

Meeting SDGs in Bangladesh with Agriculture Knowledge Repositories

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The Sustainable Development Goals (SDGs) - No poverty, Zero Hunger, Good Health and Quality Education are directly linked to the world agriculture which constitute to about 6% world's GDP. However, the changing climate conditions are making tough for the farming and the food production is being effected. To eradicate poverty and to have no person goes to bed hungry, food must be adequate in household level, citizens should be provided with quality & safe food. For building healthy people and providing quality education all are linked with the agriculture. To address this situation, globally, researchers are working for hard and generating solutions for adaptive, resilient and sustainable farming livelihoods.

Bangladesh had made remarkable progress in achieving the Millennium Development Goals (MDGs). Higher income generation, poverty reduction, food production diversification and consumption of non-cereal food, including animal source foods, vegetables and fruits are the main gateways for the success of the MDGs. However the future challenges like high population, wider yield gap, shrinking productive land and water, climate change vulnerability, etc., are to be addressed in achieving Sustainable Development Goals (SDGs) related to agriculture viz., No Poverty, Zero Hunger, Climate Action, and life on land. An integrated approach among all the constituents of the National Agricultural Research System (NARS) of Bangladesh would be needed for achieving the SDGs. At this backdrop, our paper presents a summary report of the best practices being carried out in Bangladesh for achieving SDGs by 2030. The formulation of the Bangladesh Agricultural Research Council (BARC) Act 2012 is the one of the many efforts made to strengthening of NARS in Bangladesh. The vision document 2030 prepared for undertaking major research and development programmes are almost in sync with the MDGs and SDGs. As per the published reports, the BARC had coordinated efforts for the release of more than 50 promising technologies related to agriculture, including livestock and fisheries under its National Agricultural Technology Project, Phase I. An online fertilizer recommendation guide (2012) and good agricultural practices were developed along with crop calendars for major crops. This has brought a systematic farming practice in the country which resulted in the increase of rice and pulses crop yields by 17% and 15% respectively. The development of the short duration rice varieties which have 10-14 days shorter than the extant varieties is kept on high priority. This is towards SDG goal 2, zero hunger making available more rice and pulses in the market by increasing the production through yield increase.

The constituents of NARS system in Bangladesh are working on the challenges viz., development of high yielding, stress tolerant, hybrid and transgenic crop varieties for increasing the production and productivity; soil health management, improving the cropping pattern, water saving technologies, farm machineries, post-harvest management,

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dissemination of appropriate technologies, women's participation in agriculture etc., for the life on land goal and the goal - for climate resilient agriculture how the various programmes viz., precision agriculture, crop modeling, ICT in agriculture etc., are being promoted.

And to make available all these research outputs generated from agricultural research for development immediately to all the stakeholders, the global and regional initiatives viz., AIMS of FAO, AgInfra, CIARD, GODAN etc. are building policies and e-infrastructures and are facilitating the data & information. The CIARD RING which indexes and provides sources of data and information has about 1210 as services, 595 providers and 310 datasets as on today. And from an aggregation platform SHARE, anyone can access 1,95,26,916 records of data and information from 149 sources (as on 20/022017). Sharing of data and information among the researchers is utmost important. The researchers in physics are sharing their interim research results on a public web server since 1995.

However, the trend of sharing academic and research outputs has started in other disciplines in the last few years. Similar to arXiv.org of Physics, when all the academic and research repositories are populated with the outputs, there will not be any issues of non-availability and accessibility. The science progresses without any hindrance. And when the educational and research resources are freely available, there would be an access to good quality education and the SDG 4 can be achieved. Similarly, the goals 1 & 2 can be achieved when there is free availability, flow and accessibility to the knowledge products developed with free data and information, the agricultural production can be increased and when properly distributed, No Poverty and No Hunger could be seen. With a no poverty, no hunger and quality education, good health can be achieved and the SDG 3 can be achieved.