

Dhruba Raj Bhattarai, PhD

Senior Scientist and Chief

National Outreach Research Centre, NARC, Khumaltar, Lalitpur, Nepal

E-mail: raj01dhruba@gmail.com

Mobile: 9851038539

Website: narc.gov.np**Professional activities**

- Implemented several research projects that promote integrated approaches for improving income and nutrition security in Nepal.
- Research and development in vegetable breeding, vegetable seeds, postharvest management, value chain & market challenges.

Academic qualifications

- Ph.D (2010) in Vegetable Science, Dr.Y.S. Parmar University of Horticulture & Forestry, Solan, HP, India
- M.Sc. (2003) in Horticulture, Tribhuvan University / Institute of Agriculture and Animal Science, Nepal
- B. Sc. (1998) in Agriculture Science, CCS University, Meerut, India

Job experiences

- **Senior Scientist and Chief:** Nepal Agricultural Research Council (NARC), National Outreach Research Center (NORC), Lalitpur, Nepal, August 2018 – Present
- **Senior Scientist (Vegetable Science):** Nepal Agricultural Research Council (NARC), Horticulture Research Division (HRD), Lalitpur, Nepal, March 2017 – August, 2018
- **Scientist (Vegetable Science):** Nepal Agricultural Research Council (NARC), Horticulture Research Division (HRD), Lalitpur, Nepal, May 2004 – February, 2017
- **High Value Crop Expert:** Asia Network for Sustainable Agriculture and Bioresources (USAID funded high value medicinal plant related project), Kathmandu, Nepal, Feb. 2004 - May, 2004
- **Project Manager:** Centre for Self-help Development (Japan funded community development programme), Kathmandu, Nepal, January 2003- February 2004
- **Visiting Lecturer:** Himalayan College of Agricultural Science and Technology, 2003 – 2006.
- **Soil Conservation Officer:** Bagmati Integrated Watershed Management Programme (European Union funded watershed management programme), Kathmandu, Nepal- Oct 1998- July 2001.

Awards / Recognitions / Fellowship

- Received SAARC Scholarship award for PhD Programme from Government of India.
- Received fellowship for 14 days training on Rights based approach to food and nutrition security from Nuffic/Centre for Development Innovation, Wageningen, The Netherland
- Received certificate of appreciation from World Vegetable Centre, Taiwan for successfully led and completed Vegetables Go to School Project in Nepal
- Received certificate of appreciation from Swiss Tropical and Public Health Institute, Switzerland for having successfully completed School Gardening Project in Nepal
- Outstanding researcher award from NARC, Nepal
- Received Nepal Bidhya Bhushan "Ka" award from Hon. President of Nepal

Active member

- 2003-Present Life Member, Nepal Horticultural Society

- 2018-Present Expert Team Member, Home Gardens for Resilience and Recovery (HG4RR), an international network of expert researchers, hosted by the Leibniz Institute of Vegetable and Ornamental Crops, Berlin, Germany

Research projects handled

Title	Funding agency	Role	Amount	Status
Verification and Dissemination of Gender Responsive and Climate Resilience Technologies in Eastern Hills of Nepal	SDC/HELVETAS	PI	12930,000.00 (NRs)	Completed
Nudging children towards healthier food choices: An experiment combining school and home gardens	The World Vegetable Center	PI	34,185 (USD)	Completed
Vegetables Go to School (VGtS): Improving Nutrition through Agricultural Diversification	SDC/ The World Vegetable Center	Co-PI	247,582 (USD)	Completed
Asian Network for Sustainable Organic Farming Technology (ANSOFT): Construction of the model organic agriculture village	AFACI/RDA, Korea	Co-PI	30,000 (USD)	Completed
Establishment of network and model manual on postharvest technology of horticultural crops	AFACI/RDA, Korea	Co-PI	60,000 (USD)	Completed
Variety improvement in vegetable crops	Government of Nepal, NARC	PI	50,00000 (NRs)	Completed
Participatory technology dissemination and monitoring	Government of Nepal, NARC	PI	25,00000 (NRs) per year	Ongoing

Consultant services

Service performed	Employer's Name
Value Chain/market studies of off season vegetables in Nepal	On behalf of ANSAB as per contractual agreement with SNV-Nepal, Bakhundol, Lalitpur
Value Chain/Market Analysis of Off-season Vegetables Sub-sector of Nepal	On behalf of ANSAB as per contractual agreement with USAID/NEAT Chemonics International Inc.; Jawalakhel, Lalitpur, Nepal
Evaluation of livelihood based DRR initiatives	Oxfam GB-Nepal Jawalakhel, Lalitpur
Training on rural enterprise development through value chain approach	Rural Energy Development Programme (REDP), Khumaltar, Lalitpur, Nepal
Training on micro-enterprise development	WINROCK International, Baneshwor, Kathmandu
Training Manual (Off season vegetable production) preparation and publication	United Mission to Nepal (UMN) Thapathali, Kathmandu, Nepal.
Facilitation for business plan preparation of coffee and vegetable enterprise	World Wildlife Fund (WWF), Kathmandu, Nepal

Varieties / technologies developed

1. Developed and released improved varieties : Cauliflower: Khumal Jyapu and Turnip: Kathmandu Red
2. Evaluated capsicum genotypes
3. Developed package of practices for fruits & vegetables crops
4. Developed school gardening package

Key publications

Vision paper

1. **Bhattarai D.R.** 2021. National Horticultural Research System in Present Context of NARC: An Insightful Vision. *Proceeding of the Tenth National Horticulture Workshop*. Nepal Agricultural Research Council, National Horticultural Research Center, Khumaltar, Lalitpur, Nepal.
2. **Bhattarai D.R.** and Ishwori Prasad Gautam. 2017. Strategy for national vegetable breeding programme in Nepal. *Proceeding of the Ninth National Horticulture Workshop*. Horticulture Research Division, Nepal Agricultural Research Council, Khumaltar, Lalitpur, Nepal.
3. **धुबराज भट्टराई** । २०७६ । सङ्घीय ढाँचामा राष्ट्रिय कृषि अनुसन्धान प्रणाली: एक दृष्टिकोण । १३ औं बाह्य अनुसन्धान कार्यशाला गोष्ठीको प्रोसिडीङ्-२०७६, बाह्य अनुसन्धान महाशाखा, खुमलटार, ललितपुर
4. **Bhattarai D.R.**, Subedi GD, Gautam IP, Kashichhawa NK, Dhungana U. Shrestha A. 2017. Better Nutrition for School Children in Nepal through School Gardens and Health Interventions: Policy Brief: Nepal Agricultural Research Council (NARC), Lalitpur, Nepal.

Research paper

1. **Bhattarai D.R.**, S.K. Maharjan, I.P. Gautam, S. Subedi and S. Pokhrel. 2020. Evaluation of capsicum (*Capsicum annuum* L.) genotypes for variety improvement. *Journal of Agriculture and Forestry University* 4: 139-144
2. **Bhattarai D.R.** 2018. Postharvest Horticulture in Nepal. *Horticulture International Journal* 2(6): 458-460
3. **Bhattarai D.R.**, G.D. Subedi, I. P. Gautam and S. Chauhan. 2017. Postharvest supply chain study of carrot in Nepal. *International Journal of Horticulture*. 7 (26): 239-245
4. **Bhattarai D.R.**, Giri Dhari Subedi, Tej Prasad Acharya, Pepijn Schreinemachers, Ray-yu Yang, Greg Luther, Upendra Dhungana, Krishna P. Poudel and Narayan Kaji Kashichwa. 2015. Effect of school vegetable gardening on knowledge, preference and consumption of vegetables in Nepal. *International Journal of Horticulture*. 5(20):1-7
5. **Bhattarai D.R.**, N. G. Pradhan, B. Chalise, YR Pandey and G. D. Subedi. 2015. Selection of turnip variety for nutrition security in Nepal. *International Journal of Horticulture* 5 (8):1-5
6. **Bhattarai D.R.**, Navin Gopal Pradhan, Basanta Chalise and Sharmila Piya. 2014. Selection of early cauliflower variety for income generation. *Nepal Journal of Science and Technology* 15: 37-42.
7. **Bhattarai D.R.** and Krishna P. Poudyal. 2012. Organic agriculture networking and technology in Nepal. *Proceeding of Asian network for sustainable organic farming technology*. Bureau of soils and water management, Quezon City Philippines.
8. **Bhattarai D.R.** and Ojha Yadav. 2012. Value Chain study of off season vegetables in Mid-western Development Region of Nepal. *The Journal of Economic Concern* 5: 28-42
9. **Bhattarai D.R.**, Regmi HN and Budathoki K. 2005. Postharvest Evaluation of tomato cultivars for agri-business. *Nepalese Horticulture* 5: 39-43
10. **Bhattarai D.R.** and Budathoki K. 2005. Effect of pre-harvest organic manures on postharvest physiology and consumers' acceptability of cauliflower. *Nepal Journal of Science and Technology*

6: 11-14.

11. **Bhattarai D.R.** and Gautam DM. 2006. Effect of Harvesting Method and Calcium on Post Harvest Physiology of Tomato. *Nepal Agriculture Research Journal* 7: 37-41.
12. **Bhattarai D.R.**, K. P. Poudyal and S. Pokhrel 2011. Effect of *Azotobacter* and Nitrogen Levels on Fruit Yield and Quality of Bell Pepper. *Nepal Journal of Science and Technology* 12: 29-34
13. Schreinemachers, P., G. Balaki, R.M Shrestha, **D.R. Bhattarai**, I.P. Gautam, P.L. Ghimire, B.P. Subedi and T. Bruck. 2020. Nudging children toward healthier food choices: An experiment combining school and home gardens. *Global Food Security* 20 (2020).
14. S. Pokhrel, N. Raut, **D.R. Bhattarai** and P. Bhattarai. 2019. Biochemical Analysis of Kiwifruit Grown in Nepal. *International Journal of Horticulture*. 9 (4): 23-30
15. Schreinemachers, P., **Bhattarai, D.R.**, Subedi, G.D., Acharya, T.P., Chen, H.-p., Yang, R.-y., Kashichhawa, N.K., Dhungana, U., Luther, G.C., Mecozzi, M. 2017. Impact of school gardens in Nepal: a cluster randomised controlled trial. *Journal of Development Effectiveness* 9(3), 329-343.
16. Bhatta G.D., M. Subedi and **D.R. Bhattarai**. 2014. Fenugreek: review of commercial opportunities for a climate risk resilient vegetable crop in Nepal. *American Journal of Social Issues and Humanities*. 155-161.
17. Budathoki K, **Bhattarai DR**, Regmi HN, Pradhan NG, Poudel KB, Pradhan SB and Bhurtyal PR. 2004. Poverty reduction of poor farmers through scaling up the vegetable production technologies. *Proceeding of the Seventh National Outreach Research Workshop*. Outreach Research Division, Nepal Agricultural Research Council, Khumaltar, Lalitpur, Nepal.
18. Budathoki K, Pradhan SB, Regmi HN, Pradhan NG, Poudel KB, **Bhattarai DR** and Bhurtyal PR. 2004. EM Bokashi: an alternative to chemical fertilizers in vegetable crops for poverty reduction. *Proceeding of the Seventh National Outreach Research Workshop*. Outreach Research Division, Nepal Agricultural Research Council, Khumaltar, Lalitpur, Nepal.
19. Budathoki K, Pradhan NG and **Bhattarai DR**. 2004. Evaluation of cabbage cultivars for export markets. *Proceeding of the Fourth National Workshop on Horticulture*. Horticulture Research Division, Nepal Agricultural Research Council, Khumaltar, Lalitpur, Nepal.
20. Budathoki K, Pradhan NG and **Bhattarai DR**. 2004. Evaluation of cauliflower varieties for off season production in mid hills of Nepal. *Proceeding of the Fourth National Workshop on Horticulture*. Horticulture Research Division, NARC, Khumaltar, Lalitpur, Nepal.
21. Budathoki K, Regmi HN, Pradhan NG, Bhurtyal PR and **Bhattarai DR**. 2004. Effect of set planting date on off season onion bulb production in mid hills. *Proceeding of the Fourth National Workshop on Horticulture*. Horticulture Research Division, NARC, Khumaltar, Lalitpur, Nepal.
22. Budathoki K, **Bhattarai DR** and Joshi N. 2005. Effect of Bio-pesticides on reducing the important diseases for organic vegetable production. *Proceedings of National Workshop on Organic Agriculture and Food Security*. Nepal Permaculture Group (NPG), Kathmandu, Nepal.
23. Shanta Pokhrel, Amrita Sigdel, Ralf Lach, Miroslav Slouf, Jakub Sirc, Vimal Katiyar, **Dhruba Raj Bhattarai** and Rameshwar Adhikari. 2021. Starch-based biodegradable film with poly (butylene adipate-co-terephthalate): preparation, morphology, thermal and biodegradation properties. *Journal of Macromolecular Science*. doi.org/10.1080/10601325.2021.1920838
24. Pandey, I.R., K.C. Hari Bahadur, Thapa P. Singh D., **Bhattarai D.R.** and Acharya Anil. 2017. Biodiversity Status and Conservation Options for Vegetable Crops (Leafy and Stem, Fruit, and Legume). *Proceedings of 2nd National Workshop, 22-23 May 2017 Dhulikhel; NAGRC, FDD, DoA and MoAD; Kathmandu, Nepal*
25. Subedi G.D. and **Bhattarai D.R.** 2018. Application of improved postharvest handling of apple in Nepalese postharvest industry. *Proceeding of 2018 AFACI workshop on application of improved postharvest handling of horticultural crops in postharvest industry (July 4-6, 2018)*. Rural Development Administration (RDA), National Institute of Horticultural and Herbal Science, Korea.

26. Poudel A.P. and **D.R. Bhattarai**. 2019. Distribution of nation superior seeds of food crops and transfer agriculture technology. *Proceeding of 2018 AFACI workshop on horticulture, extension and food crops, September 2-6, 2019*, Phnon Penh, Cambodia.

Books

1. **Bhattarai D.R.**, G. D. Subedi, and P. Schreinemachers. 2016. School Vegetable Gardening: Concept, Curriculum & Action. Khumaltar, Lalitpur, Nepal: Government of Nepal, Nepal Agricultural Research Council (NARC), Khumaltar, Lalitpur, Nepal
2. **Bhattarai D.R.** and Maharjan, S. K. (2019). *Plant breeding & seed technology*. Heritage publishers and distributors pvt. Ltd. Bhotahity, Kathmandu
3. **Bhattarai D.R.** 2005. Postharvest technology: marketing, handling and processing of fruits and vegetables. Public Printing Press. New Plaza, Putalisadak, Kathmandu, Nepal.
4. **Bhattarai D.R.**, Giri Dhari Subedi and Pratishta Adhikari 2017. Postharvest Technology for Carrot Commercialization in Nepal. Horticulture Research Division, Nepal Agricultural Research Council (NARC), Khumaltar, Lalitpur, Nepal
5. Gautam DM and **Bhattarai DR**. 2006. Postharvest horticulture. Public Printing Press. New Plaza, Putalisadak, Kathmandu, Nepal.
6. Kanwar HS, **Bhattarai D.R.** and Mehta DK. 2010. Seed technology: processing, storage and marketing for successful seed business in South Asia. Jain Brothers, New Delhi, India.
7. Gautam, D. M., **Bhattarai, D.R.**, & Maharjan, S. K. (2020). Postharvest technology. Heritage publishers and distributors pvt. Ltd. Bhotahity, Kathmandu

Book chapter

1. **Bhattarai D.R.** and P. Schreinemachers 2020. School Gardens in Nepal: Design, Piloting and Scaling. In Agrobiodiversity, School Gardens and Healthy Diets. Hunter *et al.*, Ed. Published by Routledge.
2. Schreinemachers, P., Yang, R.-y., **Bhattarai D.R.**, Rai, B.B., Ouedraogo, M.S., 2020. The impact of school gardens on nutrition outcomes in low-income countries. In Agrobiodiversity, School Gardens and Healthy Diets. Hunter *et al.*, Ed. Published by Routledge.

Book edited

1. Proceeding of the Ninth National Horticulture Workshop-2017. Published by Horticulture Research Division, Nepal Agricultural Research Council, Khumaltar, Lalitpur, Nepal.
2. Navintam Krishi Pravidhi. Published by National Outreach Research Centre, NARC, Nepal
3. Package of Practices for Vegetable Crops. Published by National Outreach Research Centre, NARC, Nepal
4. Package of Practices for Fruit Crops. Published by National Outreach Research Centre, NARC, Nepal

Booklets/Articles

- Booklets: 10
- Articles in magazine: 20
- Articles in national newspaper: 35



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