Creating shelterbelts - basis for stable yields of agricultural crops

The pilot region of Sakarchaga (oasis zone) of the AF/UNDP/MNP “Addressing climate change risks to farming system in Turkmenistan at national and local levels” has just recently embarked on the implementation of yet another set of adaptation measures, which had been designed based on the needs of the local communities. The tree nursery that was created in 2013 as part of the project in the Farmers Association “Zakhmet” located in Sakarchaga etrap with a total area of 220 m², the main purposes of which were the implementation of the following adaptation activities:

- Growing planting materials to create windbreaks around irrigated fields;
- Growing planting materials for planting mulberry;
- Growing fruit trees and vineyards for distribution to rural communities;
- Development of partnerships with local schools for the development of horticulture.

As a result, regular watering has contributed to increased plant growth, especially in the second half of the year - the height of mulberry, macule and willow reached one meter of height, meaning that by the end of the year, they can already be used for landscaping. The cuttings for growing fruit and ornamental plant species were prepared, it accounted for 60% of all the vegetation that was planted in different parts of the nursery.

The nursery in particular focused on seedlings of species of trees that are characterized by resistance to soil salinity, have a high rate of growth, and which could provide useful products. Harvest of planted fruit trees helps improve the material well-being of local communities and benefits to improve the environment in the context of climate change.

Early in the spring of this year, more than 5200 seedlings of *maclura*, about 2000 of *local willow*, 500 *mulberry tree* were transplanted from the nursery and planted around irrigated fields and along irrigation canals. The local residents planted on their private plots more than 150 vines, and - 50. More than 48 farmers (including approximately 55% of female tenants) have benefited from our tree nursery. They received seedlings of fruit trees, grapes and others, which they planted in their garden plots to increase fruit yield.

As a contribution to the development of the nursery the local communities brought 20 tons of manure to improve soil fertility and increase the growth of seedlings. This year, the young gardeners from local school 31 have actively participated and were very helpful. Pupils are very keen to grow seedlings for their schoolyard fruit garden especially apricot orchards. Gardener of the tree nursery, Mr. Ylyasov Charyguly teaches school students on the methods of inoculation technology of planting and caring for apricot trees.
In the context of climate change the local communities in Sakarchaga pilot region, must use all the available resources at their own hands to actively implement adaptation measures, which include: the rational use of available water resources, the recovery of hydro-structures, reclaim wastelands, and increase yields of major crops by creating forest shelterbelts around crop fields.

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