With increasing growth of production as well as consumption, the pressure for sustainable practices in production and consumption also increases. Sustainable consumption and production (SCP) is a broad area where all stakeholders can have direct contribution to the achievement of the targets under this goal. Not only policies and Government programs count for the implementation of SDG 12, but also practices applied by businesses, civil society organizations, households and every and each individual. Responsible consumption and production involves behavioral (cultural) transformation in the society from traditional linear supply chain approach to more sophisticated closed loop or circular approach. Sustainable consumption and production, first of all, is a philosophy of life, a lifestyle and a behavioral norm. Therefore, concerted public and private action is necessary to increase resource efficiency, fundamentally shift consumption patterns and production processes, improve waste management systems, and transition toward more circular economy approach. It is important that the interventions should be consumer driven behavior change interventions.

**Progress**

**National action plans and public procurement (SDG target 12.1, and SDG 12.7)**

Armenia integrated green economy elements/objectives into its wider strategies on environmental protection and sustainable development. Armenia Development Strategy 2014-2025 states that “parallel to the Government’s efforts for improving the rates of economic growth, measures should be taken to reduce as much as possible the associated environmental risks”. Priorities outlined in the ADS include legislative reforms, management and governance capacity building (including for specially protected areas, forests, and water basins), environmental impact assessment and monitoring capacity, increases in environmental fees and tariffs, continue working on Lake Sevan, legal mechanisms for promoting “green” innovation, education and awareness, among others. However, the ADS 2014-2015 does not explicitly address the SCP and its components.

SCP components appear in environmental protection action plans and some sector specific policies. SCP principles are becoming, though slowly, more integrated into strategies and policies of the Government of Armenia. Thus, a set of energy efficiency and renewable energy standards, to promote responsible energy consumption and production, has been adopted and enforced. Environmental assessment is a required component of the Government procurement of goods, construction and other services. For a number of sectors specific sustainable development indicators have been adopted, and environmental monitoring/information systems are being used to inform and measure the success of sustainable policy making in those sectors. However, such practices are yet not widespread and need to be replicated and
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applied comprehensively to a broader set of industries and economic and human activities.

Environmentally sound management of chemicals and waste (SDG target 12.6)

Armenia is a party to international multilateral environmental agreements on hazardous waste, and other chemicals, and meets its commitments and obligations in transmitting information as required by each relevant agreement. This includes, particularly:

- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal
- Montreal Protocol on Substances that Deplete the Ozone Layer
- Rotterdam Convention on Hazardous Chemicals and Pesticides in International Trade
- Stockholm Convention on Persistent Organic Pollutants
- Minamata Convention on Mercury

Consumer and producer information and education (SDG target 12.8)

A course “Energy and use of resources” is included in the list of academic curricula for training of specialists in the respective areas, beginning from the 2010-2011 academic year.

The Government of Armenia in close cooperation with UNDP is developing a tailor-made training course on environmental protection for civil servants and municipality authorities. The training course can effectively be used for training among businesses and NGOs.

Challenges

National action plans and public procurement (SDG target 12.1, and SDG 12.7)

There is a lack of economic incentives to encourage sustainable consumption and production which limits progress towards SCP goals in many sectors. Coordination efforts between different levels of government need significant enhancement to promote enforcement of the participation of local authorities in the implementation SCP policy. This is also compounded by the lack of effective regulation to ensure practical engagement of local authorities in policy implementation. These problems could be addressed through the development of dedicated Green Growth and/or SCP strategies and measures. There may also be a need to establish a dedicated body responsible for achieving the targets for sustainable consumption and production.

There is also a significant lack of funding for and investment in research and development in the fields of environmental protection, eco-innovation, progressive waste management, etc. At a broader social level, there is still insufficient public involvement in resource management and the implementation of policies and strategies for sustainable consumption and production.

Because the GE and SCP are currently addressed through disparate policy documents, existing policy in different policy domains can be contradictory in nature, making current legislation potentially counterproductive. Similarly, a lack of coordination between responsible bodies can lead to contradictions and wasted time and effort. It is difficult to adequately assess the success of GE and SCP policy elements, or the current state of environmental, social and economic factors that GE and SCP policy would seek to change. There is little economic interest from businesses or consumers for sustainable consumption and production, and little opportunity for public participation in decision making.
Reduce food loss across the supply chain (SDG target 12.3)

A report on food loss and waste in Armenia conducted in 2014 revealed that the cereals sector experienced around 15 percent losses, while losses in the roots and tubers sector were estimated at 19 percent. The lowest losses were reported in the fruit and vegetable sector. It was also highlighted that the cold chains are rather weak and contribute to food losses due to produce spoilage.58

The main causes of food waste and loss were identified as outdated storage facilities and access to refrigerated storage and cold storage. Farmers do not have sufficient funds to keep produce in commercial storage facilities. Instead, they often use poor storage techniques and insufficient know-how. Knowledge on post-harvest handling and treatment of agricultural products was also estimated as contributing to the situation with food losses. Some quality issues also have been highlighted as contributing to the rejection of produce by supermarkets.

As an average low income country, FLW in Armenia is much higher at the beginning of the supply chain (agricultural production stage) than at the end (in distribution or consumption steps).

Main suggestions and recommendations on FLW reduction are:

- Educating and providing technical assistance to farmers in the process of harvesting;
- Training all supply chain actors to implement post-harvest handling and storage procedures and create infrastructure for delivering fresh food to consumers;
- Improving processing and packaging procedures and technologies;
- Advocating for the creation of farmers’ cooperatives;
- Developing or changing traditional marketing systems;
- Providing cold storage facilities and improving hygiene conditions at the distribution stage, especially on open markets;
- Improving storage conditions and promoting food purchase planning at household level

Consumer and producer information and education (SDG target 12.8)

The lack of recognized labels and standards is a key barrier to enabling consumers and public administration to make informed decisions when choosing goods or services. However, countries in Asia are increasingly developing national eco-labels and other consumer information tools. Cooperation and harmonization of eco-labels must be strengthened, inter alia through mutual recognition agreements, as in the case of Japanese and Thai eco-labels. Efforts to mainstream SDGs into education must be intensified to increase consumer awareness and ensure behavioral change in the long term. In India, the first higher education course on SCP taught in a developing country was launched in 2016 as part of a study program on Public Policy.

Environmentally sound management of chemicals and waste (SDG target 12.4)

Armenia’s mining industry, particularly non-ferrous metal mining, remains a major source of chemical waste and source of pollution and degradation of the surrounding environment. Mining industry is increasing and accounts for a significant part of Armenia’s exports. There are 20 tailing dams in Armenia, of which 9 are operational.

During the last 14 years, the mining and quarrying sector has contributed 2.2 percent to overall GDP. The sector

58 Source: http://www.fao.org/3/a-au842e.pdf
has also been able to attract tangible foreign investment, both through the privatization of state owned enterprises, and through new mineral related developments. In the past 5 years, inflows from exports from the sector have been around USD 500 million annually, making it Armenia’s top sector in terms of export and inflow of foreign exchange. Mining companies are significant job providers, especially as they offer formal jobs in more rural areas. In 2014, 7,057 people were employed in the metallic mining sector, which is around 10 percent of total employed in the industrial sector.

Environmental and social regulation of the mineral sector is primarily based on the Law on Environmental Impact Assessment and Expert Examination and the Mining Code. The former is sophisticated and includes most modern concepts to anticipate, prevent and mitigate negative impacts on the environment and humans, during the life of the mine and including mine closure. There is, however, a general lack of secondary legislation and/or guidelines to aid in the implementation of the law (which is partly due to the fact that the EIA Law itself was enacted recently). There is, for example, a lack of clarity in respect of how to determine whether a mining waste is hazardous or not. According to the RA Mining Code, non-operational tailings dams with a proven mineral reserve are classified as “man-made mines” rather than mine waste.

The right for the public to participate in environmental decision making and to access data is guaranteed by the Constitution and the Law of on Freedom of Information, the law on EIA, and the Aarhus Convention ratified by Armenia in 2001. Notwithstanding these legal guarantees to ensure access to information, the implementation of the law providing for public participation and data access faces many obstacles in practice resulting in, for example, that data and information are released late or not at all by authorities.

Corporate sustainability reporting (SDG target 12.6)

Sustainability reporting is not mandatory in Armenia, and there is no data collection and maintenance in this regard. There is no dedicated strategy or action plan on Green Growth or SCP, and no dedicated body responsible for achieving the SCP objectives. This makes it difficult to promote sustainable behavior and practices among businesses, households and people.

Opportunities and Priority Actions

National action plans and public procurement (SDG target 12.1)

The absence of dedicated policy documents and institutional bodies on SCP is a challenge, but also an opportunity for creating a new institutional focal point and developing dedicated GE and SCP policies. The development and approval of the state systems of sustainable development indicators can also incorporate indicators on the success of SCP policy. These actions should also be linked to the establishment of Government portals providing information on state and regional SCP policies, and best practices in implementation.

Better opportunities for local communities to take a more active part in planning, and to provide informed contributions in decision-making for how mines are developed and established should be created. Participation of
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Local communities in decision-making is regulated by law. Local communities shall be consulted during the EIA process and their opinions attached to the submitted mining rights application. Nevertheless, it is necessary to strengthen the capacity of communities to facilitate improved participation. Similarly, special training efforts aimed at such CSOs. This training could be provided in partnership between different stakeholders; both the mining companies and the State would have a responsibility for, and an interest in, strengthening community capacity and relations, and assistance can be sought from development partners.

**Reduce food loss across the supply chain (SDG target 12.3)**

Main suggestions and recommendations on food loss and waste reduction are:

- Educating and providing technical assistance to farmers in the process of harvesting;
- Training all supply chain actors to implement post-harvest handling and storage procedures and create infrastructure for delivering fresh food to consumers;
- Improving processing and packaging procedures and technologies;
- Advocating for the creation of farmers’ cooperatives;
- Developing or changing traditional marketing systems;
- Providing cold storage facilities and improving hygiene conditions at the distribution stage, especially on open markets;
- Improving storage conditions and promoting food purchase planning at household level.

**Economic incentives through public procurement (SDG 12.7)**

In addition to setting out requirements for environmental protection and/or impact assessment, the Government shall create effective economic incentives for citizens, businesses, consumers and municipalities to apply sustainable practices. For instance, procurement can be a very strong leverage point to promote sustainable production and consumption practices. There is also a scope within these actions for integrating mechanisms to ensure public participation in resource management and decision-making.

**Promoting modern knowledge and approaches on sustainable practices**

Modern sustainable development philosophies, approaches and practices such as “circular economy”, “closed loop supply chain”, energy efficiency, sustainable agricultural practices will be broadly and intensively promoted by the Government and civil society organizations, through the use of high quality educational programs (at school and university levels) and visual materials for the general public.

Appropriate policy tools and economic incentives (regulations, taxes and subsidies) may be applied to encourage businesses to invest time, effort and money on sustainable technologies and practices.