Bio-humus technology transfer to communities

Grantee: Mugez CBO
Project Number: MON/SGP/OP6/Y1/CORE/LD/2016/02
SGP Contribution: $ 16,165.00
In-Kind Co-financing: $ 34,136.00
Dates: April - November 2016
Number of people served: 6000 with 65 % of women

Context

Land degradation is one of the most pressing environmental concerns in the country. According to Ministry of Environment and Tourism reports, 78 % of pastureland has been degraded and about 20.0 % of the same has a tendency toward degradation. The total area of country lands that have been deteriorated are estimated to be 121.7 million hectares of which, 91.7 million hectares was damaged by wind-water, 21.1 million hectares by water, 1.0 million hectares by improper human activities and 7.9 million hectares have been severely affected by desertification. Overall, the actual causes of the problem can be divided into human-induced and natural causes. Human-induced causes of land degradation include mostly inappropriate farming practices, inadequate cultivation, weak enforcement of laws and regulations, bad mining practices, overgrazing, fast growing number of livestock and extensive migration of herder families to areas close to settlements, while natural causes of land degradation include mostly the increased sand shift, loss of vegetation cover, soil erosion by strong wind and other negative effects of climate change and global warming. Negative consequences of the land degradation have lessened land productivity, reduced soil fertility, led to extensive desertification and have ultimately contributed to worsening people's livelihood and the entire economy of the country, resulting in rural poverty.

From 2015 the SGP Mongolia has started assisting local communities with introduction of a series of agro-ecological measures, including the production of bio humus from livestock manure and establishment of wind protection belts around vegetable fields owned by small holder farmers. The country possesses around 50-60 million heads of livestock with fluctuating numbers over seasons. It is estimated that around 3 million tons of livestock manure is produced countrywide annually. We can assume If only one thirds of it is used for production of bio humus, there will be about 1 million tons of organic fertilizer available

annually for improving soil fertility. In addition, making bio humus from livestock manure can bring additional profits to herders and farmers.

Project implementation

The grant was implemented by Mugez community based organization (CBO) which has some 8 year experience in producing bio humus, using red worms. The grant had invited and involved 124 participants from forest community and small holder vegetable farmer groups and livestock herders, using SGP contacts and networks. Being the holder of knowledge, know-how and worms, the Mugez CBO has organized field demonstration trainings in three provinces, Seleneg, Khentii and Uvurkhangai, on producing a high quality organic fertilizer, using the composting first and then vermi-composting technology to make bio humus from livestock manure. As the trainings were demonstrative and field based, all the participants were able to get good knowledge and practical experience in dealing with the production of bio humus. Upon completion of the trainings, each participant was given a sack containing about 10,000 earth worms to practice and produce organic fertilizer at home in their return. Moreover, Mr. Tooloi, leader of Mugez CBO has been working in close contacts with the participants till today and has visited many of the participants to give practical advice and assist in composting and vermi-composting to produce organic fertilizer at their respective places. Vermi-compost contains water-soluble nutrients and is an excellent, nutrient-rich organic fertilizer and soil conditioner. It has a range of soil, plant growth, economic and environment benefits. Vermi-compost, sometimes named worm compost, contains more than 100 times as many beneficial bacteria and fungi as can be found in the surrounding soil.

Results and Scaling up

As a result of the grant implementation, the 124 participants had all together produced about 230 tons of organic fertilizer worth US$ 93,500. Some of them have sold the organic fertilizer they have produced in 2016 at the local markets and trade fairs, while the others have applied the fertilizer in their farms covering over 40 hectares of vegetable fields. This is a good result for the first year of grant implementation. It is estimated that the amount of mineral fertilizer that was used in the previous year has reduced by over 80 tons due to use of bio humus. Since the number of earth worms has increased from 1,240,000 to over 40,000,000 over the summer of 2016, the total amount of bio humus to be produced by September 2017 is estimated to be around 7,300 tons , if the established capacity is fully used.

Four community groups, namely Eviin khuch, Bayanchatsargana, Jimsnii tugul and Bayan duhumiin uguuj have become small household entrepreneurs and have been able to sell a total of 92 tons of the organic fertilizer to their neighbours and at respective local markets.
During the implementation of the project, the practice and experiences of this project has quickly spread to Tuv, Bulgan and Dundgobi provinces and the number of interested communities, farmers and individuals has increased by three times at least. Three more field trainings are planned to be conducted in 2017 to meet requests being made by new interested communities.

This practice is very promising and has potential for replication and upscaling for the near future in the country, given that the raw material used for bio humus production is in abundant supply throughout the country and can even be seen as a renewable resource.

Experiences and Lessons learned

Even though the grant has been implemented in 2016 and is entering its second year, the results are very encouraging, and the farmers are really learning by doing, an aspect that is encouraged by SGP. This experience provides information, knowledge and equal opportunity for every social group, including poor and marginalized people, women and youth to practice this activity and take advantage of improving soil fertility and productivity to increase crop and vegetable products and benefits as well as to empower themselves with new knowledge and community applicable technology. As bio humus is now produced by many community groups at different places throughout several provinces, branding, naming, labelling and packing of bio humus, the community product, has all become complicated. The quality of bio humus being produced by two or more community groups appears to be different. Each producer community tends to use its own label and package. No solution is found at this stage. More SGP involvement and assistance is needed in the near future.

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