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EDITORIAL

History of annual publication of the Survey Department “Nepalese Journal of Geo-informatics” goes back to 2058 BS (2002 AD) since which, it has been an important asset of the Department and playing a remarkable role in sharing information on Surveying and Mapping, Geo-information and professional knowledge, skills & expertise in this field. In continuation of the effort, Survey Department is publishing 19th issue of “Journal on Geo-informatics, Nepal”. Upto the 18th issue the Journal was published with the title "Nepalese Journal on Geo-informatics" & from this issue we have changed title as stated above.

In last eighteen issues more than 100 articles in different aspects and views of Surveying, Mapping and Geo-information science and its applications in different field have been published. I would like to express sincere thanks to all those incredible authors for their contributions and members of Advisory Councils and Editorial Boards of all those issues of the journal for their persistent efforts to publish the journal.

This 19th issue of the journal contains a wide variety of interesting and worth reading articles on different topics. The papers include "Application of Geo-information Technology in Nepal “During and Post” COVID-19", "Improving Aboveground Carbon Stock Mapping using LIDAR and Optical Remote Sensing Data in Mountain of Nepal", "Application of Hydrodynamic (HEC–RAS) Model for Extreme Flood Analysis in Far-West Province: A Case Study of Chamelia River Basin, Darchula District, Nepal", " Spectral Analysis of Worldview-2 Imagery in Detecting Invasive Plant Species (Mistletoe) in Scots Pine Forest", " Evolution of Unmanned Aerial Vehicles in Nepal".

I feel gratified that the Survey Department entrusted me and gave me the responsibility of the Editor-in-Chief for this 19th issue of the journal. With due advice and suggestions of Advisory Council, we, the members of Editorial Board have been able to bring forth this issue of the journal. On behalf of all the members of the Editorial Board, I would like to express sincere thanks to all contributing authors, members of Advisory Council and all others who have contributed for the publication of this issue of the journal.

Before I stop, on behalf of the Editorial Board, let me humbly request all of you to contribute your valuable thoughts, articles, research papers, success story for the upcoming issue of this journal.

Karuna K. C.
Editor-in Chief,
Ashad, 2077 (June 2020)

मा. पद्माकुमारी अर्याल
मन्त्री

भूमि व्यवस्था, सहकारी तथा गरिबी निवारण मन्त्रालय



सिंहदरवार, काठमाडौं ।

प.सं. : २०७६/०७७

च.नं. : १५७

Message from the Minister

Survey Department, the National Mapping Agency of Government has passed 63 years of its establishment. Initial activities of the Department was focused to support land reform program of the government and with change in time and technology, it has enhanced its capacity in line with the development in the technologies. The Department has the history of working from every house of the citizens for cadastral surveying and also the lowest altitude of the country “Kechana” to the highest peak of the world “Sagarmatha” and today I am happy with the publication of 19th issues of the Department’s annual publication “Journal on Geo-informatics, Nepal” which is supporting in sharing information and research output in the field of Surveying and Mapping. The regular publication of this kind of enlightening production of the Department is commendable.

Survey Department is conducting remarkable activities in geographical information production and sharing, geodetic survey, landuse mapping, topographical base map update, LiDAR survey, technical activities in international boundary, cadastral survey and much more. I understand, Department is adopting advanced technologies in surveying and mapping field to provide efficient service delivery to the citizens.

Recently, Government of Nepal published updated “Map of Nepal (Political and Administrative)” 2077 in Survey Department did all the technical task to come to this stage of map publication. We received support from Mapping Committee (Technical Sub-committee), Mapping committee and also other committee of the parliament to publish this map. The map has been prepared based on historical documents and evidences. I would like to thank entire team of Survey Department to produce this product in very short span of time, before expected. This journal also includes detail about the history of the map of Nepal and process of preparation of this map.

I believe, this kind of publication definitely support in information sharing regarding all those surveying and mapping activities and hope for contribution from researchers, academicians, professionals and any other interested organization regarding articles on geo-information, surveying and mapping for the future issues as well. This will be a platform for sharing your research output, information on activities to the interested community.

Once again, I would like to thank and congratulate entire team of Survey Department for success in publication of “Map of Nepal (Political and Administrative)”, 2077 inacted on Jestha 5th 2077 at the end of 63rd year of its establishment and wish for the continuous publication of this annual publication.

Padma Kumari Aryal
Minister,
Ministry of Land Management, Cooperatives and Poverty Alleviation
Government of Nepal



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(.....)

Message from the Secretary

Department of Survey/GoN has been publishing a journal on different aspects of Geo-informatics annually and would like to congratulate for publishing its 19th issue. I feel privileged to keep few words on this annual publication of the Department. I felt happy to see this kind of activities conducted by one of the technical Department of the Ministry. I understand that, publication of this kind of journal will definitely support in knowledge sharing to the interested community.

In short period of time, I have noticed that the department has achieved a commendable progress in the field of Surveying, Mapping and Geo-information data generation, which contribute to the overall national development. Role of Geo-information is very crucial in planning and execution of infrastructure development activities and this journal definitely share information on development of different geo-information and developments in this field.

I feel equally proud to see that the Department has conducted the measurement of height of Sagarmatha (Mt. Everest) and is determined to publish result in the stipulated time frame. Besides that, Department is also conducting different surveying and mapping activities like updating topographical base maps, boundary survey in Nepal-India boundary, land administration services, land use mapping and LiDAR survey. I am very much impressed by the achievement made by Department in this regard. I do believe that the department will further progress in the developments of Surveying and Mapping technology and enhance the service delivery in different aspects. I would like to assure full support from the Ministry to the Department's undertakings in the capacity of Secretary of the Ministry.

Furthermore, I strongly recommend all professionals in the field of Surveying, Mapping and Geo-information to gain benefits from the articles of the journal and also request all the professionals to contribute and share experience in the next issue of the journal.

I would like to appreciate the efforts of Advisory Council and Editorial Board of this journal to bring out the 19th issue of " Journal on Geo-informatics Nepal " and wish every success for the continuation of this publication in future as well.

Thank you and enjoy reading.

Kedar Neupane
Secretary
Ministry of Land Management, Cooperatives and Poverty Alleviation
Government of Nepal

FOREWORDS



Survey Department has come with the 19th issues of its annual publication at this stage of sixty-three years of establishment of the Department. I would like to congratulate entire staffs of the department and personnel who have contributed for the betterment of the Department. I am delighted to put few words in this issue of the journal.

To mention the major activities of the Department, it is continuously contributing in Land Administration services through its district level offices to the citizens, providing technical support in international boundary management, generating geo-information services, geodetic control strengthening and other surveying & mapping activities for building geospatial database. As a National Mapping Organization of Nepal, the Department is continuously contributing in the sector of Surveying, Mapping, Geo-information Science and Earth Observation, which are very much crucial for the planned development of the country.

Department has completed the Sagarmatha height measurement program which has heightened the pride of the Department and the nation. Department is conducting field work for LiDAR survey program even in this difficult situation of COVID-19 is setting up milestone in development of high resolution Digital Elevation Model for the first time in Nepal and also shows the dedication of the Department in contributing to the Surveying & Mapping sector even in this harsh condition. Along with this, Department is also conducting landuse mapping, updating of topographical base map, geoportal, geodetic network, CORS & digital database strengthening are other activities worthy to mention besides other several regular program of Survey Department.

Recently, Survey Department succeeded in publication of updated map of Nepal in very short span of time after the decision of the Government to publish the map with updated international boundary. The map has been prepared on the base of historical documents and evidences. New technologies were adopted to define the boundary on the base of historical evidences. Members of Technical Sub-committee and member secretary of Mapping committee analyzed the maps critically and provided constructive suggestions to finalize the map. We have received remarkable support from the Mapping Committee with constructive suggestions and recommendation to the Government of Nepal for publication of this map. At this stage, I would like to thank the entire technical team of Survey Department in preparing and publishing this “Map of Nepal (Political & Administrative)”, 2077. This has proved the capacity of Survey Department. Also, I would like to express my special gratitude to the Secretaries of Ministry of Land Management, Cooperatives and Poverty Alleviation and entire team of Mapping Committee, Technical

Sub-Committee, Minister of Ministry of Land Management, Cooperatives and Poverty alleviation and the Government of Nepal. Details on history of map publication of Nepal to this present stage and procedure of present update map is explained one of the paper in this issue, which I hope, will answer many questions of interested readers.

In the capacity of the Director General of Survey Department, I have been trying to invest all my energy in the endeavors aimed at strengthening the Department, its staff and the profession as a whole and my entire staff of the Department from their respective positions, have been together with me in every efforts taken to enhance the image of the Department. I am confident that we will achieve success in showing the tangible results if we continue our efforts sincerely in the days to come with this team work and coordination. Thanks to all the colleagues.

Finally, let me express my sincere appreciation to the fellow colleagues, the members of Advisory Council, and Deputy Director General & Chief Editor of the journal Ms Karuna K.C, entire team of the Editorial Board and specially Chief Survey Officer Mr. Susheel Dangol for their invaluable contribution in this issue. The team deserves special thanks for their tireless efforts in bringing this issue in the stipulated time. More importantly, I extend sincere gratitude to all the authors for their resourceful professional contribution. I would like to request for such kind of support and professional contribution in the upcoming issues too. At the same time, I encourage fellow colleagues from the Department to contribute to the journal by providing quality articles. Special thanks, also, goes to the contributors of the journal for their trust, patience and timely revisions.

I am confident that this journal is proficient not only to the surveying and mapping professionals, but also to other scientific community and researchers as well.

Enjoy Reading!
Thank you!

Prakash Joshi
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