



EDITORIAL

The United Nation's Inter-governmental Panel on Climate Change (IPCC) reported in 1995 the rising sea levels, expanding deserts, intense storms, extinction of innumerable plant and animal species due to global climate change. Scientists predict the raise of earth temperature by an average of between 1.5 degree centigrade and 4 degree centigrade by the year 2050. The climate change occurs both due to natural fluctuations and human activities. However the root cause to global warming is the extensive use of fossil fuels releasing the heat absorbing Green House Gases (GHGs) into the atmosphere.

The impacts of global warming range from affecting agricultural production, food security, erosion of coastal zones, increasing intensity of natural disasters, and the spread of vector-borne diseases which gradually threaten global stability, prosperity, and security.

In Nepal a rise of temperature of 0.06°C per year is recorded. The rainfall pattern is changing. The Himalayan Glacier is melting down year by year. Climate change adversely effect on biodiversity, natural resources, agriculture production and human health, especially on women and children. About 70% of the world's poor are vulnerable to the climate change damages and 85% out of 70% people dieing from climate-induced disasters are women in the developing countries.

Women in Science and Technology (WIST) needs to play its role on reducing global warming through its various activities at the national level. Such activities should essentially include information sharing among the scientists, creating awareness among the people, advocating for policy formulation and action plan by the government and concerned agencies to mitigate the global warming.

WIST TRAINING



(i) Training on Gardening and Nursery Management

Ms. Rama Shrestha, executive member of WIST, co-coordinated and conducted one day training on Home Gardening at Civil Home, Second Phase, Teen Thana VDC, Kathmandu.

The overall objective of the training was to disseminate the knowledge and skill on plant propagation, cultivation and gardening techniques to the housewives.

Twenty women participated in the training. Ms. Rasmila Shakya, a member of the WIST was the key resource person for this training. The cost of the training was borne by the participants at the rate of Rs.100 per person.

The theoretical and practical demonstration on gardening and nursery, its value and environmental aspects were followed in the training program. The trainees actively participated to learn the new techniques of gardening and nursery throughout the training session and expressed keen interest to grow the fresh flowers in their home garden and requested again to organize such trainings in the future for more new varieties of the flowers.

The main output of the training was building up the confidence and capacity of the participants to start an income generating work through the nursery business for the women seeking economic benefits.

(ii) Women Entrepreneurship Development Training

With an increasing interest on Food Processing and Product Development, women's group of Saubhagya Bahuudyeshya Shahakari Sanstha, Lalitpur organized a training program on Bakery and Pickle production for their members with the technical assistance of WIST.

The main objective of the training program was to develop the skill of the women's group so that they could start up the small business enterprise within the household level and thereby promoting the income generating activities among the women.

Two batches of women selected by the sponsored organization participated on Bakery and Pickle Production training. First batch of 20 participants, started from 23/12/2064 to 26/12/2064, completed the training

on Bakery Products. Similarly, second batch of 14 participants, started from 27/12/2064 to 2/1/2065, completed the training on Pickle production. The bakery products included the preparation and demonstration of Bread, Pizza, Cake, Cookies, Doughnut, and Puff while Lemon Pickle, Mixed Vegetable Pickle, Methi Pickle, Lapsi Pickle, Lapsi Titaura and Candies were prepared and demonstrated during the training

program.

Ms. Chandra Shakya, Treasurer of WIST was the resource person of this training program. The Training program was sponsored by Saubhgya Bahudyashya Shahakari Sanstha, Lalitpur. Ms. Ganga Shrestha, and Ms. Shova Shakya, the members of Saubhgya Bahudyashya Shahakari Sanstha, assisted during the training programs.

Traditionally, women are engaged in food preparation and are familiar with the skill of food processing. So the participants, who were all women, could easily grasp the technology of Food Processing and the Food Products. Low cost food processing can offer an excellent opportunity for income generation to the trained women's group.

Transfer of Technologies for the Rural Poor

- Ms. Prabha Adhikary (Basnet)

The word technology has been taken from Greek language *techno* meaning art of doing whereas *logus* means knowledge or study. Thus, technology means application of knowledge on science and technology to the practical human life.

Rural Poor are the group of people who are landless, marginal and small farmers, tenants, upland dwellers, ethnic minorities, dalits, internally displaced persons (tribal population such as Chepang) and women headed households. In Nepal, rural development poses several challenges as Nepal is among the poorest and least developed countries in the world with almost one third of its population living below the poverty line (Population below poverty line is 30.9% in 2004). The mainstay of the economy is agriculture, which is providing livelihood to three-fourths of the population and accounting for 28% of GDP. The unemployment rate is 42 % as of 2004. Some of the identified challenges to rural development are traditional way of life, conservatism, subsistence economy, under employment, low level of education, disparity between land holders and landless, concentration of indigenous / marginalized people and remoteness of the rural areas.

With this background and realities of the rural Nepal, the main objective of Transfer of Technologies (TOT) to the rural poor is basically those technologies which could be adopted to the farming system and practical to the farmers' life for enhancing their economic, social and environmental livelihood by alleviating poverty. Nepal's rural development requires

resource based technology which manifests into an integrated area planning including better land, forest and water resources. Technologies that have demonstrated better results have to be replicated and up scaled. Besides this, market-linkage, affordable financing and credit have to be ensured.

Transfer of technology (TOT) means taking a new idea or procedure or product from extension or research institution to the farmer's field. They adopt new technology if they are convinced about its utility. The technology must be compatible with social and cultural systems. Thus TOT refers to the entire process of technology development, processing, dissemination and integration through research, extension and farming systems keeping in view the resources endowment, organizational limitation and capabilities of the three systems to solve the problems of the rural society.

Two basic forms of poverty in Nepal are notable –the spatial poverty caused by remoteness and the interstitial poverty caused by a mix of several factors. For eradicating the spatial poverty the primary need is to develop transport infrastructure while interstitial poverty can be addressed by property targeting and multi-sectorial intervention. The reason for increasing poverty in Nepal are: High Population growth (2.5% per annum), skewed asset distribution, high rate of underemployment, inadequate and ineffective public services, corruption, high indebtedness, heavy and wasteful expenditure in social functions, natural calamities and epidemics, Lack of proper

government policies and implementation modalities.

In industrialized rich countries, TOT means all research that is directed at economic and technological problems targeting the large farmers. The research is for new sophisticated products and new production techniques using high capital inputs and high level of management and skills economizing on labor.

However, in developing countries like Nepal, the new technologies should be the simple, unsophisticated products which economize on capital and skill and make greater use of the unskilled labors keeping in view of the rural poor population. And at the same time neither we have enough financial resources nor the technical know-how to develop own production technologies. As a result it is often forced to import the technologies from other countries, which may really be inappropriate to the actual conditions and create dependency. Therefore, new technologies should be emphasized especially for rural poor that are of small scale, which places less emphasis on capital and skills and more on unskilled labor. This is often called Appropriate Technology (AT) having four characteristics as follows:

- Small - so that it can fit into small market,
- Simple - so that it doesn't require highly sophisticated skill
- Capital saving- so that it should be within the financial means of the rural poor
- Non- Violence- towards the people and environment

The new technologies may create imbalance due to input intensive among resources poor farmers. Thus it is necessary to create awareness and equip both farmers and scientists to work together to generate technologies appropriate to the local situation. It requires new methods and perspectives to work in close touch with people. It is in this context that new concepts on agriculture development like farming systems research and development, extension /participating technology development, participating rural appraisal, indigenous technological knowledge, practical technologies, sustainable agriculture and organic farming etc are becoming more meaningful.

Likewise new agricultural technologies bring many ecological problems such as salinity, soil erosion, surface and ground water pollution etc. The undesirable effects of new agricultural technology on natural resources have raised the

issue of sustainability .The sustainable agriculture is the successful management of resources for agriculture to satisfy changing human needs while maintaining or enhancing the quality of the environment and conserving the natural resources.

These are new viewpoints that are regularly coming up to mitigate the imbalances caused by new technologies to large majority of small farmers, landless and rural poor. Thus technology should not be simply a package of skills, knowledge and procedure for providing useful goods and services. Rather it should be better conceptualized as an approach as a particular way of thinking about – society and technology.

Finally there are many poor friendly technologies which need to be expanded for the benefit of the rural poor and ultra-poor –both land based and non land based. For instance the carpet industry in Kathmandu, a non-

land based technology benefits to the rural poor migrating to the city. Similarly, a land based technology like pro poor micro irrigation and vegetable cultivation have changed the lives of the rural poor. So there is a need for massive research and development in pro-poor technologies to mitigate the persisting chronic poverty.

Is there any stake or cost to the government in TOT to the rural poor? Certainly, generating technologies through R and D and disseminating them to the remote and inaccessible rural areas are expensive which have become the consequences of persisting chronic rural poverty in Nepal. Is not it one of the reasons for conflicts over last 13 years? So, TOT should be understood in light of the general welfare of the citizens which being the goal of a democratic government and poverty alleviation which being everlasting political problem.

Introducing Women Scientists of Nepal and their views

Keshari Bajracharya



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Present Status: Technical Manager: CEMAT Water Lab Pvt. Ltd, Bijulibazar, Kathmandu Nepal

Academic Record : M.Sc. Chemistry (Inorganic) Tribhuvan University Kirtipur, Nepal

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Work Experience: She worked as Superintendent Chemist (Joint Secretary Level) Government of Nepal, Department of Mines and Geology for two years, 10 years as an Office in charge in Department of Hydrology and Meteorology and has experience of 17 years as a Soil chemist in Department of Soil Conservation and Watershed Management. She also worked as Project Coordinator in National Water

Quality Monitoring and Management Formulation Project and as National Consultant in Water quality study for Bishnumati Khola in Shivapuri Watershed

Her views on Women in Science and Technology Nepal

Traditionally women have been responsible for household chores. At the same time, women's participation and representation in science and technology around the world has been increasing in various fields not only in developed countries but also in developing countries. In Nepal though a developing country there are lots of women scientists in various fields like agriculture, hydrology, meteorology, environmental science and so on. The role of these 'Women in science and technology' should be directed to promote effective sustainable development from grass root level and to provide supportive links to both urban and rural women in Nepal.

Ms. Chandra Shakya

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Present Status: Food Research Officer, Department of Food Technology and Quality Control (DFTQC), Babar Mahal,



Kathmandu, Nepal.

Academic Record: M.Sc. (Botany), Tribhuvan University, Nepal. Diploma in Bakery Technology, Japan. Training on Food Processing Enterprises for Women, India.

Experience: She has 24 years of experience in food processing technology and research work for product development and processing of food products especially bakery, fruits and vegetables along with beverage products. She is also working as resource person for training program conducted by DFTQC and WIST and other agencies. She is also involved in the consultation for Food Processor and Entrepreneurs in the field of Food Products Diversification and Product Development along with solving the trouble shooting problems in the processing aspects.

She has been mostly engaged in promoting the entrepreneurship development among the women and

there by empowering them to join the economic mainstream and enhance the status of women in the society by creating a culture of entrepreneurship.

Her Views on Women in Science and Technology

Science and Technology leads us toward the materialistic world while 'Dharma' provides us with an understanding of the very purpose of our existence. Clearly, for the harmonious development of any society, of any individual, a proper integration of the science and Dharma is necessary. The advancement in science and technology without the essence of Dharma is leading only to increase our sorrow by deteriorating the natural resources such as land, air, water and poisoning our mind.

To change the world scenarios and to maintain the peace and harmony there is a clear need of balance in spiritual thinking and materialistic development. I am confident that science and technology without Dharma is blind and Dharma without science and technology is lame. Dharma gives us the vision of what ought to be done and sciences give us the power to do it. Preachings of Buddha, one of the greatest Spiritual Science, give this vision. The Women in Science and Technology(WIST) should follow the scientific vision of Buddhism to achieve the successful peace and harmony in Nepal.

WIST ACTIVITIES:

- ▶ Dr.(Ms.) Keshari Laxmi Mandnadar of Centre for Agricultural Technology delivered the talk program on the cultivation of mushroom. She focused on the nutritional value and cultivation practices in her deliberation. The program was coordinated by Ms. Ramila Joshi on Bhadra 11, 2064.
- ▶ A Bio-Village program in Bode VDC was undertaken by WIST in collaboration with NAST, supported by the Ministry of Environment, Science and Technology from May – July 2007.
- ▶ A Workshop on Women and Climate Change proposed by WIST is approved from the MoEST and the workshop is going to be held on 3-4 Ashad, 2065.

Workshops/Training attended

- ▶ Ms. Roshani Shrestha attended a one day workshop on Scoping Exercise on Electronic Waste (e-waste), organized by International Centre South Asia Cooperation E Waste program on 21 September 2007 in New Delhi India.

- ▶ Ms. Sushama Upadhyaya visited Sweden for Training on Strategies for Chemical Management in April, 2008.

WIST Members Update

- ▶ Ms. Roshani Shrestha was promoted to Class II officer in 2007. She is now Senior Scientist in the ministry of Environment, Science and Technology. Congratulations and wish her all the success. Similarly, Chandra Sakya, Rajani Shrestha, Sobita Shrestha, and Sadhana Haluwai of DFTQC were promoted to Class III officers in 2007. They all are working in the same department in various posts.

Annual General Meeting

13th Annual General Meeting of the WIST was held on Jestha 1, 2063 at the meeting hall of the Department of Plant Resources. Ms. Ram Badan Pradhan the President of WIST chaired the meeting. She welcomed all the participants. Ms. Urmila Joshi, the General Secretary and Chandra Shakya, the Treasurer, presented annual progress report and financial statement respectively while the vice-president Dr. Surya Laxmi Maskey extended vote of thanks to the participants. Sixty-five WIST members participated in the annual meeting and the new executive committee was formed according to the WIST regulations.

Membership

Total Members of the WIST: 145

Membership fee:

Entrance Rs. 50/-

General Members Rs. 150/-

Asso. Members Rs. 300/-

Life Members Rs. 2000/-

Please submit CV/Biodata

WIST is compiling and upgrading the CV/Biodata of Women Scientists and Technologists of Nepal. Please fill in the format and help in upgrading its publication. WIST also invites the project proposals on research and development from the women scientists for annual program 2064/65. Please contact Dr. Surya Laxmi Maskey for further information.

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