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CLIMATE CHANGE RELATED GENDER AND SOCIAL VULNERABILITY DATA NEEDED TO SUPPORT A JUST TRANSITION IN ARMENIA

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Abstract

This paper discusses issues and experiences related to gender and social vulnerability statistics/indicators needed to support a just transition in Armenia. Specifically, it provides an overview of the country-level process for selecting relevant and feasible indicators, describes steps that have been taken to collect granular data for measuring energy poverty and identifying vulnerable population groups, defines data gaps for climate change policy formulation, monitoring and reporting through gender and social vulnerability lenses.

FOREWORD

1. The Government of Armenia established mitigation goals under its 2021 updated Nationally Determined Contribution (NDC of Republic of Armenia 2021-2030.pdf (unfccc.int)), setting an unconditional mitigation target of a 40% reduction from 1990 levels for the year 2030. According to the 3rd Biennial Update Report of the Republic of Armenia to the United Nations Climate Change Framework Convention (Armenia. Biennial update report (BUR). BUR 3. | UNFCCC) households (HHs) are the largest consumers of energy in the country, which accounts for 36% of the total energy consumed. In terms of greenhouse gas (GHG) emissions, ***the most substantial area of HHs energy consumption is heating***.

2. The climate in Armenia is dry continental, with hot summers and cold winters; the average temperature in January is -6.8oC, and the absolute minimum air temperature is -42oC. Thus, the need for heating as well as cooling of the dwellings is required for ensuring normal human life conditions. The degree/day parameter, which is commonly used for identification of heating requirements, varies from 1900 degree/days in south regions to more than 3000 degree/days for the north-western regions of the country. The statistical data on HHs living conditions show that the majority of HHs (98-99%) heats up their homes, and about 2/3-rd of them uses natural gas for heating (Social Snapshot and Poverty in Armenia, 2022 / Statistical Committee of the Republic of Armenia (armstat.am)). Due to continuous growth of energy consumption and widespread use of natural gas for heating of dwellings, **GHG emissions of households have increased four times in the last decade.**

3. Hence, the improvement of energy efficiency (EE) in housing sector, in general, and of households' heating behavior, in particular, is crucial for achieving the GHG emissions reduction target of Armenia. Taking it into account, the Government of Armenia adopted the Program on Energy Saving and Renewable Energy for the period of 2022-2030 (https://www.e-gov.am/gov-decrees/item/37978/), where the main mitigation measures in HHs are defined. They mainly relate to promoting investments in alternative heating, energy-saving, "clean energy", transition from natural gas and other fuels to electricity, informing population about EE methods of energy consumption and contributing to energy efficient renovation and thermal insulation of their buildings, and others. The Program accentuated also the necessity of

conducting targeted surveys and collecting disaggregated grassroot data to assess the affordability and accessibility of EE measures for HHs, and based on that, to elaborate and implement appropriate instruments for supporting the most vulnerable and ensuring a just transition to innovative and effective energy use.

4. This paper examines the UNDP Armenia Climate Change (CC) Programme experience and analysis conducted on the subject related to national and administrative statistics, its comprehensiveness for planning and evaluating EE actions in terms of gender and social vulnerability, identifies gaps in this area and applied methods for covering those gaps. The paper also presents the country practice on gender-responsive and social-oriented EE policy-making.

A. National statistics on households' energy consumption.

5. The Statistical Committee of Armenia (Armstat) collects data on HHs through regular Integrated Living Conditions Survey (ILCS). The survey's questionnaire contains a special section on heating of dwellings, which includes more than 15 questions related to heating devices, heating means by type of fuel, average consumption of different types of fuel, the household's expenses on fuel, etc. Collected data are analyzed in the sub-section 5.3 "Heating" of the "Social Snapshot and Poverty in Armenia" statistical-analytical report. The analysis of indicators is generally given on national level, by urban/rural areas and, in some cases, by poverty status of HHs.

National statistics on households' heating: (i) in 2021, compared to 2020, the share of households that heated their dwellings lightly increased (97.6% vs. 97.4%); (ii) almost 2/3 of HHs used natural gas for heating (62.6%, 2021), however their share decreased in comparison with 2020 (63%, 2020); (iii) for the same period, the share of HHs using electricity for heating increased by 37% at the country level (25.9% vs. 18.9%), and more than twice at the rural area (5% vs. 2.4%); (iv) wood, manure and coal remains the most preferable fuel for about third of rural HHs, in the same time, the share coal using HHs has increased 4 times in 2021; (v) 47.9% of HHs in Yerevan used local gas-fired heating boilers, 36.2% of HHs living in other urban areas used factory-made stoves, and 59.3% of rural HHs used home-made stoves. Central heating systems, local collective boilers and solar heating systems are not usual or were not used at all by HHs.

https://www.armstat.am/file/article/poverty_2022_en_4..pdf

6. In 2016, with joint efforts of Armstat and the World Bank a system of qualitative indicators was developed to assess multidimensional poverty, based on, so called, "deprivations" of households. A specific indicator of being deprived of "healthy heating" was introduced for describing "heating poverty", which included the cases of absence of centralized heating or the possibility to heat the apartment with electricity, natural gas or liquefied petroleum gas. Consequently, all the HHs that use wood, manure, coal, or other fuels for heating, are considered poor. Moreover, since 2019, one more question has been included in the ILCS questionnaire to assess affordability of means to ensure enough heat in the apartment in cold weather. Thus, regularly collected qualitative indicators on heating supplement national statistics on households' energy consumption.

National statistics on multidimensional poverty, including heating poverty: (i) the multidimensional poverty rate decreased slightly between 2020 (19.1%) and 2021 (18.7%); (ii) in 2021 the multidimensional poverty rate was higher for females (18.8%) and children (19.3%) compared to males (18.5%); (iii) share of the population deprived by "healthy heating" indicator hardly changed (respectively, 31% vs. 30.8%); (iv) in 2021, 40% of population did not have adequate heating at home; (v) 50-75% or more of unequal access to healthy heating was correlated to the location of residence.

https://www.armstat.am/file/article/poverty_2022_en_2..pdf

7. The most voluminous part of the ILCS data relates to the household's income, expenditures and consumption (both food and non-food). Statistics on consumption expenditures disaggregated by urban and rural communities include also HHs expenses on utilities. For the period of 2020-2021, Armstat has also calculated HHs consumption expenditures grouped under the National Classifier of Individual Consumption by Purpose, harmonized with the European Union's "Classification of Individual Consumption by Purpose" (COICOP HBS). According to the latter, HHs expenditures are structured by 12 consumption purpose-areas, including the "Housing services, water, electricity, gas and other types of fuel". The micro data of ILCS allows to find out more detailed information on HHs spending, for instance, on the heating of their houses during the last winter by types of fuel, and so on (the data is available on the Armstat website https://microdata.worldbank.org/index.php/catalog/3617).

National statistics on households' energy consumption expenditures: (i) in the HHs total consumption expenditures utilities constitute 14-15%; (ii) in 2020-2021, HHs consumption expenditures on utilities increased a little bit faster than total expenditures (7% vs. 6.8%); (iii) average monthly per capita expenditures on utilities of the urban HHs were 1.7 times more than those of the rural HHs; (iv) average monthly per capita expenditures, grouped by purpose (COICOP), accounted to about 20% of the total expenditures of HHs, and this indicator for the rural HHs was higher than that of the urban HHs (23% vs 19.3%, 2020).

https://www.armstat.am/file/article/poverty_2022_en_3.pdf

8. Hence, the national statistics on households' energy consumption is an essential source of data/ information for formulating and targeting Armenia's climate change policies on expanding clean energy consumption and improving energy efficiency as part of its commitments under the Nationally Determined Contributions (NDC). At the same time, the policy-oriented analysis of ILCS's qualitative and quantitative data ***helps decision-makers to follow up on the ways implemented policies affect HHs and whether the actions planned are, in general, pro-poor and socially-targeted.***

B. Administrative statistics on socially vulnerable population and households.

9. Administrative databases on vulnerable population and socially disadvantaged households are currently maintained by the Ministry of Labour and Social Affairs (MLSA) of Armenia. In total, 4 databases were created at the end of the 1990s for the purpose of providing an addressed social and financial assistance to social pensioners (who do not have right for occupational pension), unemployed, orphans (unilateral and bilateral), people with disabilities (PWD) and low-income families with minor children. The information stored in administrative registers is not available for the public at large, even summary statistical tables/diagrams/graphs, etc., as well as analytical information is not officially published by the MLSA at the regular and formatted basis.

10. At the same time, in accordance with the Statistical Program, the MLSA regularly submits to the Armstat data on its administrative registers (databases) based on procedures (including templates) preliminary agreed and adopted by the decisions of the both heads of the aforementioned bodies. So, the statistics on social vulnerability can be obtained from the Armstat website. A large number of indicators disaggregated by various criteria (sex, age groups, regions (marzes), urban-rural areas, public-private institutions, etc.) is summarized and presented in the annually published "Social Situation in Armenia" statistical handbook.

Statistics on social vulnerability developed on the basis of administrative data: (i) at the end of 2021, pensioners composed about 15-16% of the country's total population, and more than 60% of them were women; (ii) the gender gap of occupational pensions was not high (3.9%); (iii) 18.4% of over able-bodied age population were social pensioners, and in the 71+ age group females represented more than 70%; (iv) every tenth household in Armenia received state allowances, 70% of which received family allowances; (v) the average monthly size of allowances for one family was about 1.5 times less than occupational pension; (vi) 6.6% of population were people with disabilities, of which 48% were women; (vii) 4.7% of all PWDs were children up to 18 years old, and every third of them was a disabled-girl.

https://www.armstat.am/en/?nid=82&id=2510

11. Administrative statistics on social vulnerability are used for prioritizing social policies at national and regional (marz) levels, as well as for targeting beneficiaries of special social programmes. Concerning climate change related policies/programmes **this information applies, mainly, for combining CC vulnerability and social vulnerability indicators**, and using that data for selecting regions where socially vulnerable population could be more affected by CC, and identifying vulnerable groups to be differently supported by the government in order to mitigate CC negative impacts on them.

C. Sociological surveys as a source of specific information on gender and social vulnerability.

12. ***The national statistics and data of administrative registers are necessary but not sufficient sources of information which are demanded for the CC planning***. Especially that is true for developing programmes at the community level, as well as monitoring and evaluating gender and social impacts of CC policies on different groups of population and different types of households. In this regard, more detailed and specific data collected through sociological surveys can served as, not only additional, but in some cases even unique source of information for clarifying various aspects of gender and social vulnerability issues, including those which are typical for a given community.

13. It is worth noting that "gender/social vulnerability and CC" cross-cutting issues are the least studied in the whole gender research practice in Armenia. The lack of institutional capacities and relevant reliable data predetermine scarcity of information for conducting gender analysis in the CC context. The latter could be mostly found in donor-funded environmental and CC projects/programs that are specifically focused on gender dimensions and, consequently, require creating some baseline data and evidences for further monitoring and evaluation of the projects' outcomes/results. In this regard, a series of reports and publications, which are available on https://www.nature-ic.am/en website of the UNDP Climate Change Programme in Armenia, can serve as a key source of information for CC related gender/social vulnerability analysis.

14. In the framework of the UNDP Climate Change Programme in Armenia a series of surveys have been conducted to collect quantitative and qualitative data at the community level, and if needed, at public institutions and multi-apartment buildings (MABs). The key subject of these surveys have been households, but in parallel with them, some targeted information has been collected from focus-group discussions (FGDs) with people of different economic and social status, deep-interviews with community leaders and active members, opinion-polls among local NGOs and experts, etc.

15. In 2020, a case study on "Features of Female and Male Headed Households' Heating Behaviour" was conducted based on data of HHs survey in multi-apartment buildings in Yerevan. The collected data were disaggregated by female-headed and male-headed HHs (respectively, FHHs and MHHs) and compiled by indicators related to home heating. An in-depth analysis of HH heating behaviour was used

for developing recommendations on identifying target groups (both the beneficiaries and agents of changes) for gender responsive CC policies.

Concept of "energy-efficient heating "behavior" and its indicators: (i) heating means (local heating system, gas/electric stove, gas/electric home-made stove, etc.) and heating mode (assessed by residents at the percentages 100, 50 and 30 depending on the number of heated rooms and heating hours) were considered as indicators of HH's heating behavior; (ii) the behavior of the HH, which used a local heating system and assessed the heating of the apartment as 100% was considered as sufficient, affordable and up to sanitary norm; (iii) the justification for this approach was checked by the average temperature of the apartment in the winter season.

https://drive.google.com/file/d/1gn9qrz_re6Bmg1hv_qrH9th78WnLLSGP/view

16. The comparative analysis has revealed that the indicators related to apartment heating differ not only in terms of FHHs/MHHs, but also within the group, and these differences are mainly due to the internal composition of the household. Meanwhile, by approximating relevant indicators by types of HHs, it was possible also to distinguish certain types of FHHs and MHHs who demonstrated gender-neutral behaviour.

Key findings of households heating behaviors: (i) the heating behavior of socially vulnerable female-headed HHs was almost the same as male-headed HHs: only 38% of them had a modern local heating system and could heat up the whole area of the apartment constantly (40% in the case of MHHs); (ii) the share of MHHs with heat above 18°C was 1.3 times more than that of FHHs (respectively 57.8% and 44.1%); (iii) the behavior of constantly heating the entire area of the apartment was typical for large HHs with minor children (both FHHs and MHHs); (iv) in general, gender equality indexes calculated based on heating behavior indicators (FHHs vs. MHHs) were the following: installed local heating system – 0.76; constantly heated the entire apartment area – 0.73; maintained the inside temperature above 18°C – 0.81; (v) although FHHs had less effective/comfortable heating behavior their expenditures on heating were almost the same as that of MHHs – gender equality index was 0.93.

https://drive.google.com/file/d/1gn9qrz_re6Bmg1hv_qrH9th78WnLLSGP/view

17. In the period of 2021-2023, sociological surveys have been conducted in Yerevan, Alaverdi and some other regional cities to assess the level of awareness, readiness and socio-economic potential of residents of MABs on investing in energy efficiency (EE) measures for their apartments/buildings. The surveys' data have shown that compared to MHHs the low level of economic activity of FHHs' members has a negative impact on their viability and creditworthiness. The MHHs with many minors also face difficulties to invest in clean energy and overcome energy poverty. ***Therefore, large families and FHHs, especially single pensioners, should be supported by community to ensure a just transition to energy efficiency and green and clean heating.***

Socio-economic potential of HHs to invest in the EE measures in Alaverdi community: (i) over two-thirds of FHHs do not have an employed member; (ii) on average, one MHH has 3 times more employed members than one FHH (1.17 vs. 0.4); (iii) average monthly per capita income of over 90% of FHHs and 53.2% of MHHs is close to the top poverty line in the country; (iv) the economic situation of large MHHs with many minors is much worse - their per capita income slightly exceeds the food poverty line (or extreme poverty); (v) overall, 66% of MHHs have loans /debts, which is more than twice the same rate for FHHs (32%); (vi) only 51% of FHHs and 61% of MHHs are able and ready to invest in EE measures.

https://drive.google.com/file/d/1CipKvAXAAoVzGTExBj53IsbRjennZyR2/view

18. Grassroot data collected through sociological surveys is strongly required for justification of any project/ programme to be financed (fully or partially) by the Government and international organisations. Meanwhile, ***the granular data is necessary for the ex-ante gender and social impact assessment of the***

planned EE measures, and based on that, identifying the targeted strata of population to be supported in order to achieve goals, objectives and outcomes of the implemented activities.

D. Use of statistics and data for gender-responsive and social-oriented policy formulation.

19. Reports and case-studies prepared based on the multifaceted analysis of the national statistics, administrative data and grassroot information related to gender and social vulnerability issues will help policy-makers to formulate gender/social sensitive CC actions, as well as to develop CC policies that respond to the gender and social vulnerability issues accentuated in the reports. In all programs in climate change related areas recently adopted by the Government, gender-responsiveness and social-inclusiveness are required as necessary tools for their implementation.

20. Moreover, the conclusions and recommendations made based on main findings of surveys will be considered in the new ***Gender Strategy of Armenia and its Action Plan for 2024-2026, which will include a special section on mitigating the gender and social impacts of climate change*** (as proposed by the members of intergovernmental working groups on gender equality and climate change issues).

21. Meanwhile, the adopted programs and draft policy papers clearly outline problems of scarcity of appropriate statistics, gaps in disaggregated data, insufficiency of agreed indicators that are needed for "explaining" and assessing climate change impacts on gender equality and social vulnerability. Consequently, relevant measures are included in implementation plans to cover the mentioned gaps.

The Governmental Program on Energy Saving and Renewable Energy for the period of 2022-2030 (approved): (i) more than half of RA households, 58.6%, are unable to adequately heat their homes in the cold months and, according to Eurostat's definition, can be considered energy poor; (ii) energy consumption in households largely depends on their standard of living and has a significant level of inequality, the Gini coefficient of inequality in 2018 was 0.339; (iii) in order to clarify the baseline data (for 2022) on energy consumption, representative surveys shall be conducted in the sector of households and in the field of public education.

https://www.e-gov.am/u_files/file/decrees/kar/2022/398_2.pdf
https://www.e-gov.am/u_files/file/decrees/kar/2022/398_1.pdf

The draft program on mitigating the gender and social impacts of climate change and the list of implementation measures for 2023-2025 (is in the process of updating for 2024-2026): (i) in the context of climate change, it is important to consider the linkages between climate and social vulnerability and gender equality; (ii) gender and social indicators of the households' energy consumption are most prominently identifying climate change impacts; (iii) evidence-based policy making is the priority for mitigation of climate change gender and social impacts; (iv) development and dissemination of gender-disaggregated statistical data on climate change and its impact on important areas of public life is included in the list of implementation measures.

Climate Change Information Center (nature-ic.am)

22. Hence, the improved national statistics on climate change is very important for formulation and implementation of CC policies in general, however to ensure the just transition impact of these policies, firstly they should be designed in gender/social-responsive manner, secondly, they should consider specific needs of women/ men and socially vulnerable people, and, finally, they should be monitored and regularly evaluated to adjust their relevancy to rapid changes of both climate and living standards of all strata of the country's population.

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