPIs for monitoring. Monitoring evaluation and reporting will be carried out for all ESMS components, including the LRP.</p> <p>Due to the minor magnitude of involuntary resettlement impacts on this project, no dedicated LRP close out audit is deemed necessary. The Lender's E&S Advisor will independently verify LRP implementation.</p>

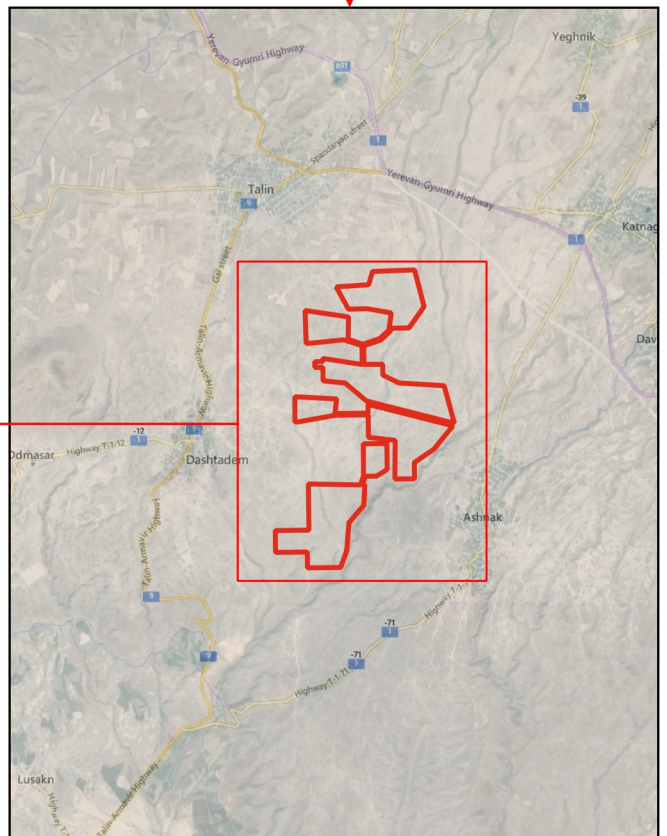
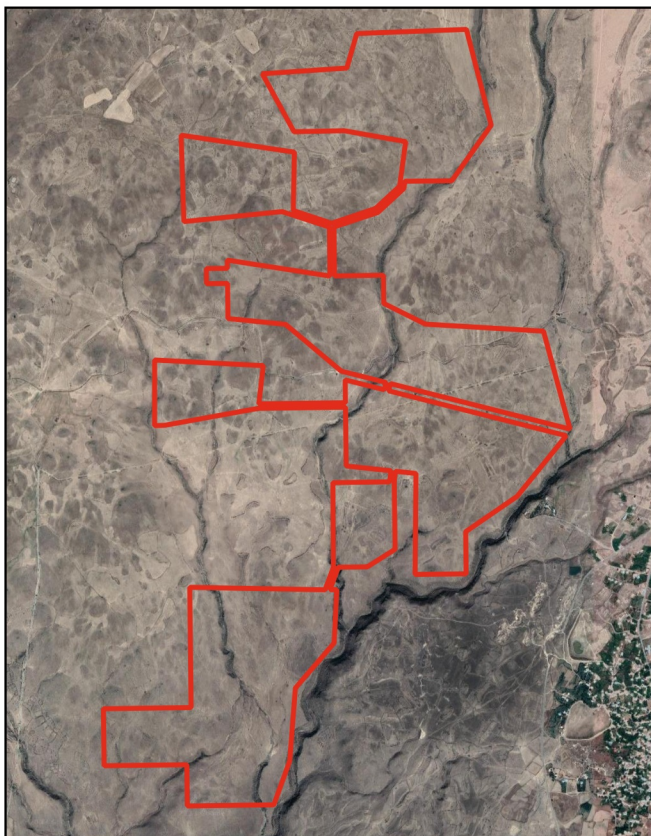
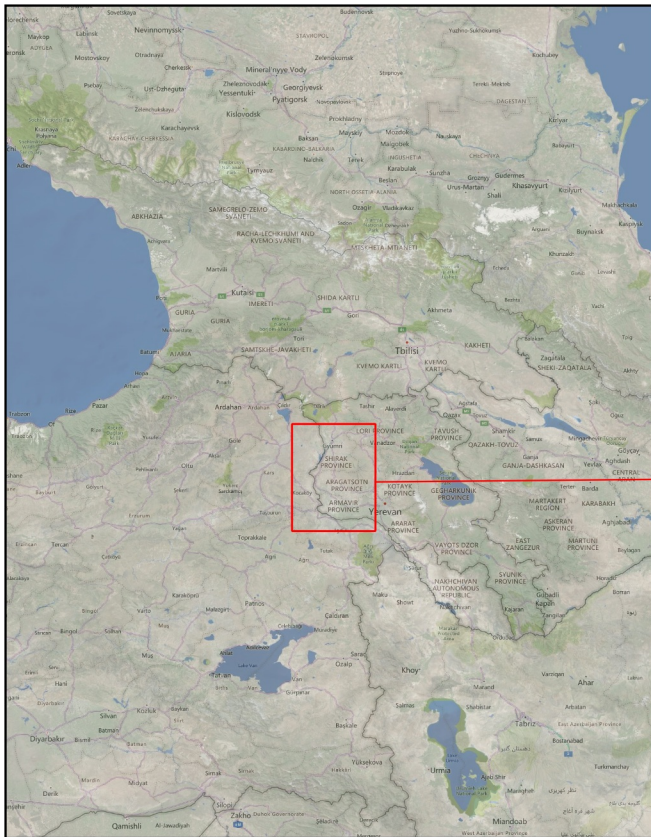
4 Key Project Information

4.1 Project Location

The proposed PV Project is in the Aragatsotn Marz Region of Armenia. The Project site is located between the settlements of Dashtadem, Talin, Ashnak and Katnaghbyur. From an administrative perspective the site is located within the territories of the (former) Dashtadem and Talin communities. Currently all the area is part of the consolidated Talin community, which includes Talin, Dashtadem, Ashnak, Katnaghbyur and other villages in the wider area.

The PV Plant will have an operational capacity of 200MW and span over 525 hectares. All the Project site was communal land of the Dashtadem and Talin communities.

The plot of land located in Dashtadem (363.05 hectares) and Talin (156.31 hectares) has been transferred from the Community to the Central Government. The map overleaf depicts the site boundary, and map 4 below depicts the former communal land from Talin and Dashtadem transferred to the Central Government and allocated to the PV Project.



Consultant



Client



Project
AYG-1 Solar PV Project, Armenia

Map Title
Project Location



4.2 Project Components

The PV Plant is expected to have a generating capacity of 200 MW, produced by solar panels spanning over 525 hectares.

The three main components of modern solar plants are:

- Solar Photovoltaic Panels made up of a transparent photovoltaic (PV) glass as well as PV cells;
- Inverter which converts direct current electricity, to alternating current (AC) electricity;
- A transformer and substation which enables connection of the PV Plant to the national electricity grid.

In addition, other key components include the following:

- Access roads;
- Control center;
- 300m Interconnection from the substation to the grid;
- Temporary construction infrastructure (construction phase only).

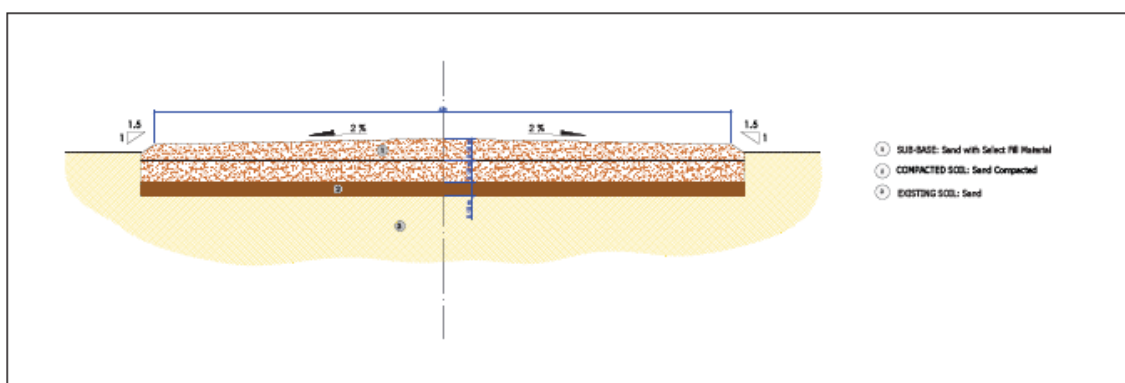
Cable trenches will be used to connect the PV panels to the Project substation. The project substation will connect to the national grid through a 300m long overhead transmission line (OHTL) connection to the existing 220 kV OHTL adjacent to the site.

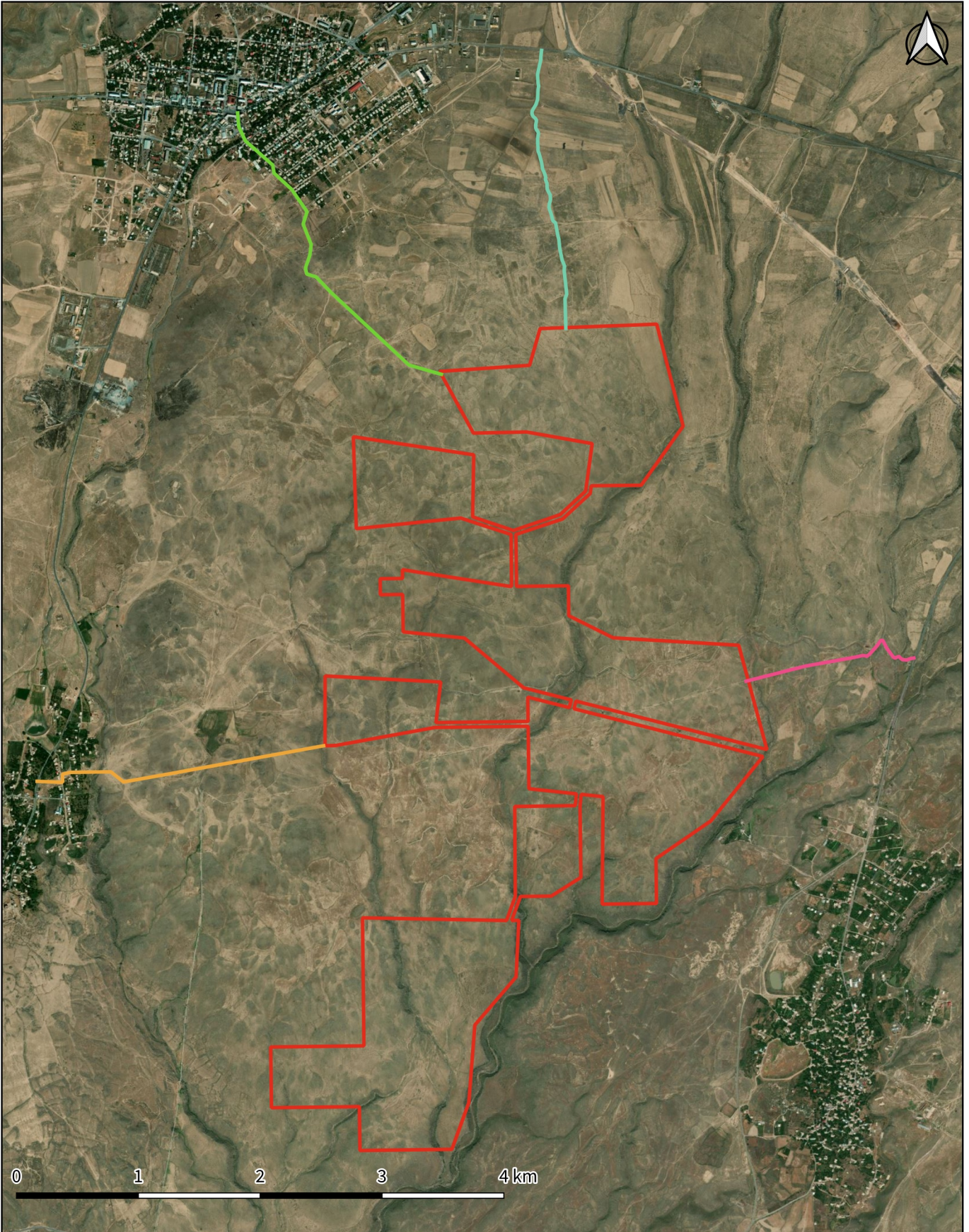
The plant HV Substation Building will comprise of various elements such as the Transformer, Switchgear, LV/MV Switch rooms etc.


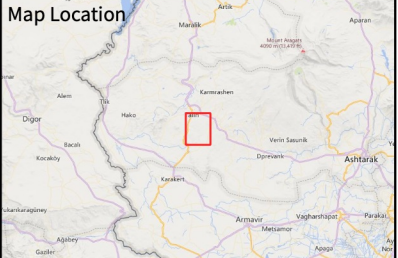

Several alternative site access roads have been considered and are depicted below. The length of the proposed access roads is approximately 2km and will provide site access to employees, trucks, deliveries, etc. The maximum area of the alternative access roads under consideration is 1.6 hectares.

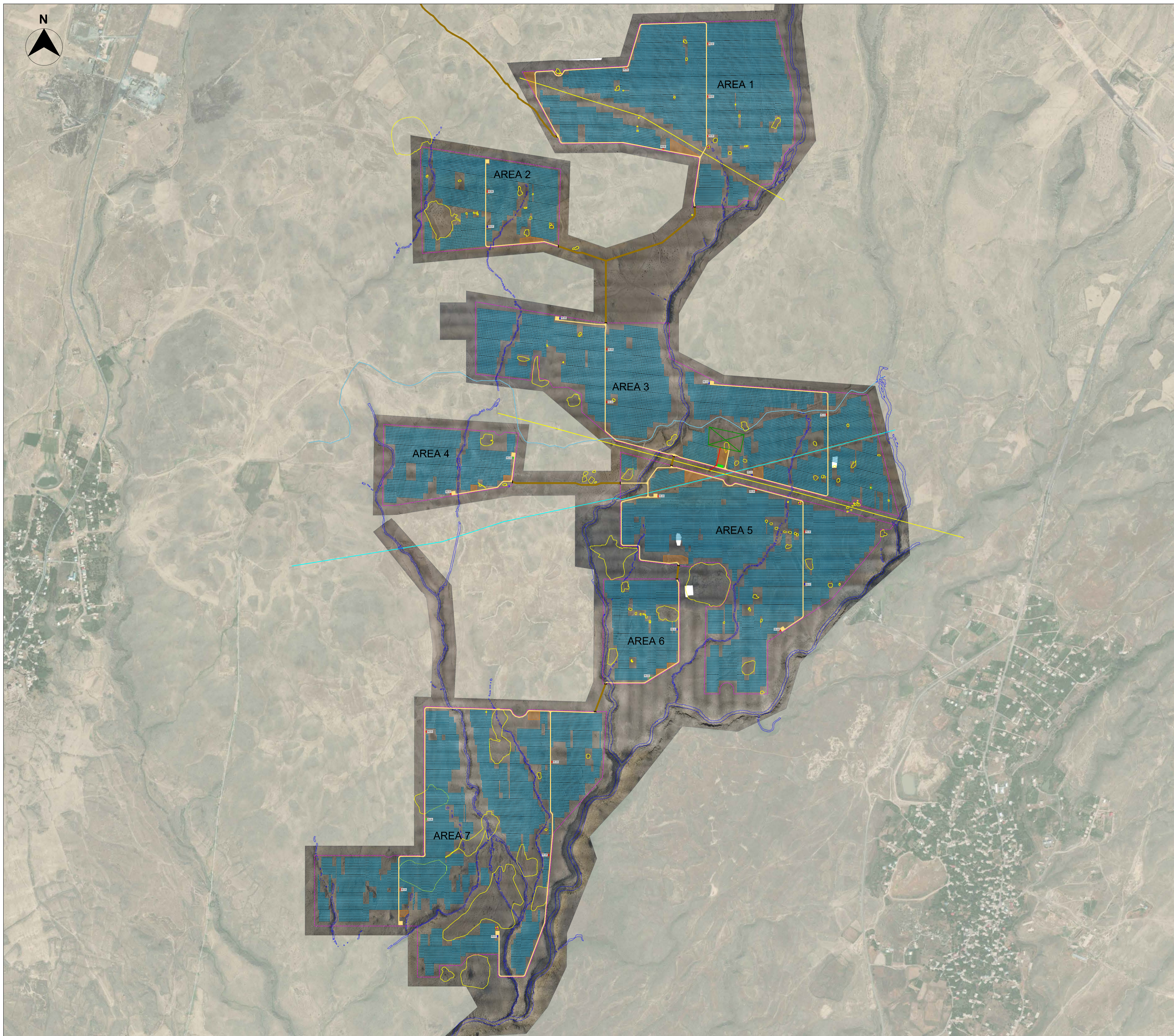
A more detailed description of the Project components is provided in the Environmental and Social Impact Assessment (ESIA) report.

Figure 1 Road design





<p>Consultant</p> 	<p>Project</p> <p>AYG-1 PV Project, Armenia</p>	<p>Map Location</p> 
<p>Client</p> 	<p>Map Title</p> <p>Access Roads</p>	



PV PLANT CONFIGURATION:

PEAK POWER (MWp)	252.00
AC CAPACITY @35°C (MWh)	240.20
DC/AC RATIO	1.05
POWER STATIONS	28
MODULES QTY.	434,484
INVERTER QTY.	195
TRACKERS 1P x 81, 1P x 54 QTY.	3,902 / 2193
MODULES / STRING	27
PITCH (m)	6.5
GCR (%)	35.05

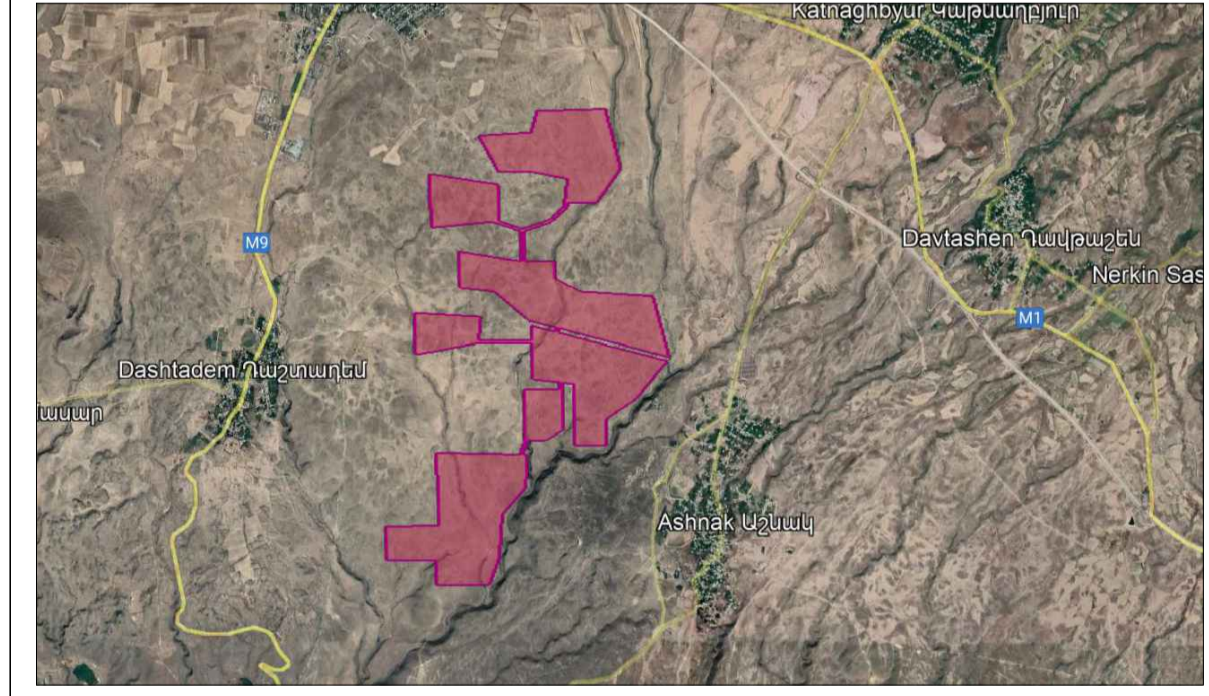
MAIN EQUIPMENT:

MODULES	ASTRONERGY CHSM72N DG/F-BH_580W
INVERTERS	SUNGROW - SG1100UD
TRACKERS	ARCTECH SKYLINE II (1P x 81, 1P x 54)

LEGEND

- Tracker Structure - 1P x 81 Configuration
- Tracker Structure - 1P x 54 Configuration
- Power Station
- Storage Areas
- Fence
- OHTL HV evacuation
- Internal Road
- Access Road
- Access Gate
- Erosive Flooding
- HV Overhead Line
- Irrigation Channel
- Water Pipe
- MV/HV Substation
- Protected Archaeological Area
- Weather Station
- Maintenance & control building + Storage building

LOCATION



Version	Date	Description	Issued by	Drawn by	Reviewed by	Approved by
00	15/09/2023	Updating	ATA	VCS	ANB	AMH
00	25/08/2023	First Issued	ATA	VCS	ANB	AMH

Client: MASDAR Engineering:

Project: AYG-1 200 MW PV PLANT Title & Subtitle: Layout / General Layout

Scale: 1/10,000 Plan n°: 1.1

Size: A1 Sheets: 7 Sheet n°: 1

Project number: 13015

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4.3 Site Description

Due to its intra-continental location and the presence of mountain ranges, the climate in Armenia is mostly dry. The climatic conditions in the Project Area mostly consist of dry hot summers and cold winters with snowfall usually lasting for 3 months. The predominant habitat is dry steppes, with small shrubs and herbaceous vegetation. Vegetation growth is also limited by a shallow bedrock and rocky soils.

The climatic conditions, lack of water and poor soil characteristics limit the vegetation, natural habitat and agricultural uses of the Project Site and surrounding areas. Currently there are no trees onsite, only small shrubs and herbaceous vegetation. There is no cultivation onsite due to the unsuitable soil and lack of water. The area is used for extensive pastoralism, but the lack of water and poor vegetation limits its productivity.

There are no residential structures or agricultural structures onsite. All the settlements around the site (Talin, Dashtadem, Katnaghbyur and Ashnak) are connected by local tarmacked road (off-site), so local community members do not use the site for passage due to the rough terrain, rock outcrops and some relatively deep canyons between the site and the villages.

Pictures of the Project site and surrounding areas, illustrating site conditions, are provided below.

Plate 1 Project Site

Project Site – Landscape



Project Site – Landscape, OHTL in the background



Project Site – Landscape, Aragats Mountain Range in the background



Project site – Rocky slopes



Project Site – dry ephemeral water course, OHTL in the background



Plate 2 Project Area

Project Area (offsite) - Agricultural fields near Ashnak village



Project Area (offsite) – ploughed fields near the road to Talin



5 Land Acquisition Process

5.1 Land Acquisition Summary

The table below summarises the key land acquisition processes for different project components.

Component	Affected Area	Type Land Acquisition	Section
Project Site	525 Ha	Government led land transfer to from communities to central Government and ANIF, for land allocation to the Project for PPA duration.	5.2
		Community land uses	5.3
Access Roads	Up to 1.6.Ha	Potential impact on private cropland (not expected as per GIS analysis on norther access route)	5.4
		Community land uses (up to 1.6 Ha)	5.3
Temporary construction land uses	Not expected, small areas if required by EPC.	Willing seller / willing buyer rental agreements only.	5.5

5.2 Project Site

The land acquisition for the Project site is a Government led land acquisition process. The Project site land is public land. It belonged to the communities of Talin and Dashtadem and was transferred to the Government of Armenia. The Government of Armenia then allocated the land to the Armenian National Investment Fund (ANIF) that is a shareholder in the Project Company. Once the Project is decommissioned, the land will remain publicly owned and is expected to be returned to the communities.

The areas formerly owned by the Dashtadem and Talin communities are depicted overleaf.

As a result of the implementation of the Project, the Talin and Dashdatem communities have received three types of direct support from the Project and the Government:

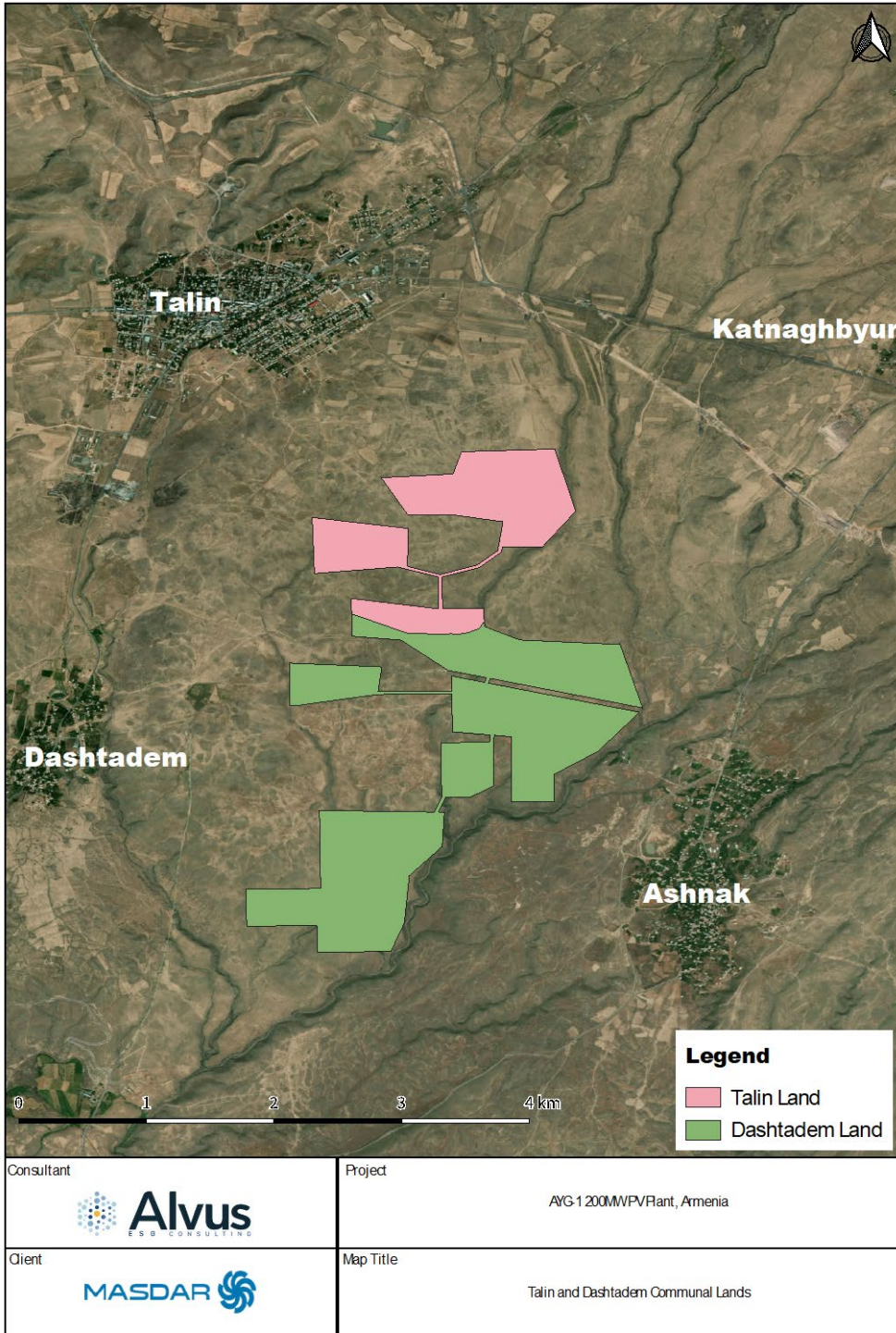
- 320 million AMD donation by the Company to the communities.
- 1,000 million budgetary support from the Central Government to the communities. This can be increase by an extra 1,000 million AMD as the Central Government co-funds 50% of social projects funded and developed by local communities across the country.

5.2.1 Project Company donation to the communities

The Presidential degree requires the Project Company to donate 320,000,000 (three hundred twenty million) AMD to Dashtadem and Talin Communities, following the Government-led land allocation.

The Project transferred AMD 320,000,000 (three hundred twenty million) to Talin and Dashtadem communities on November 2021. The land transfer from the community to the Government was undertaken on the 18/06/2021 by Dashtadem and on the 02/03/2023 by Talin. The process in Talin was delayed by the community consolidation process and the repetition of the elections.

Map 3 Project site, former project land ownership



The Government decrees outlining the land transfer process are the following:

- Decision N 1022-A of June 18, 2021 (<https://www.e-gov.am/gov-decrees/item/36428/>) outlining the award of the Project.
- Decision N 1021-A of June 18, 2021 (<https://www.e-gov.am/gov-decrees/item/36430/>) and Decision N 1777 of October 28, 2021 (<https://www.e-gov.am/gov-decrees/item/37171/>) on the transfer of land of the Dashtadem community.
- Decision N 274 of March 2, 2023 (<https://www.e-gov.am/gov-decrees/item/39943/>) and Decision N 935 of June 8, 2023 (<https://www.e-gov.am/gov-decrees/item/40573/>)

The Company proposed a donation agreement to ensure some level of supervision over the allocation of the donation funds, ensuring that these would be spent on development programs, benefiting the majority of the population in the communities, and on activities that would community members with any vulnerability criteria (i.e. that community members from vulnerable groups would not face challenges accessing the benefits of the development measures implemented with the donation). The community provides a plan detailing use of funds to a committee with participation from ANIF, Masdar and the local communities. Once the adequacy of the Project is confirmed, the budget is released to the relevant contractor or implementing party.

The community selected two projects, the improvement of the water infrastructure for Dashtadem and improvements of the cemetery at Talin. Both projects were considered to benefit the entire community and were approved by the committee.

The improvement of the water infrastructure at Talin is particularly useful since water scarcity is a main constraint for agricultural activities in the area, and irrigation infrastructure from soviet times has been progressively degraded over time. Vulnerable households have a higher reliance on agricultural activities (crops, fruit gardens and livestock) which benefit from water availability.

Plate 3 Irrigation Project - Dashtadem



The Talin old cemetery is located in the north western part of the city. It served as the burial grounds since the 7th century, bearing both historical and cultural significance. However, due to its limited capacity for expansion, the cemetery reached a state of closure, rendering it incapable of accommodating new burials. As a result, it became necessary to build a new cemetery in the city's southeast area. This new cemetery encompasses an expansive area of 4.2 hectares and has been registered with the RA Cadastre Committee. The donation amount allocated for Talin was used for this improvement, depicted below.

Plate 4 Cemetery improvements, Talin



5.2.2 Government Budgetary Support to the communities

In addition to the 320 million AMD donation by the Project Company to the Talin and Dashtadem Communities, the Government and the Community agreed to an additional 1,000 million AMD to be provided as budgetary support to the consolidated Talin community (which includes the town of Talin and the villages of Dashtadem, Ashnakh, Katnanbyurg and others).

This budgetary support can be doubled when dedicated to development and social projects, since the Government matches the investment from local community governments when dedicated to development and social activities.

The Government's budgetary support will be managed as per the standard governance processes of local municipalities. The Company does not have any degree of control or oversight over this support.

5.3 Uses of community land

5.3.1 Project impact on community land

Dashtadem has 2,102.49 hectares of total pasture area.

- 363.05 hectares have been assigned to the site.
- 1.2 Ha may be used for the site access road, if the site access option from the south west is selected.
- Overall, there will be a 17% loss of total pasture area as a result of the project.
- The remaining Dashtadem lands available to community members will be 1,739.44 hectares (83%).

Tallin has 2,444.68 hectares of total communal pasture land.

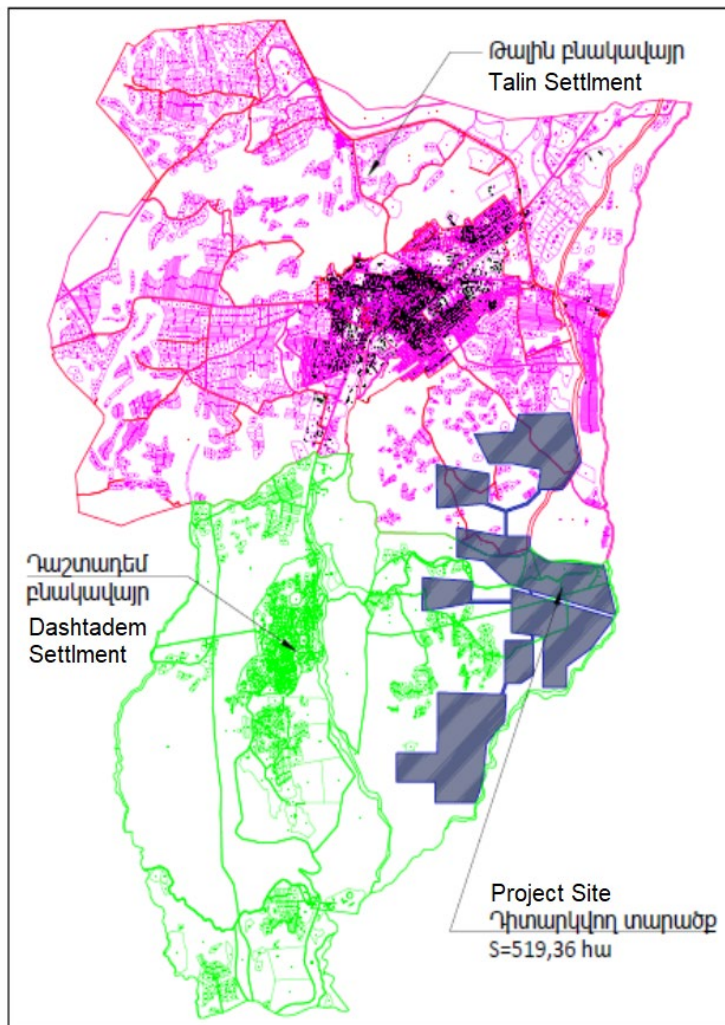
- The project site has been allocated 56.36 hectares of this land.
- If the site access road option from the north is selected, and additional 1.6 Ha will be used.
- In total, there will be a 6% loss of total pasture area as a result of the project.
- The remaining Talin lands available to community members is 2,288.37 hectares (94% remaining).

Ashnak has 1,335.33 hectares of total pasture area, none will be affected, unless the site access road is built from Ashnak, which would result in loss of loss of 1 Ha, less than 0.001% of the communities pasturelands.

Katnaghbyur has 1068.02 hectares of total pasture area, none will be affected by the Project.

In total, 7.5% of the pastureland of the surrounding four communities will be affected, 92.5% will be unaffected.

Map 4 Cadastral Map, Talin & Dashtadem Settlements



5.3.2 Community Land Uses

The community consultations, the social household survey and the site visits undertaken during the ESIA and LRP preparations revealed that communal lands within the affected communities, including the Project site, are used for a number of activities: Extensive pastoralist activities, specifically cattle grazing during part of the year, herbs, wild berries, and firewood collection and hunting.

- Herbs, wild berries, and firewood collection and hunting.

Herbs and wild berry collection is undertaken by a limited number of households with a low frequency. It has no economic significance for households and it is used solely for domestic consumption (cooking herbs, tea, jam preparation). There are extensive areas available for herb collection, herb collection areas are not constrained and the site does not present any unique characteristic for herb collection.

2.5% of households survey responded indicated that they collect firewood from lands owned by the community but this is not within the Project site since the project site has predominantly herbaceous vegetation.

During the social survey, one participant stated that they use communal land for hunting purposes. The respondent was from Talin city and identified the wider Project area as a good hunting ground.

Given that herbs, wild berry and firewood collection and hunting activities are not significant economic activities for households, are practiced by a small number of community members, are not constrained by land availability and can be practiced in areas more accessible to the local communities than the site, and that community members confirmed that they do not foresee any negative impact arising from the construction of the project. Therefore this impact is considered to be of negligible significance.

- Pastoralist activities

The communities used the Project site and other communal lands mainly for grazing. Historically there have been repeated attempts at crop planting in the area, the latest during soviet period, but low soil productivity and lack of water makes the land productivity low, suitable only for extensive pastoralist activities. The prevalent form of vegetation in the area is herbaceous vegetation and small shrubs which have been degraded due to harsh weather conditions, soil infertility and extensive pastoralism activities.

The cattle roams free and is not confined to any man-made fenced areas by herders, nor are there specific herding areas allocated to specific households. Herders are aware of the communal land for Dashtadem and Talin and tend to favour the land within their communities, but also use other open pastureland. Herders from Ashnak and Katnanbyur have confirmed that they also use the Project site, but less often than their communities communal land. Herders from communities located further do not use the Project area as the quality of pasture is low and they have other more accessible areas with similar or better pasture.

According to available secondary data, there are 541 livestock farmers across the four communities, all of which could potentially access the land for summer time pasture. Most households rely on grazing in the summer months and livestock is stabulated in winter months.

The site is not used by the communities as frequently as other pastureland, due to low productivity and access challenges caused by rock outcrops and some relatively deep canyons between the site and the villages.

The results of the social survey found that 83.3% of surveyed livestock farmers use land outside of their home/farm to graze livestock, and the lands that farmers use for grazing are exclusively communal lands. The results of the survey indicate that 80.0% of the herders surveyed use the land on the Project site for grazing along with other communal pastureland. This was confirmed further during the stakeholder engagement process by all four affected communities.

Key constraints for herding activities referred to the economic challenges of livestock management (namely cost of winter fodder, water availability, market conditions) and the availability of summer pastureland for extensive pastoralism was not identified as a key constraint.

During the scoping site visits, ESIA site visits and ESIA surveys (2021, 2022 and 2023) extensive cattle herding was observed in the Project area, confirming the information collected during surveys and consultations. As pointed out during the LRP investigations, the site surveys confirmed that herding is more frequent close to the communities than within the Project site.

Given that the availability of pastureland is not a key constraint for cattle management in the Project area and that the project only affects a relatively small area of the total available pastureland, with low productivity and difficult access, it is expected that the economic displacement caused by the Project will be of negligible magnitude for Talin, Katnanbyur and Ashnak, and of minor magnitude for Dashtadem.

Nevertheless, a precautionary approach is recommended, and livelihood restoration measures shall be designed and implemented to benefit herders from the four affected communities, with a specific focus on Dashtadem, given the higher amount of communal land affected by the Project.

Given that all community members have the right to use community lands, and that a high number of households have a small number of cattle heads which herd in different areas on different periods and years, a communal approach to compensation rather than an individual or household approach is recommended. This means that all community members who own cattle will be entitled to benefit from LRP measures, without having to individually prove that their household used the Project site.

5.3.3 Site Access Road

As described in section 4.2, three site access options are being considered. The accesses from Dashtadem and Ashnak would only affect communal lands with similar land uses as those described above (5.3.2). As described above, the land required for site access is negligible in relation to available communal land (<0.01%).

The site access from the North, within Talin, would follow an existing track for the first 1 km and then cross open communal land for approximately 800 metres. Adjacent to the initial 1km of existing track there are planted crops, which could potentially be affected by access road widening.

Following an assessment of the width of the existing track width and shoulders, and the low level of encroachment of tiled / planted areas near the existing track (depicted below), no impacts from access road widening are expected on crops. Nevertheless, crops and ploughed land have been included in the entitlements table in case there is an accidental encroachment and damage to crops during road construction.

Figure 2 Northern access route



5.4 Other temporary construction land uses

The Project Company will not acquire any additional land for the Project.

The EPC or subcontractors may require offsite land for temporary land uses during construction. This could include temporary storage or worker accommodation. This is considered highly unlikely, as laydown areas, a small batching plant and site offices will be accommodated onsite.

In the event that offsite land is temporarily acquired, this shall only be done through willing seller willing buyer rental agreements, expropriation is not an option. The EPC shall follow the land entry procedure in the Construction Environmental and Social Management System of the Project to ensure that there are no impacts on informal land users in the selected area.

6 Socioeconomic Conditions

Socioeconomic information on land users was obtained through consultations with head of communities, consultations with community members and the household surveys is outlined below. The information below focuses on land users (e.g. the sample of interviewed households who confirmed use of communal lands in the project area). More detailed information about social conditions in the in the four communities in the Project Area is provided in the ESIA.

Agricultural activities of interviewed PAHs

The majority of the population in the Aragatsotn region are involved in agriculture, including farming and cattle-breeding. Most of the agricultural lands are used as arable lands and perennial plantations, agriculture accounts for most of the gross output in the area. Aragatsotn contributes 9.7% of the annual total agricultural product of Armenia with around 79% of the total area of the province are classified as arable lands, which includes crops, fruit gardens and pastulands.

1,048 cattle heads were recorded in Talin community in 2021 and 1,366 cattle heads were recorded in Dashtadem, according to data provided by local authorities. This indicates that smaller rural communities like Dashtadem are more reliant on cattle breeding compared to towns and administrative centers such as Talin.

Most households within the affected communities have a low number of cattle heads. There is a low number of farms with 8 or more livestock in the affected communities. The total number of farms with more than 8 livestock in the affected communities is 36, which is about 7% of the total number of farms, 21 in Dashtadem community, 11 in Talin, 4 in Ashnak and none in Katnaghbyur . The number of cattle recorded by years from the Talin and Dashtadem communities has increased since 2018.

35 out of the 80 (45%) households surveyed by the ESIA social team indicated that they own livestock. 82.3% livestock farmers indicated that they use communal lands for the livestock to graze during summer months. This sub-group of the social survey respondents is considered a sample of the Project affected people (PAPs).

All 35 livestock farmers stable their cattle during different months of the year and all 35 use fodder during the months when cattle are stabled.

All 17 of the interviewed livestock owner households from Dashtadem use the Project area for grazing. This is closely followed by livestock farmers from Talin, in which 6 out of the 7 recorded livestock farmers present in Talin have stated they use the Project area for livestock grazing. All 3 livestock farmers from Katnaghbyur also indicated use the lands at the Project area for grazing activities while only 3 out of 7 livestock farmers from Ashnak reported using the Project site for livestock grazing. Interviews with Talin and Dashtadem community heads have outlined that farmers from the four affected communities use the land at the Project site and surrounding areas mainly in Summer, when the productivity in terms of fodder is very low. The use of the land is not exclusive, and all farmers herd the cattle in different communal lands during different periods (spring, summer and autumn), starting in the most accessible areas where grass appears first, then moving to less productive areas like the project area. Due to the amount of available pastureland, no conflicts have been reported between herders.

The results of the social survey found that 51.4% of interviewed livestock farmers sold at least one of their cows in the past year. The interviewed livestock owners were asked to evaluate the productivity of their livestock activities. 60% categorized their

livestock farming income as 'enough', 34.2% reported having a 'poor' income while 2.8% of livestock farmers categorized their cattle income as 'good'.

The amount of money spent on fodder during winter months ranges from 36,000 AMD to 800,000 AMD per respondent household depending on the number of cattle owned by each farm. 97% of livestock farmers confirmed that they use veterinarians for vaccinating cattle and other livestock. Veterinary bills range from 1,000 AMD to 40,000 AMD depending on the size of the cattle herds. Slaughterhouses are not used by many livestock farmers in the affected communities, only 11.7% of PAHs report to use slaughterhouses on the previous year.

Cattle farming is the predominant form of livestock farming that has been recorded in the four affected communities. However, PAHs are also involved in other livestock farming such as poultry, goat/sheep and pig farming. 57% of PAHs from the four affected communities also keep poultry. The survey results show that 4 PAHs from Dashtadem have goats/sheep while 2 households from Talin and 2 from Ashnak also have goat/sheep. It should be noted that livestock farmers who indicated that they do not use the Project area for any activities do not have cattle.

In addition to livestock farming, the main food crops grown by livestock farmers include fruits, nuts, barley, vegetables and wheat. The most common crops produced in the affected communities are fruits, 50% of surveyed PAHs in Talin grow some form of fruit. There are 82% surveyed PAHs in Dashtadem that are involved with growing fruits. All of the PAHs located in Katnaghbyur and 85% of PAHs in Ashnak that also grow fruit. The fruits produced are mainly apricot and apple from planted trees. There are also some households that have different types of cherry, plum, pear, peach and quince trees, as well as vines. Nuts are also a popular option of crop to cultivate with 29% of PAHs in Dashtadem, 25% in Talin, 10% in Katnaghbyur and 30% of PAHs in Ashnak cultivating nuts, walnut trees are typically the most common across the four affected communities. The results of the social survey found that a fraction of fruit and nut yields are sold to generate additional income.

Barley cultivation is undertaken by 32.3% of the total interviewed livestock farmers, making it the most popular crop planted by farmers in the affected communities. Community members who cultivate wheat make up 14.7% of the Project Affected Households (PAHs) surveyed, only two households sold their wheat harvests to generate additional income while the remaining three households kept their yields for personal use. Vegetables are grown by PAHs in Dashtadem and Katnaghbyur. The results of the social survey found that alfalfa is grown by 20.5% of livestock farmers. There was no alfalfa sold for additional income by these livestock farmers, who reportedly use this as cattle feed during the winter months when cattle are stabled.

A high percentage of both PAH household heads and household members hold either a primary or secondary form of employment in the agricultural sector. Talin has 3 PAHs who are self-employed in agriculture, this number is relatively low for the sample size but was expected as Talin is a more urbanised city in comparison to Dashtadem, Katnaghbyur and Ashnak. There are 12 PAHs in Dashtadem where the household head holds a primary or secondary form of employment in agriculture. In Ashnak there are 3 PAHs and 4 PAHs in Katnaghbyur who are involved in agriculture as a primary or secondary form of employment. In relation to seasonal work, household heads are more involved with seasonal work in comparison to household members.

Most of the PAHs who sell their agricultural products do so locally. Only one of the PAHs stated that they go to the market located 5km away once a month by private car.

The availability of utilities was assessed during the social survey and the results of this found that all surveyed PAHs has access to electricity in their homes. The source of heating for PAHs was manure, wood and gas. Manure is the most common energy source for heating in Talin, Dashtadem, Ashnak and Katnaghbyur. There is 62.5% of surveyed PAHs in Talin that rely on manure as an energy source for heating their homes, 70.5% of PAHs in Dashtadem use manure, 85% of PAHs in Ashnak use manure while 66% of households in Katnaghbyur use manure to heat their homes. Following manure, wood is the second most common energy source for heating with 10% of PAHs in Talin, Katnaghbyur and Ashnak relying on wood for heating while 11% of PAHs in Dashtadem use wood. Gas as a source for heating is not as common in PAHs, it was reported by 4 PAHs that gas prices are high which might explain the high usage of manure as this can be gathered from livestock or bought for a cheaper rate. Gas is only used by PAHs in Talin (25%) and Dashtadem (17%), no interviewed PAHs in Ashnak or Katnaghbyur reported to use gas as a means of heating their home (but it should be noted that the sample size in Ashnak and Katnaghbyur was smaller).

It should be noted that in all affected communities, surveyed households who are not PAHs (i.e. who do not have livestock or report use of the project area) show a higher reliance on gas for heating than surveyed PAHs.

Sanitation facilities results found that PAHs used toilet facilities connected to the sewerage system, a sewage pit, an outdoor toilet or let their sewage flow into a valley nearby. The majority of PAHs from Talin (75%) had a toilet connected to a sewage system while the remaining 25% had a toilet but let the sewage flow into a valley nearby. In Dashtadem, Ashnak and Katnaghbyur, there is no municipal sewage system available. The majority of PAHs from Dashtadem (82%) have a toilet with a sewage pit, 11% of PAHs have an outdoor toilet and 5% have a toilet with sewage flowing into a nearby valley. Similarly in Ashnak, there are 85% of PAHs that have a toilet with a sewage pit with 14% letting their sewage flow into the nearby valley. There are 66% of PAHs in Katnaghbyur who use a sewage pit due to the lack of sewage infrastructure with 1 PAP using an outdoor toilet. The trend in the type of sanitation facilities above was also observed when analyzing the non-PAP respondents.

In terms of goods owned, owning a car is common amongst all interviewed PAHs. In Dashtadem, there are 82% of surveyed PAHs that own a car, 71% of PAHs in Ashnak and 66% of PAHs in Katnaghbyur. There was noticeable difference in the amount of PAHs that own a car versus the number of non-PAHs in Talin, there are only 50% of PAHs in Talin that own a car while 64% of non-PAHs own a car.

There were 17 out of the 35 respondent PAPs indicated they would like to work in the PV Plant during the construction phase, these respondents were mainly men. Occupations identified among them drivers, builder, guard, welder, technician and electrician. It is likely that among the PAHs other household members other than the respondent could also be interested in employment.

Vulnerability

The social survey identified a number of vulnerable PAHs for which particular attention must be given to the needs of vulnerable persons and groups.

There are 9 heads of surveyed PAHs who are over the age of 60. However, there are only 5 persons who claim pensions in the surveyed PAHs.

The results of the social survey revealed that there are two PAHs headed by women and both these women are widowers. The widowers are both self-employed in agriculture and participate in livestock farming as their primary employment.

By law, the minimum wage in Armenia is equal to 68,000 AMD per month. The results of the social survey found that PAHs in Talin have a total household income between 78,000-92,000 AMD. It should be noted that only 2 households out of the 8 PAH felt comfortable disclosing their total household income. The total declared household incomes in Dashtadem community range from 131,000-457,000 AMD. In Ashnak, PAHs disclosed that the total household income ranged from 83,000-300,000 AMD. Katnaghbyur recorded the highest household income in surveyed PAHs with incomes ranging from 104,500 AMD- 787,000 AMD.

A number of the PAHs households disclosed they are in financial debt, Dashtadem is the community with the most financial debt recorded with 24% of PAHs experiencing some kind of financial debt, Talin reported that 14.2% of PAHs have debts. Ashnak and Katnaghbyur both have 10% of PAHs in debt that struggle to meet monthly expenses and depend on money from family members abroad. Therefore, based on the self-declared household income data gathered during the social survey, a large number of the households in the affected communities are believed to be living under poverty line.

All surveyed PAHs indicated that they have access to healthcare facilities with the majority of households utilizing Talin medical center or medical facilities in Yerevan. The level of education in Armenia is excellent, of Armenians who are age 15 and over, 100% are literate, placing Armenia near the 99th percentile for access and literacy across the world. All PAP respondents that were surveyed hold either a secondary, higher or vocational level of education, therefore illiteracy is not considered to be a relevant vulnerability criteria.

The social survey identified nine PAHs who have a family member with a disability. The disabilities in Armenia are categorized as 1st, 2nd and 3rd with the majority of the PAHs having category 2 or 3 person in their household. It should be noted that one of the disabled persons identified is the head of a WHH and is over 60. In total, 6 out of the 9 PAHs with a disabled family member are over 60. There are 11 PAHs that have a member of family with a chronic illness. The chronic illnesses outlined consist of hypertension, diabetes, cardiovascular diseases and arterial pressure. As a result of the disability or chronic illness, many families pay monthly costs for medical treatment ranging from 25,000 AMD to 500,000 AMD.

There were no refugees from war or illiterate persons present in the PAHs.

7 Stakeholder Consultation

The Project ESIA includes a Stakeholder Engagement Plan (SEP) that identifies affected stakeholders, documents engagement activities and sets out stakeholder engagement requirements for the construction of the Project. The SEP also identifies a vulnerability criteria and outlines mitigation measures to ensure the meaningful participation of vulnerable groups.

The SEP assesses and details the stakeholder engagement tools used during the E&S studies, describes the strengths and limitations of each disclosure and engagement method and justifies the selected consultation tools for this project. The SEP also includes a discussion of vulnerability criteria and how these have been considered in the design of the stakeholder engagement programme for the project. Both analysis are relevant to the engagement with Project Affected Persons.

This section of the LRP outlines specific consultations with PAPs, specifically consultations in the Project Area (relevant for land acquisition at the Project site and access roads and community land uses, as described in the previous chapter).

Key consultations for land acquisition and livelihood restoration are summarised below.

Table 1 Key stakeholder engagement activities

Date	Activity	LRP Relevance	Materials Used
18 th – 26 th August 2021	Engagement Community Heads	Discussion of land allocation and community land uses. Gathering information livestock management in the area. Discussion on the deployment grievance / suggestion boxes.	Project maps.
30 th November 2021	Deployment Grievance Boxes	Set up of the Project's grievance mechanism with grievance boxes and contact information.	Grievance Boxes & Posters
9 th December 2021	1 st community consultations	Discussions with participants about land allocation, land uses and their relevance.	Scoping leaflet (NTS of the SR)
1 st July 2022	2 nd community consultations	Discussions with participants about land uses and their relevance. Information about the household survey.	Scoping leaflet (NTS of the SR)
20 th and 22 nd December 2022	3 rd community consultations	Discussion on the assessment of land use significance (herding vs other uses). Discussion on potential LRP compensation for herders.	PPT, ESIA leaflet (NTS of the ESIA)
12 th April 2023	4 th community consultations	Additional discussion on LRP compensation for herders.	PPT, ESIA leaflet (NTS of the ESIA)
4 th July 2023	5 th community consultations	Lenders ESDD community meeting. Verification of Land Acquisition process and livelihood impacts, discussion of preferred livelihood compensation options.	

The dissemination of information during consultations in the Project area have been extensive. Stakeholder identification, information, disclosure and stakeholder engagement were carried out during the ESIA Scoping Phase in 2021 and 2022. Five open public consultations have been completed to date and a number of one-on-one meetings were organised with key stakeholders during the preparation of the E&S studies.

Some public meetings were carried out in each of the four affected communities separately, while others were organised in Talin's public hall, with free transportation being provided to any participant who required it (due to any disability, lack of public transport or financial considerations).

All public meetings were advertised through posters and on community facebook groups (which are quite active), and with sufficient notification time to allow for word of mouth to spread.

Given that all Talin and Dashtadem community members have the right to use open communal lands and that the survey in Ashnak and Katnanbyurg confirmed some level of informal use of communal lands within the communities, it was decided not to restrict discussions on the LRP to herders (which are not specifically defined or listed) but to involve all community members in these discussions through open community meetings.

Local authorities advised that since there is no organised herder group or any kind of formal or informal herder representatives, attempting to organise separate meetings for herders only would not be practical.

Focus groups with herders and women were suggested as part of the community meetings. Women in some of the Project Affected Communities (e.g. Dashtadem) agreed to have separate focus groups, but herders consistently highlighted that they express their views and concerns during the open community meetings and indicated that they did not require separate focus groups.

Brochures and a PowerPoint presenting the key Project characteristics including information on the Project title, territory, scope of works, impacts on the land, land uses, potential livelihood restoration, etc were distributed to attendees during public consultations to disseminate information regarding the Project. The outcomes of these consultations are detailed in the SEP.

Two one on one meetings were conducted in 2021, one with the Dashtadem Head of Community on the 18th August 2021 and one meeting with the Head of Talin Community was conducted on 28th of August 2021. The Heads of both communities stated that the Project area was used as pasture lands in summer / autumn, the lands at the area are not cultivated and that other uses of communal lands were not relevant to the site.

The first scoping public consultation was held in Talin community on the 9th of December 2021. The discussion included outlining the potential resettlement impacts of the Project, including the fencing of the PV panel areas and the exclusion of access for herding or other activities. Communities indicated that they were aware of fencing as there were two other PV projects in the communities.

The second scoping public consultation on the 1st of July 2022 included, in addition to members of the local authorities and local community members, a representative of the "Environmental Impact Expertise Center" of the Armenian Ministry of the Environment (hereafter, the SNCO). When the discussion focused on economic displacement from

communal pasture lands, residents asked how much land from Talin and Dashtadem administrative area is planned to be allocated for the implementation of this activity. The consultants provided the details, and during the discussion some of the attendees, who were herders highlighted that the use of the area for PV would have a negative impact on cattle herding, as these areas are used as pastures. Herders were informed that a Livelihood Restoration Plan was under preparation which would provide compensation measures due to lost land from the Project site, and that a list of potential livelihood restoration activities to support community .

The third round of community consultations, upon completion of the draft ESIA, was conducted on the 20th of December 2022. There were four separate public consultations held, one in each affected community. One of the community members in attendance mentioned that the land that will be used by the Project are used as pastures and mentioned that in his opinion it is not appropriate to build a solar plant there. He suggested that it be built in another place. The participants were consulted on the Livelihood Restoration measures which were being considered, which could include organizing trainings on herding and improved livestock management, providing vaccines or providing an amount of fodder during winter months equivalent to the productivity of the site. The methodology to calculate the LRP budget was outlined. The floor was open for attendees to give their feedback. Local community representatives voiced grievances on the donation amount provided to the communities, and indicated that they would like the communities would like to receive additional support. The consultants highlighted that the land transfer was managed by the Government, and that the community feedback would be conveyed to the Government. On the Livelihood Restoration measures proposed and the local representatives indicated that they considered the proposed measures to have very limited benefits to the communities, and suggested to discuss and develop other options instead of the above-mentioned measures. Their feedback was recorded and the consultants followed up during the following months with the local municipality to design a wider range of options that could benefit herders and households reliant on agriculture.

The local communities are aware that there will be no physical displacement or resettlement due to the location of the Project site and distance it's from sensitive receptors such as households. Community members are aware that the Project will cause herders minor economic displacement and that compensation measures are currently under development following their feedback during public consultations.

Prior to the fourth round of community consultations, the Central and Local Governments engaged in a discussion on the land transfer. The Project was not part of the discussion as this is a Government-led land acquisition process, as outlined in the previous sections. It was agreed that the Government will provide an additional 1,000 million AMD in budgetary support to the communities.

A fourth round of community consultations took place in Talin (including Ashnak and Katnanbyurg) and Dashtadem communities on the 12th of April 2023. A wider number of potential livelihood restoration measures were presented to the community. The community indicated that following the agreement with Government highlighted in the previous paragraph, they were satisfied with the Project and its land acquisition process, given the high positive impact. It was highlighted that there is alternative grazing land and that the Project site has limited productivity. The attendees agreed that further internal discussions would be carried out and that the preferred LRP package as per the LRP budget would be communicated to the consultants. The community representatives later indicated that a milk processing plant would be the preferred livelihood restoration measure.

A fifth community consultation was carried out as part of the Lenders Environmental and Social Due Diligence. The community representatives shared the studies that they had carried out on the feasibility of the milk processing plant as the core measure to benefit community herders. The Lenders and their advisors posed questions on the land acquisition process, community land uses, availability of alternative land, potential uses of the land by other social groups from outside the communities and LRP budget.

Following the community consultation meeting, the municipality indicated to the Consultants that upon completion of the feasibility study, the milk processing factory was not considered viable due to a potential conflict to open a Municipal company when a private investor was considering a similar business and the lack of suitable buildings (conflict with the private sector being the main administrative reason).

The Municipality proposed a guest house in Dashtadem community, which was not considered suitable by the Project by the Company due to its limited impact specifically on herders (due to the limited number of people employed and limited impact on the communities). Following additional discussions and consultations, the Municipality and the Community leaders proposed to provide further support for the irrigation system in Dashtadem, together with a wider set of measures such as trainings and priority employment, as detailed in the following chapter.

Overall, the engagement with local communities during LRP preparation has included a significant number of engagements during 3 years (2021 to 2023), to ensure a high level of awareness on resettlement impacts and proposed restoration, and that all participants have their chance to voice their concerns and viewpoints throughout the process. Furthermore, sufficient time was provided for the stakeholders to provide their input and feedback, and develop their own proposals and views on the livelihood restoration options.

8 Involuntary Resettlement Assessment & Planning

8.1 Resettlement Principles

The AYG-1 Project follows the resettlement principles outlined below:

- Identify Livelihood Impacts Systematically – Livelihood impacts will be determined systematically through the verification of land uses on the ground and engagement with those affected.
- Ensure the continuity of livelihood activities – Livelihood restoration / improvement measures will be planned so that the relevant cash and in-kind compensation measures are in place before the impact occurs, ensuring that significantly affected persons are not in a position of vulnerability when the activity causing displacement commences. Other livelihood restoration and support activities may require additional planning and implementation time to maximise effectiveness.
- Consultations: PAPs shall be consulted about their livelihoods, informed about predicted impacts, consulted about compensation options and informed about the progress of the Project.
- Support for vulnerable groups: Vulnerable PAPs shall be identified, and specific measures will be implemented to ensure that the livelihood restoration measures take into consideration specific constraints derived from their vulnerable status.

8.2 Involuntary Resettlement Assessment

The assessment of involuntary resettlement impacts is based on the land acquisition requirements for the Project (described in section 5.3 above), the socioeconomic baseline (section 6) and the feedback from stakeholders (section 7) and direct ground verification by the Project consultants and engineers.

8.2.1 Residences & Structures

There are no residences, built structures or land improvements affected by the project in the PV area, interconnection, or potential access roads.

8.2.2 Trees and Crops

No trees or crops are affected in the Solar PV area or interconnection. A small area of planted economic crops could potentially be affected by the access road if the option from the north is selected, but the GIS analysis undertaken (see section 5.3.3) indicates that the width of the existing track and shoulder is likely to be sufficient.

The crops are damaged due to encroachment during road preparation, this would have a negligible impact on farmers due to the small percentage of land affected. All impacts to crops will be compensated in cash at full replacement value.

8.2.3 Herding

Once the Solar Project begins construction, the PV project area will no longer be accessible for herders who wish to graze inside the area. While there is still an abundance of grazing land in the area which herders may continue to use, the limitation of access should be noted and livelihood restoration designed and implemented.

The magnitude of impacts and restriction of land uses that will occur during the entire Project duration will be negligible to minor as there are extensive areas of equally viable lands surrounding the Project site and land availability for summer pasture was not identified as a constraints for cattle breeding in the area.

The herders from Dashtadem are considered to be subject to a higher impact than Talin, Ashnak and Katnanbyurg because the proportion of area affected from the former Dashtadem community is higher (while still minor), surveyed herders confirmed use of the land and the community relies mainly on agriculture.

8.2.4 Herbs, wild berries, firewood collection and hunting.

Herbs and wild berry collection is undertaken by a limited number of households with a low frequency. It has no economic significance for households and it is used solely for domestic consumption.

Firewood collection from communal lands is not undertaken within the Project site, since the project site has herbaceous vegetation.

One social survey respondent stated that he uses communal land for hunting purposes. The respondent was from Talin city and identified the wider Project area as a good hunting ground.

Herbs, wild berry and firewood collection and hunting activities are not significant economic activities for households, are practiced by a small number of community members, are not constrained by land availability can be practiced in areas more accessible to the local communities than the site, and community members confirmed that they do not foresee any negative impact arising from the construction of the project. Therefore the involuntary resettlement impact is considered to be negligible.

8.2.5 Involuntary resettlement assessment summary

A summary of involuntary resettlement impacts is outlined in the table below.

Impact Type	Not Applicable	Negligible	Minor	Medium	High
Residences	N/A				
Structures, land improvements	N/A				
Farming / Crops	N/A*				
Cattle Herding		Talin, Ashnak, Katnanbyurg	Dashtadem		
Wood, herbs, or berries fetching		4 affected communities			
Hunting		4 affected communities			
Access / connectivity restrictions	N/A				

* negligible impact on crops may be caused by encroachment during access track widening if the northern route is chosen. If required, this will be assessed in an LRP addendum.

8.3 Calculation of grazing value

Given that grazing is the main economic activity onsite, the grazing productivity of the site was assessed to establish an indicative LRP budget. Given that the availability of pastureland for extensive herding is not a constraints to livestock keeping, this valuation is considered to exceed the actual impact on livelihoods, and therefore to benefit the land users.

An Armenian agricultural expert (Global Partners Group LLC, assessment undertaken by an agricultural expert certified as a valuator by the Cadastral Committee) was employed to estimate the fodder production capacity of the land. The factors used as the basis for the valuation were land conditions, soil composition and fertility and climate.

The study found that a number of environmental characteristics (rocky soil composition, climate) and anthropic activities have damaged the productivity of the Project site. The main human impacts include overgrazing, unsystematic grazing, and the absence of soil fertility support measures. These factors led to soils at the Project site being gradually degraded, eroded and losing the most fertile part of the arable layer.

The report found that the vegetation quality, forage value and productivity of the Project site are extremely low. As a result of the above-mentioned circumstances, the physical properties of the land at the project site has deteriorated and plants belonging to the buttercup and grain families have gradually disappeared over time. Sedges and hard plants which possess low nutritional value are now present at the Project site as a result of deteriorated land. Furthermore, the report also found that the level of vegetation and soil porosity has also decreased at the Project site.

The report assessed the soil composition at the Project site. It found that the Project site is comprised of a mountain-steppe landscape where the typical gray mountain-steppe is transformed, and low-capacity soils are common as a result of this.

The soil cover at the Project site is formed on sedimentary pebble-calcareous soil, these soils are grainy in texture and have a predominantly loamy texture with a high content of skeletal mass meaning there are a large amounts of rock fragments present in the soil. This type of soil found at the Project site is characterized by a low content of humus (1 - 1.5%). This type of soil is noticeably stony in character; there are both surface and buried and semi-buried stones.

The agricultural expert's report concluded that the area of land located at the Project site which has been valued to be considered unfavorable and is economically ineffective due to the damage caused to the land, the soil composition and its unfavorability to transform or restore it as productive agricultural pastureland.

For calculation of the grazing value of the land, the density of vegetation cover was used. The total number of stems was calculated on 1m² of generalized area for 4 botanical and economic groups (legumes, gramineae, weeds, carex and juncus). As useful species, the total number of stems of legumes and gramineae and 50% of the stems of weeds were assumed. There are about 1,000 stems in each 1m² area of high-efficiency forage lands (10 million in 1 ha). During the visual inspection of the site, sample observations and calculations were carried out at the Project site. As a result, it was found out that 130 stems of legumes, gramineae and weeds are present in 1 m², or 1,300,000 in 1 ha. This low density is due to the rocky nature of the soil and the soil degradation outlined above.

Taking into account that the average yield of high-efficiency pastures is 1.5 tons of fodder per hectare and in 1 ha of forage land where 10 million stems are grown, the productivity for 519.36 ha of land at the Project site and 1.6 Ha access road is:

$$520.96 \times [(1,5t \times 1.300.000 \text{ pcs}) \% 10,000,000 \text{ pcs}] = 101.59t$$

The total productivity of the area for agriculture is expected to be equivalent to 101.59 tons of fodder per year, which at 2023 prices would amount to AMD 6,080,000. The proposed adaptation period to be used as a benchmark for budget calculation was proposed to be 5 years, in alignment with other Masdar LRPs in the region, hence the total budget was proposed at 30,400,000 AMD. The budget calculation details and results were presented and agreed with local authorities and participants during the fourth public consultation meeting.

8.4 Livelihood Restoration Measures

8.4.1 Screening of livelihood restoration measures

A number of potential livelihood restoration measures were proposed to compensate for the negligible and minor impacts described under 8.2.5 above. The measures were proposed based on the following information sources:

- Socioeconomic desktop study and household survey information
- Consultations and stakeholder engagement, including suggestions from community members, herders and community leaders.
- Experience of local social experts on effective livelihood restoration measures for economic displacement in infrastructure projects in Armenia
- Experience of international resettlement experts and Masdar on livelihood restoration measures for economic displacement in PV projects internationally

The proposed livelihood restoration measures and the criteria used to screen and assess them are outlined overleaf.

The screening criteria includes, *inter alia*, specific positive livelihood improvements for Dashtadem (as the impact is considered minor for Dashtadem while it is negligible for other communities), direct benefits for herders, as it is the only significantly affected activity of economic importance, and positive impacts on vulnerable groups.

Table 2 Potential Livelihood Restoration Measures Screening

Potential Action & Description	Settlements Benefited	Targeted Benefit Herders	Benefit Vulnerable PAHs	Feedback & Additional Information
1. Vaccines for cattle / livestock: Support in the provision of vaccines for livestock can result in an overall increase in livestock health and productivity.	All four settlements	Yes, direct benefit to herders.	Indirect benefit to vulnerable PAHs, as HHs reliant on agriculture show higher vulnerability (lower income).	Support for treatment/prevention of jaundice was highlighted as a potentially useful activity by a government stakeholder. Herders and local authorities indicated that they received enough vaccines from Government and did not consider this measure useful.
2. Provision of Fodder: The Project could dedicate the LRP budget to the purchase of fodder in the time of the year that this could be most useful for PAHs (e.g. winter). The fodder would be distributed based on the number of cattle heads. Masdar has implemented this measure on other PV projects.	All four settlements	Yes, direct benefit to herders.	Indirect benefit to vulnerable PAHs, as HHs reliant on agriculture show higher vulnerability (lower income).	Given the amount of households that own livestock and the budget, related to site productivity, feedback during consultations was that this measure would have little impact per household
3. Provision of vegetation cuttings during site clearance (O&M phase): Vegetation cuttings during the operational period can be collected and provided to herders to feed the cattle. Masdar has implemented this measure on other PV projects.	All four settlements	Yes, direct benefit to herders.	Indirect benefit to vulnerable PAHs, as HHs reliant on agriculture show higher vulnerability (lower income).	Given the low productivity of the site, this measure was not expected to have a significant positive impact and was not considered interesting during the consultations.
4. Milk Processing: Milk processing could be an opportunity to increase the value added of milk, resulting in a benefit to all herders by increasing / stabilising milk prices.	All four settlements	Yes, direct benefit to herders.	Indirect benefit to vulnerable PAHs, as HHs reliant on agriculture show higher vulnerability (lower income).	This measure was initially considered very useful by community meeting participants and the municipality. However, following additional verification by the municipality, it was determined that there was a private investor assessing a similar initiative and that the municipality could not create a public company to directly compete with the private sector.
5. Guest House in Dashtadem Community: It was proposed that an existing municipality building in Dashtadem could be restored and used as a guest house. The Guest House could be operated by the Municipality, creating some employment and diversifying income in the village.	Dashtadem	No	No	This measure would benefit on Dashtadem community, but has no direct or indirect impact on the improvement of herding or agricultural activities. In addition, the number of jobs created would be low. This measure was not considered suitable as LRP compensation by the social experts.

<p>6. Support for irrigation improvements in Dashtadem: The Dashtadem donation provided by the SPV was used for irrigation improvements. Further improvements are required to reach all households and avoid water losses.</p>	Dashtadem	Indirect, water availability for cattle and irrigation.	Indirect benefit to vulnerable PAHs, as HHs reliant on agriculture show higher vulnerability (lower income).	The extension of irrigation to all households in Dashtadem and the prevention of water losses has a direct positive impact on the population of the settlement, particularly on those involved in agricultural activities (livestock, fruit gardens and crops).
<p>7. Training and Support to access Government programs: Government stakeholders highlighted during the scoping consultations that rural communities are often not aware of Government support to agricultural activities, and suggested training and support for rural communities to access government programmes to improve rural livelihoods.</p>	All four settlements	Support for Agriculture	Potential benefit to vulnerable PAHs when government support is targeted	Community members and local authorities indicated that there is awareness of government programmes and this measure is not of interest to them.
<p>8 Improvement of pastureland productivity or improved access to communal pastureland: Improving the productivity of communal pastureland through land improvements, or reducing the effort required to access pastures, could be a suitable in kind direct compensation for the loss of pastureland.</p>	All four settlements or Dashtadem	Support for Agriculture	Potential benefit to vulnerable PAHs when government support is targeted	Community members and local authorities indicated that there is awareness of government programmes and this measure is not of interest to them.
<p>9 Construction of herder shelters in communal pastureland: Given the high summer temperatures in the area and the lack of shaded areas and trees, herding can be a strenuous activity. Herder shelters in communal pastureland would provide shaded areas and resting locations, facilitating herding activities.</p>	All four settlements	Yes, direct benefit to herders.	Indirect benefit to vulnerable PAHs, as HHs reliant on herding show higher vulnerability (lower income).	Concerns were raised during consultations about shelter maintenance post construction. Construction of herder shelters in communal pastureland was agreed including budget for maintenance by the Project.
<p>10. Priority construction employment for herder households: Herder household members can be given priority during the recruitment of construction staff at the local communities, providing additional income to these households.</p>	All four settlements	Yes, direct benefit to herder households.	Indirect benefit to vulnerable PAHs, as HHs reliant on herding show higher vulnerability (lower income).	Priority construction employment has a positive effect on households benefiting from this activity. However, not all herder households may have individuals willing or fit to join the construction workforce.
<p>11. Legal support for rural land registration: Supporting rural households in land registration requirements can have a positive impact on security of tenure and on subsequent agricultural activities. This has been successfully implemented in other Projects in Armenia.</p>	All four settlements	No, but potential benefit to agricultural activities	Indirect benefit to vulnerable PAHs, as HHs using unregistered land tend to be vulnerable.	During the consultations the participants indicated that land registration was not a concern for the affected communities and the measure would not be useful.

<p>12. Training for herders: Training for herders on veterinary health and cattle management could potentially increase productivity and resilience.</p>	<p>All four settlements</p>	<p>Yes, direct benefit to herders.</p>	<p>Indirect benefit to vulnerable PAHs, as HHs reliant on herding show higher vulnerability (lower income).</p>	<p>Some of the herder participants indicated that they do not see trainings on herding or agriculture as valuable livelihood restoration. This is considered a legitimate perception since herders are professional and very experienced, but in the consultant and developer's experience trainings can provide additional valuable information that can benefit participants, as experienced in other Masdar projects.</p>
<p>13. Training for women on career progression and employment opportunities: Women face specific challenges accessing the labour market, and specific trainings can facilitate employability for women.</p>	<p>All four settlements</p>	<p>No</p>	<p>Yes, women are categorised as a vulnerable group.</p>	<p>Women during a focus group in Dashtadem indicated their interest in this training.</p>

8.4.2 Selected Livelihood Restoration Measures

Following the evaluation of socioeconomic conditions (section 6), stakeholder feedback and inputs (section 7), the involuntary resettlement impacts (8.2), and the screening of potential livelihood restoration measures presented above, livelihood restoration measures were selected. The detailed entitlements for each affected group is defined in section 8.5 below.

The following livelihood restoration measures were selected:

- Support for irrigation improvements in Dashtadem;
- Construction of herder shelters in communal pastureland;
- Priority construction employment for herder households;
- Training for herders; and
- Training for women on career progression and employment opportunities.

The proposed combination of measures includes one key measure of specific targeted support for Dashtadem community, and four measures that benefit the four communities. It includes three measures focused on supporting herders / livestock management and one measure design to specifically support women. All the measures are expected to have a higher positive impact on poorer households, which have a higher reliance on agriculture and herding activities.

Support for irrigation improvements in Dashtadem

The Dashtadem donation provided by the SPV was used for irrigation improvements, bringing water from the existing water pipeline to the north of Dashtadem settlement and distributing it to several households. Some improvements had already been made during the Lender's Due Diligence site visit and are depicted in Plate 3, section 5.2.1.

The local authorities indicated that additional investment in irrigation water distribution for Dashtadem settlement would allow for all the households (approximately 40 remaining households) in the settlement to receive water and reduce losses. This is expected to improve crops and fruit gardens within the settlement and provide drinking water for cattle.

The implementation of this measure will be led by the local authorities. A project and budget (including contractor offers) with detailed tasks to be performed will be shared by the municipality to meet the objectives described above. Once reviewed and accepted, the budget for this livelihood restoration measure will be transferred to the municipality. The municipality has indicated that if the allocated budget as per the agreed LRP budget based on grazing land productivity (8.2.5) of 30,4 million AMD is not sufficient to complete this activity, the Municipality will dedicate additional funds (as it has received additional budgetary support from the central Government, as described under 5.2.2)

Construction of summer herder shelters in communal pastureland

Due to the lack of trees in the project area, which is dominated by herbaceous vegetation, there is no shade or cover. Summer temperatures in Armenia can be high, and herding becomes a strenuous activity.

Herder shelters are a practical solution to improve herders working conditions (including safety from sun strokes), by providing a shaded sitting area where herders can rest while the cattle grazes nearby.

The placement of a herder shelters on each of the affected communities was a welcome livelihood restoration measure, but two concerns were raised:

- The maintenance of the shelters.
- The split of the agreed LRP budget across different measures could limit the effectiveness of the measure that was considered to be the highest priority, which is the provision of irrigation water for all of Dashtadem.

To address the first concern, the Project confirmed that a budget for shelter maintenance will be allocated on years 4, 8, and 12. On the second concern, the Project confirmed that the LRP budget calculated based on the site’s productivity will be devoted entirely to the improvements on irrigation, and that herders shelters will be budgeted separately by the Company.

The herders and the local authorities will be consulted on the location of the resting areas (within communal pastureland) and on their design.

Plate 5 Example of sun shade design showed during consultations



Priority construction employment for herder households

Herder household members from the four affected communities will be given priority during the recruitment of construction staff, providing additional income to these households.

The Project will set up a verification system to ensure that the priority employees are local and from households who have livestock, and create a priority list of herder household members who are willing to participate in Project construction. Contractors and subcontractors will give precedence to candidates from the priority list for unskilled recruitment and, when a priority candidate has specific skills and meets the required technical criteria, semiskilled or skilled positions. All positions will be in compliance with the Labour and Working Conditions Management Plan of the Project.

Training for herders

Training for herders on veterinary health and cattle management could potentially increase productivity and resilience for livestock.

During the consultations, herders and local community leads indicated that this initiative was of little interest, since previous similar trainings had not added value to the participants. Both the LRP consultant and Masdar understand and acknowledge that the herders and farmers are very knowledgeable of their practices and local conditions, but in Masdar’s experience even when most of the content in a session is known to the participants, when the topics and the trainers or invitees are well selected, there are a number of new pieces of information that are useful to participants. A similar case was documented for Masdar’s LRP for the Zarafshan WPP in Uzbekistan, where participants (farmers and herders) initially had low expectations and in the evaluation of the session identified that some content on veterinary health was actually new to them and useful to address some of the challenges they had faced on recent years.

The consultees agreed on this measure on the condition that it did not the budgeted dedicated for other measures as per the LRP budget which was agreed in the 4th consultation meeting (section 8.3). The Company agreed that this activity will be funded separately, in addition to the LRP budget calculated based on pasture productivity.

The herders and local authorities will be consulted on the preferred topics, venues, dates and times. Transport will be facilitated free of cost. The Project will also enquire about previous unsatisfactory trainings to understand if the problems was mainly the trainers, the contents or both.

Plate 6 Veterinary health training session for Zarafshan WPP PAPs, Uzbekistan



Training for women on career progression and employment opportunities

Women face specific challenges accessing the labour market. During one of the focus groups with women in Dashtadem, the participants indicated that they would be interested in training focus on employment opportunities (e.g. IT, administrative tasks, CV preparation, etc). This trainings will facilitate employability for women.

Local women and local authorities will be consulted on the preferred topics, venues, dates and times. Free transport will be provided from the four villages, free of cost.

Additional Support for Vulnerable PAHs

The Project CLO shall work with local authorities to identify vulnerable PAHs under the following three categories:

- Women Headed Households.
- Household Heads over 60 years and no adult household members between 25-60 years old.
- Households with members living with a disability.

Vulnerable PAHs will be engaged individually by the CLO, to gather their feedback and preferences on the detailed design and implementation of livelihood restoration measures and to understand and agree on specific measures to remove barriers for their participation in livelihood restoration activities. This will be decided on a case by case basis but may include but not be limited to the following:

- Free transportation to the training venue.
- Specific training materials or approaches (e.g. for the visually impaired).
- Design of work stations at site offices to facilitate the employment of members of vulnerable PAHs with motor disabilities.
- Arrangement or access to a children's nursery during training sessions or during work hours for employed women.

The engagement with each vulnerable PAH shall be documented individually.

8.5 Eligibility and Entitlements

Based on the impacts on livelihoods caused by Project activities, identified above, there are 2 categories of Project Affected Persons (PAPs) that are eligible for livelihood support. In addition, further PAP categories are listed to establish entitlements in the event that unexpected impacts occur on nearby land uses.

Table 3 Entitlements table

Loss of asset / impact description	Affected Persons	Entitlements	Applicability
Loss of access to communal land and associated resources (pastureland, gathering, hunting)	Community members - Dashtadem settlement	Improvement of Dashtadem’s settlement irrigation system	Dashtadem Settlement
Loss of access to communal pastureland	Livestock herders from Talin, Dashtadem, Ashnak and Katnaghbyur	Access to herder shelters in communal grazing areas (construction and maintenance by the Company) Priority construction employment on the Project for households with livestock Training for herders- veterinary health, productivity improvements and access to Government Programmes.	Herders / livestock owners from Talin, Dashtadem, Ashnak and Katnaghbyur
Loss of crops and / or agricultural land preparation	Farmers	Monetary compensation at replacement value, or government rate, or whichever is higher, for crop and land preparation / improvements (surface rock clearance & ploughing) that exist at time of the damage to crops / agricultural land.	No impact expected
Vulnerable persons – applicable to any of the affected assets or impacts above.	Vulnerable households identified in Talin, Dashtadem, Ashnak and Katnaghbyur settlements.	A range of other specific assistance measures will be provided to support vulnerable and disproportionately affected people to reflect the specific vulnerability identified. Assistance measures currently in consideration are outlined below: One on one engagement with vulnerable PAHs to gather their input on the detailed design of livelihood restoration measures and understand their challenges to benefit from the LR measures. Training for women focusing on employment skills and career progression; internships at the Project. Specific measures for vulnerable households to ensure accessibility to livelihood restoration measures (e.g. transport to trainings free of charge, employment for members of households with disabilities, specific trainings prior to employment at the project)	Vulnerable households identified across different PAP types.

9 Implementation Framework

9.1 Roles and Responsibilities

Masdar Armenia CSG will lead the implementation of the LRP. The EPC contractor will support its implementation if required, but it is not expected that it will play a significant role in the implementation of this Plan, other than providing specific design information for the final site design, access road, PV Panel supplier, construction schedule and transport route, and complying with priority employment requirements by the EPC and the subcontractors.

Position	Responsibilities
Project Company E&S Manager	<ul style="list-style-type: none"> To lead the implementation of the ESMS, including LRP To hold regular meetings with CLO to ensure progress in LRP implementation To oversee the investigation and resolution of grievances. To engage with Project Management to ensure timely allocation of resources for the LRP. To engage with the EPC E&S Manager and HR Manager to ensure compliance with priority recruitment.
Project Company Community Liaison Officer	<ul style="list-style-type: none"> To manage the project grievance mechanism, responding to the grievant in the first instance and maintain contact with grievant throughout the process, investigating and close out of grievances. Receiving and in filing grievance forms and reporting to the E&S Manager. Managing the consultation, planning, implementation and documentation of the livelihood restoration measures. Communicating with the community about upcoming activities, meetings and trainings. Engaging specifically with vulnerable PAHs, to ensure that their concerns are captured in the design of the LR measures and that their participation is facilitated. Maintaining stakeholder engagement plan and database including minutes of meetings, including regular meetings with local authorities and PAPs.
Masdar HQ Resettlement Expert	<ul style="list-style-type: none"> To oversee the implementation of the LRP. To provide support and expert advice to the E&S Manager and CLO in any challenges during LRP implementation.
Local Authorities	<ul style="list-style-type: none"> To support the implementation of the LRP through the following actions: <ul style="list-style-type: none"> Design, tender and supervision of the expansion of the irrigation project in Dashtadem. Support the screening of local employment candidates Provide input for the design of trainings,
Lender E&S Advisors	<ul style="list-style-type: none"> To audit the implementation of the LRP through regular site visits and reviews of documentary evidence of implementation.
LRP Auditors	<ul style="list-style-type: none"> To undertake the LRP close out audit by an Armenian external, independent PS5 expert upon completion of the livelihood restoration measures.

9.2 Implementation Schedule

The implementation schedule for each LRP is summarized below.

Table 4 Timelines

Activity	Action	Timeline
Consultations to further detail LRP actions	Engagement to agree on details for trainings, herder shelters and priority employment procedures.	Upon confirmation of NTP date, engagement with the communities to commence one month prior to construction and to be completed by two weeks after the start of construction.
	Irrigation extension and improvements at Dashtadem	Project details, design and contractor quotes to be provided by the Local Authorities as per its internal timeline and planning cycles. SPV to provide feedback on the information received within no more than 15 working days. Once it is confirmed that the irrigation project is aligned with the LRP requirements, budget to be released within no more than 8 weeks of invoice submission.
	Identification and one-on-one engagement with vulnerable PAHs	Identification and one-on-one engagement with vulnerable PAHs to commence one month prior to construction and to be completed within two months of the start of construction.
Implementation of LRP measures	Construction of herder shelters on communal pastureland.	Within 4 months of the start of construction, subject to formal authorization by communities.
	Priority employment for herder households	System to be in place at the start of construction and implemented throughout construction.
	Trainings for women	Trainings to commence within 1 month of the start of construction, and to be completed and evaluated within 9 months.
	Trainings for herders	Trainings to commence within 1 month of the start of construction, and to be completed and evaluated within 9 months.
	Irrigation extension and improvements on Dashtadem	Works to commence upon completion of the project and tender by the municipality and funds disbursement by the SPV.
Monitoring	Satisfaction surveys	Satisfaction surveys for training participants to be undertaken upon completion of each training course
	Community survey	Community survey to be completed within 2 years of the start of construction, following the implementation of all livelihood restoration actions. Specific emphasis to be placed on the impact site fencing and the effectiveness of LRP measures.

Activity	Action	Timeline
	LESA audits	LESA audits to be undertaken as per the frequencies outlined in the ESAP
	LRP Completion audit	To be undertaken upon completion of all LRP measures, satisfaction surveys and community members. To be completed within no more than 26 months of the start of construction.

9.3 Budget

The budget for LRP implementation is summarized below.

Table 5 Budget

	Activity	Budgetary Estimate
1	E&S Manager and CLO	Included as part of the SPV staff budget.
2	Facilitation of meetings with PAPs and local authorities on LRP implementation – Printed materials, refreshments	2,000 USD.
3	Improvements of irrigation water system in Dashtadem	30,4 million AMD (79,700 USD as per exchange rate 08.2023)
4	Training for herders	8,000 USD, including expert trainers (15 days x 400USD = 6,000 USD) and training materials (2,000 USD)
5	Training for women	8,000 USD, including expert trainers (15 days x 400USD = 6,000 USD) and training materials (2,000 USD)
6	Shelters for herders	3,000 USD x 4 shelters= 12,000 USD. Budget for maintenance 5,000 USD.
7	Priority employment for herder households	Administrative cost and salary costs for SPV and EPC.
8	Support for vulnerable PAHs	10,000 USD.
9	Lender E&S Advisor	Separate budget for supervision of all E&S aspects.
10	LRP Completion Audit	5,000 USD (10 days x 400 USD plus transport & subsistence)

A 20% contingency is added to the total budget for actions 2, 4-6, 8 and 9 (50,000 USD + 20% = 60,000), which can be subject to price variations.

The total LRP budget is **139,700 USD** (subject to exchange rate variations on the support for irrigation in Dashtadem, which is agreed in AMD). This does not include the donation amount of 320 million AMD - 838,000 USD that the company paid to the communities as part of the Government led land acquisition, nor the additional budgetary support by the Government to the communities – total support as a result of the project exceeds 2 billion AMD / 5.2 million USD.

10 Grievance Mechanism

The SEP includes a detailed grievance mechanism for all Project stakeholders, including PAPs. The Grievance Mechanism has been publicized in all community meetings, and highlighted in the leaflets provided to communities. Grievance boxes have also been deployed in the communities and will remain available during the project lifetime.

11 Monitoring and Evaluation

The internal monitoring and Key Performance Indicators for this LRP include the following:

- Documentation of the consultation process with the local authorities, PAPs and women for the detailed design of the implementation of the LRP measures.
- Number of beneficiaries of the irrigation improvements in Dashtadem, including one survey to quantify benefits on agricultural and cattle breeding when relevant.
- Number of herder household members beneficiaries of priority employment.
- Number of participants in the herder and women trainings.
- Satisfaction survey among participants in the herder and women's trainings.
- Number of grievances regarding the LRP process.
- Percentage of grievances closed out to the satisfaction of the grievant.
- Non compliances issued during the external monitoring of the LRP.

The KPIs listed above will be reported monthly until the implementation of the LRP is complete and confirmed by the completion audit.