Technology Fact Sheet

Drip irrigation[i]

1) **Sector:** Agriculture

2) **Subsector:** Irrigation

3) **Technology Name:** Drip irrigation

4) **Option Name:** Irrigation of arable lands.

5) **Scale:** Mainly southern and south-eastern parts of Kakheti (Ole-Naomari, Taribana, Eldari, Shiraki Valley, Jeirani Valley, etc).

6) **Availability:** Technology is available at the world market but is not spread and easy available in Georgia. This technology is one of the most effective but expensive way for the irrigation of arable lands.

7) **Background/notes (short description of the technology option)**

This technology represents one of the options of sub-soil irrigation, in which the active layer of soil is being watered. Drip irrigation provides the root system of every plant with definite amount of water in the unit of time. Applying this technology it becomes possible keeping to the irrigation norms, as well as regulating of irrigation network is placed at the surface of the ground, or at some depth in the soil. Considering the global warming impact, this technology will become of great demand in the arid regions of Kakheti (basically in the Dedoplistskaro region).

8) **Implementation assumptions (how the technology will be implemented and diffused across the sub-sector)**

Territories scanty of water resources; Lands under costly plants (e.g. pomegranate, etc).

9) Impact statements

- **Country social development priorities:** Employment of local population, holding up of migration processes, improving of living standards of residents.

- **Country economic development priorities:** The harvest increases by 2-3 times; The water expenditure decreases by 7-8 times; Soil irrigational erosion is excluded; Physical, chemical and biological properties are improved; Soil productivity increases.

- **Country environmental development priorities:** Prevention of soil degradation (marshing, salination, erosion).

- **Other consideration and priorities such as market potential:** Technical appliances for drip irrigation – water distributing and regulatory systems; Provision of the system by energy; Highly skilled irrigates to provide optimal use of water resources and the maintenance of the system; Division into districts of territories to be irrigated according to watering technologies and machinery, working out of relevant recommendations. The organized inclusion of Alazani-Agrichai artesian basin under-ground water resources into the southern section of Alazani basin irrigation network; These resources are abundant and are featured by high quality. It is necessary to determine their stockpiles, as well as to account the functioning and closed down wells. Besides, due to the high cost of technology, one of the barriers for its application is the selection of sufficiently expensive plants to be irrigated and determination of conditions for their consumption or marketing elsewhere.

10) Costs (US$)

- **Capital costs over 10 years:** Capital (main) expenses for 10 year period – The irrigation of 1ha with the drip technology (14000 Lari).

- **Operational and maintenance costs over 10 years:** Cleaning and putting in order of drip pipes network, per 1ha (500 Lari). Annual monitoring and testing of system (2500-3000 Lari).

- **Other costs over 10 years:** N/A

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[i] **This fact sheet has been extracted from TNA Report - Adaptation for Georgia. You can access the complete report from the TNA project website http://tech-action.org/**