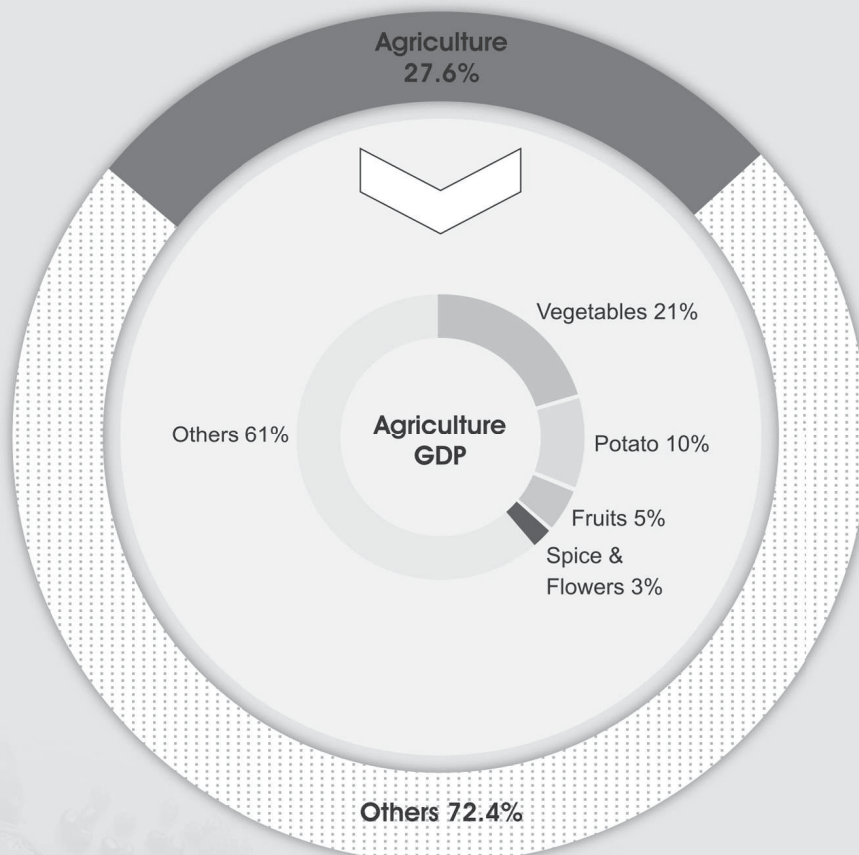


PROCEEDINGS OF THE 10th NATIONAL HORTICULTURE SEMINAR 2019


7-9th February 2019, Kirtipur, Kathmandu, Nepal

Theme: "Development of Horticulture in Federal Nepal: Opportunities and Challenges"

Gross Domestic Product Share (2017/018)



Horticulture 2017/18

	Vegetables*	Fruits**
 Cultivated or planted (hectares)	277393	166815
 Production (tonnes)	3749802	1082398
 Farm gate value# (NRS million)	166246	40682

*includes 56 seasonal vegetables excluding potato

**includes tropical, temperate and citrus fruit crops

#estimated value



ORGANIZING COMMITTEE

National Horticulture Seminar, 7-9 February, 2019
Warm Temperate Horticulture Centre, Kirtipur, Kathmandu

“Development of Horticulture in Federal Nepal: Opportunities and Challenges”

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Hon. Chakrapani Khanal "Baldev"
Minister of Agriculture and
Livestock Development



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MESSAGE

I am pleased to know that Nepal Horticulture Society is publishing the proceedings of the 10th National Horticulture Seminar. Horticulture is an important sub-sector of Nepalese agriculture that can significantly generate employment opportunities and improve the livelihood of the rural people.

In the inauguration session of the seminar, I got the opportunity to interact with various horticulturists working across the country. I appreciate the dedication of the people and all stakeholders for developing this sector in the changing context of Federal Nepal. Moreover, in the session, I noticed that some horticulture crops are still being imported though there are high potentialities for production of them in Nepal. In this scenario, the society should support the government in formulating policies and strategies to promote the production and productivity of such crops which ultimately helps to substitute import.

I hope the information presented in the proceedings will keep great value to expand horizon of knowledge about horticulture for readers and stakeholders and help for overall development of horticulture sector in Nepal.

Finally, I wish for the success of the publication and further progress of the society.

A handwritten signature in black ink, appearing to read "Chakrapani Khanal".

Minister
Chakrapani Khanal 'Baldev'

May 20, 2019

Foreword

Nepal Horticulture Society (NHS) established in 1990 is an independent, non-political, non-profit, professional society of Horticulturists working in diverse field in the country. This society is a common platform of all horticultural professionals affiliated with government and non-government organizations, universities, private sectors and also working in horticulture profession and horticulture business at individual capacities including retired professional horticulturists. The main objectives of the society include, enhancing public awareness towards the importance of horticulture, promote linkages with related national and international institutions /organization/societies. To advise government and non-government organizations in planning and execution of horticultural programs. Other objectives include encouraging and recognizing professional horticulturists, horticultural practitioners and provide scholarships to merit students and promote horticulture as an integral part of environmental protection.

Since its establishment NHS has played advisory roles to the government and policy making bodies. The society organizes workshops and interaction forums on the pertaining issues related to horticulture development. It publishes proceedings, journals and technical books/ booklets for wider dissemination of recent scientific achievements and research results in the field of horticulture.

On behalf of newly elected executive committee and on my own, congratulate the outgoing executive committee led by president Dr. Umed Pun and all organizing committee members for their untiring efforts to make the seminar a grand success.

We, the newly elected executive committee, Indra Raj Pandey (president), Dr. Arjun Kumar Shrestha (vice president), Mr. Rajendra Koirala (general secretary), Mr. Padmanath Atreya (secretary), Mr. Sanjaya Dhimal (treasurer) and Mr. Arun Khanal, Dr. Bishnu Chapagain, Dr, Giri Dhari Subedi and Dr. Puspa Raj Paudel (members) are grateful to all those who have contributed directly, indirectly or both to make this issue in this form.



Indra Raj Pandey

President, NHS 2019

Editorial



This proceeding is the compilation of paper presented on a three-day 10th NATIONAL Horticulture Seminar held 7-9 February, 2019 at Kirtipur, Kathmandu, Nepal. The seminar was the premier national for the horticulturist, presenting the latest status and scientific papers into horticultural crop production and some cross cutting issues to an audience of more than 200 delegates from around the country. The theme of the seminar was “Development of Horticulture in Federal Nepal: Opportunities and Challenges”. The seminar was jointly organized by Nepal Horticulture Society; National Centre for Potato, Vegetable and Spice Crops Development, Khumaltar and National Centre for Fruit Development, Kirtipur.

This proceeding has three thematic papers and thirteen scientific papers of different spheres of horticulture covering fruits, vegetables, spices, plantation crops, flowers and two cross-cutting papers along with one comprehensive abstract of researches at Institute of Agriculture and Animal Science, Nepal. We hope the information and findings presented herein are of great value for the researcher, students, extension workers and private entrepreneurs.

The authenticity of the papers and the opinion expressed herein are of respective author(s). The editorial board has simply made uniformity in format, correction of typological errors and rephrasing of sentences in very few cases. The editorial board thanks all those who have assisted during the compilation of abstracts of the seminar and editing the proceedings to brings the publication in this form. Nepal horticulture society and the institutions supporting proceedings publication are highly acknowledged.

Yours Sincerely,

Editorial

Dr. Kishor Chandra Dahal (Editor-in-chief)

Prof. Dr. Arjun Kumar Shrestha

Prof. Dr. Kalyani Mishra

Dr. Tul Bahadur Pun

Chutraj Gurung

Dr. Umesh Acharya (Member secretary)