



Agri-Connection

Quarterly Newsletter

Vol. 5, Issue 2 & 3, September 2020

समस्त दिदीबहिनीहरुलाई महान तीज पर्व २०७७ को
हार्दिक मङ्गलमय शुभकामना!

आपसी रेखदेख र मायाममताको महान सांस्कृतिक परम्परा सदा अटल रहिरहोस् !

Happy Teej 2077 B.S.!

May the noble cultural legacy of caring & sharing
love each other continue eternally!

Association of Nepalese Agricultural Professionals of
Americas (NAPA)

website: www.napaamericas.org

<https://www.facebook.com/napa2072/>

President's Desk



Dear members and NAPA global friends, I would like to begin by saying it is an extreme honor to serve this extraordinary organization, *Association of Nepalese Agricultural Professionals of Americas* (NAPA), as its President. While I am truly grateful to NAPA members for your trust in my leadership, I humbly request your continuous counsel, innova-

tive ideas, active participation, and honest dialogue to continue to move this organization forward. As I begin my presidential tenure, I must first congratulate the Working Committee that established NAPA in 2016 and the previous two executive committees (EC) (2016-2018 and 2018-2020) for their vision and shepherding of this new organization to the heights we witness today. As current President, I am indebted to our organization's Founding President, Dr. Lila B. Karki, for his leadership, perseverance, and unyielding commitment to NAPA for its establishment, program direction, necessary network, and strong membership foundation. I had the honor of working on Dr. Karki's team since NAPA's formative days, serving as Coordinator of NAPA's First General Assembly in Dallas, Texas, which ratified NAPA bylaws, and as Vice President for the first two consecutive terms. Therefore, I am acutely aware of the vision of the organization, capability and resources, expectations of its membership, and prospective deliverables.

I strongly believe that each of us joined NAPA out of a genuine desire to utilize our collective talents and serve the greater goal of achieving food security through agricultural transformation in Nepal. **It is the conviction of expatriate Nepalese agricultural professionals in their ability (and willingness) to bring the vast agricultural expertise under the NAPA umbrella and provide its collective expertise to our members and stakeholders.** Our current members, and the large population of agricultural and allied professionals who we expect to join NAPA and share their untapped expertise to achieve our goal, must take great pride in the founding of NAPA and its vision. NAPA has actively participated in professional, scientific, and social dialogues with relevant stakeholders to develop strategies toward addressing NAPA's stated goals

and has already made significant advances in many areas. In the last nearly five years, NAPA advanced from a simple thought of establishing a possible agricultural society to a 400-member strong international organization with a robust online Newsletter, impactful webinar sessions, informative Policy Briefs, a refereed international journal, a seminal book on food security, sponsored scholarships and research mini-grants at major agricultural institutions, various charity functions, and biennial scientific conferences.

It is no surprise that Agri-Connection has effectively served as our organizational mouthpiece since its inception, and we continue to make timely communication with membership our top priority. Numerous historical achievements of NAPA have already been communicated to our members, stakeholders, and beyond through the past 15 issues of *Agri-Connection*, but a few recent NAPA activities and success stories have exemplified NAPA's rich historic milestones. NAPA conducted its third EC election during the Covid-19 pandemic to ensure that the succession of EC tenure strictly followed its bylaws, clearly highlighting the professionalism of this young organization. We have also successfully published the second volume (online) of the NAPA refereed journal *Global Journal of Agricultural and Allied Sciences* (GJAAS) early this month, following the publication of its inaugural volume in December 2019 by the previous EC. It was indeed a celebratory milestone for a 4-year old organization to get a refereed journal established and published two volumes. Another historic achievement of NAPA has been the publication of a seminal book on food security entitled **'Principles and Practices of Food Security: Sustainable, Sufficient and Safe Food for Healthy Living in Nepal'** which was virtually launched on August 1, 2020 (see p. 7 for more details). Upon invitation by Non-Resident Nepali Association (NRNA) National Coordination Council, NAPA organized the ***Agriculture Transformation for Food Security*** symposium at NRNA Knowledge Convention on July 4, 2020. Also, following its first presentation about food security at the Global Knowledge Convention in 2018 in Nepal, NAPA will also be presenting its vision and program activities at Global Knowledge Convention in Nepal in October 2020. We anticipate these types of activities will continue to help bring NAPA into global prominence as a leading professional organization for championing agriculture and food security issues.

President's Desk

It is with enormous pride that I report the completion of the first phase of research mini-grant (RMG) program. This program began in 2018 and funded 17 collaborative research projects under Agriculture and Forestry University (8), Tribhuvan University (3), Kathmandu University (1), and College of Live Sciences (5) in Nepal. Researchers presented their final research report virtually at a 2-day RMG Project Conference. NAPA and all RMG sponsors should be very proud of the outcome of this program. We are highly encouraged by the enormous success of this program; therefore, we have decided to plan for the second RMG cycle later this year. I gratefully acknowledge the dedicated service of the erstwhile Resource and Capacity Building Committee (RCBC) for setting the bar quite high for future such projects while the current EC commits to the new RCBC team unyielding support to launch the second RMG cycle. I also request all of you for your continued support and sponsorship for the continuation of RMG efforts.

Other notable activities during this quarter include an invited webinar presentation by Secretary of Agriculture and Livestock Development, Mr. Rajendra Bhari, on July 26; the second webinar is scheduled for September 06 by Dr. Bed Khatiwada of Brisbane, Australia. NAPA also conducted a 5-day (July 19-23) Joint Symposium and Workshop on *Applied Bioinformatics in Agriculture and Medicine* with Agriculture and Forestry University in Rampur, Chitwan. We have also expanded our distance teaching and mentoring program in Nepal. In addition, we conducted an interaction program with academic administrators of major agricultural institutions in Nepal to identify areas of collaboration in research, teaching, and outreach. NAPA plans to assess the need areas and NAPA's resource capability to respond to those needs and forge the collaboration with those institutions accordingly.

I am very proud of the new EC team and the cooperation from the entire membership during our leadership transition. We hope to make this transition as smooth as possible without disruption of our regular programs and activities. We have nearly completed the installation of various committees, but we continue to invite members to express their interests in serving NAPA; we are always in need for volunteers to carry out our diverse program activities. Our flagship programs, including GJAAS, RMG, scientific

webinars, distance teaching, and advocacy for agricultural transformation through symposia, workshops, and conferences will continue with utmost diligence, but the parameters that will determine the program effectiveness include quality, deliverables, and impact.

It is clearly an exciting time for NAPA as we witness its growth and transformation from a newly founded initiative to a vibrant professional society and its impact reaching all intended stakeholders. The current pandemic has forced us to do certain things differently than we had ever imagined, but we have adapted admirably to the situation presented to us. Our Second Biennial Conference in Atlanta in late May was postponed due to the pandemic, and it does not appear that an onsite conference is feasible anytime soon. Therefore, we have decided to bring the much-awaited conference to you via the web-conferencing tool, Zoom. Conference Organizing Committee, led by Dr. Lila Karki, has accepted our request to conduct this conference virtually during September 25-28. Conference planning is underway, and we request you all stay tuned for further announcements. I urge you all to please plan on supporting and attending this important conference.

In closing, I thank the members of the current EC team and all committee members and chairs who have volunteered to serve NAPA alongside me. It is a major commitment of time and other resources to serve this organization, but I hope that the service is a rewarding and fulfilling experience. My service philosophy is based on the idea of servant leadership – leaders are servant to the stakeholders – and on the idea of being goal-driven. The Executive Committee is effective only when membership is active and engaging. Therefore, I urge all of you to connect, advocate, engage, and contribute to continue to move NAPA forward. Finally, many thanks to the Agri-Connection editorial team for your hard work to reach out to our valued members in a timely manner. Thank you all and stay safe!

Megha N. Parajulee, PhD

Editorial

Namaskar! I feel immensely gratified to pass the torch on to the new Editor-in-Chief Dr. Sushil Thapa for carrying on the publication of this well-relished Newsletter. It has been great pleasure to work with enthusiastic, intellectual and courteous colleagues Sanjok Poudel and Shailes Bhattarai throughout, Drs. Ananta Acharya and Mukti Ghimire in the early half and Drs. Sushil Thapa and Romy Das Karna in the later half of my tenure since June 2018. Over the two-year term, we are successfully bringing out ninth issue of the newsletter. I extend my sincere thanks to the members of the past and outgoing editorial members of the Agri-Connection.



Past President Dr. Lila B. Karki, current President Dr. Megha N. Parajulee, and Vice President Dr. Pradeep Wagle have been constant source of inspiration, encouragement and support, without which it would not be possible to realize this achievement.

This issue features snapshots of outgoing and new Officers and Members of the Executive Committee. As in the past issues, we are proud to feature the Member of the Quarter, who distinguish themselves with their significant contribution to NAPA. Among numerous updates and news about NAPA activities, we are pleased to present three informative articles related to COVID-19 and agricultural resource management. I trust that this issue of the newsletter will be well received by the audiences as before. **Happy Teej, 2077 B.S.!**

Nityananda Khanal, PhD, PAg

Editorial Board

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For past issues of Agri-Connection, please visit the link below:

<http://napaamericas.org/agri-connection.php>

NAPA 2nd Biennial Conference to be Held Virtually

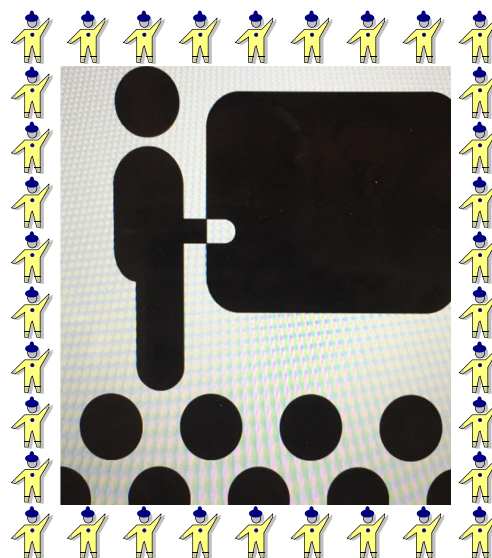
When: September 25-28, 2020

Where: Virtual/Online

The 2nd Biennial International Scientific Conference of the Association of Nepalese Agricultural Professionals of Americas (NAPA), previously planned for May 22-24, 2020 in Atlanta, Georgia, USA, was postponed due to the COVID-19 pandemic. On July 19, the NAPA Executive Committee decided to conduct this conference in virtual format in September 2020. Subsequently, NAPA Executive Committee decided to organize the virtual conference through Zoom from September 25 to 28.

The conference highlights:

- ◆ Keynote presentations
- ◆ Professional oral and poster presentations
- ◆ Competitive student oral, poster, and rapid fire presentations
- ◆ Student essay writing contest
- ◆ Agri-poem recitations
- ◆ Roundtable discussions
- ◆ Cultural and social events



Registration link:

http://www.napaamericas.org/conference2020/napa2020_registration.php

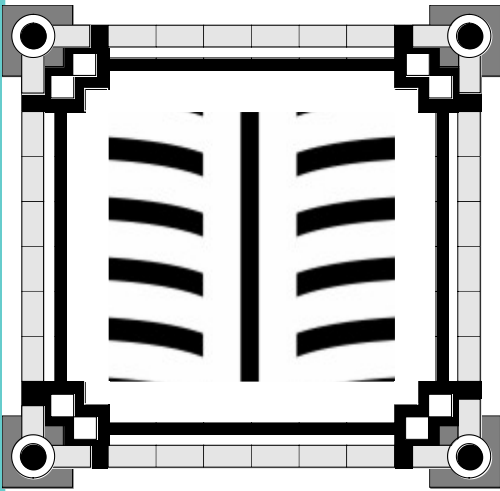
Program details for each day and other pertinent information will follow soon.

It is time to prepare your presentation slides!

Conference Chair: Lila B. Karki, PhD
Conference Secretary: Santosh Dhakal, PhD

Virtual Poetry to be Held Conjointly with NAPA 2nd Biennial Conference

कृषि कविता प्रतियोगिता सम्बन्धि सूचना!



मे २२ - २४, २०२० मा Atlanta, Georgia मा तय गरिएको नापाको द्विबार्षिक बैज्ञानिक अधिवेशन कोरोना (कोभिड-१९) को कारणले संभव नभएकोले यहि सेप्टेम्बरको २५-२८, २०२० मा भर्चुअल (Virtual/Online) प्रारूपमा गरिने भएको छ । उक्त अधिवेशनको शिलशिलामा संचालन गरिने कृषि-कविता गोष्ठीमा सहभागी हुन सम्पूर्ण साहित्य प्रेमी कबि-कवयत्रीहरुलाई हार्दिक अनुरोध गर्दछौं । इच्छुक सर्जकज्यूहरुले आफ्नो मौलिक कृषि कविता प्रतियोगी वा अप्रतियोगी श्रेणी निर्दिष्ट गरी यहि अगष्ट ३१, २०२० सम्ममा तलको ठेगानामा पठाउनु हुन अनुरोध छ ।

प्रतियोगिताका नियमहरु:

- १ कविता कृषि तथा सम्बद्ध बिषयसंग आधारित हुनुपर्नेछ ।
- २ कविता शुद्ध नेपाली भाषामा २०० शब्दमा नबढाई लेखिएको हुनुपर्नेछ ।
- ३ प्रतियोगिताको दिनमा श्रष्टा आफैले कविता बाचन गर्नु पर्नेछ ।
- ४ तीन सदस्यीय निर्णायक समितिले कविताको मुल्यांकन गर्नेछ ।
- ५ उत्कृष्ट प्रथम, द्वितीय र तृतीय तीन कवितालाई क्रमश \$२००, \$१५० र \$१०० पुरस्कार तथा प्रमाणपत्रले सम्मान गरिनेछ ।
- ६ कविता आगामी अगष्ट ३१, २०२० भित्र निम्न ठेगानामा पठाउनु पर्नेछ:

कबिता पठाउने ठेगाना:

Napaconference2020@gmail.com

Ambikaadhikari100@gmail.com

अम्बिका तिवारी, संयोजक - कविता गोष्ठी

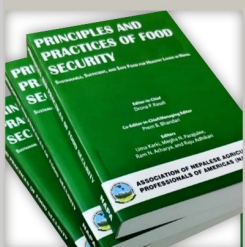
NAPA 2nd Biennial Virtual Conference

NAPA Launches a Book on Food Security

NAPA PRESENTS

AUGUST 1ST

AT 10 -11AM EST



BOOK LAUNCH & PRESENTATION

PRINCIPLES AND PRACTICES OF FOOD SECURITY

SUSTAINABLE, SUFFICIENT, AND SAFE FOOD FOR HEALTHY LIVING IN NEPAL

NAPA has published its book “Principles and Practices of Food Security: Sustainable, Sufficient and Safe Food for Healthy Living in Nepal. NAPA held the book launching ceremony virtually on August 1, 2020. The book aims to compile and consolidate knowledge from wide-ranging information sources of diverse fields closely related to food security in terms of securing sustainable production and access to food, and sufficiently available and safely prepared food for the healthy living of the people. The book comprises 18 chapters encompassing (i) the general issues, socio-economic politics and



scan for ZOOM meeting

USA Time: August 1, 2020 (Saturday) 10:00 AM EST

Nepal Time: August 1, 2020 (Saturday) 7:45 PM

Zoom 856 6175 6391

Facebook LIVE www.facebook.com/napa2072



policies of food security in Nepal; (ii) agricultural production and improved technologies of food security; (iii) emerging topical issues, namely, food safety regulations, healthy eating approaches for adoption and climate change impacts; and (iv) promising innovative technologies. This book is available online (e-copy) and stores (hard copy).

Please contact NAPA at napa2072@gmail.com to order books or for book related questions.

NAPA Hosts 18th Webinar

NAPA held its 18th Webinar Session with Mr. Rajendra Bhari, Secretary, Ministry of Agriculture and Livestock Development, Government of Nepal. Mr. Bhari discussed topics ranging from agricultural production (arable land, population, crops, fruits, vegetables, livestock), ongoing programs and projects, investment in agriculture, Agricultural Development Strategy, coordination between federal, provincial and local governments for agricultural service delivery, agricultural policy and strategy, among others. More than 100 people viewed the presentation that was live streamed in Zoom and Facebook. The Webinar was chaired by NAPA Webinar Committee Chair Dr. Khusi Ram Tiwari. NAPA President Dr. Megha N. Parajulee welcomed the speaker and participants and NAPA Vice President Wagle delivered a closing remark.



NAPA Webinar Session

We invite you to join a talk session hosted by the Association of Nepalese Agricultural Professionals of Americas (NAPA)

Agriculture Sector in Nepal: Policies, Priorities, and Issues



Mr. Rajendra Prasad Bhari
Secretary
Ministry of Agriculture and Livestock Development, Government of Nepal

USA Time: July 26, 2020 (Sunday) 8:00 PM CST
Nepal Time: July 27, 2020 (Monday) 6:45 AM

Zoom 826 3002 2526
Facebook LIVE www.facebook.com/napa2072

Scan for ZOOM meeting

July 26, 2020 @ 8 PM CST **NAPA Webinar Session: 18**

NAPA Convenes a Mini-grant Virtual Conference

A 2-day virtual conference was hosted by Research and Capacity Building Committee (RCBC) of NAPA to share the research findings and celebrate the completion of first NAPA sponsored research mini-grant projects funded in 2019-2020. The theme of the mini-grant projects conference was **Agricultural Research Advancement Through Collaboration**. The conference included keynote address from RCBC chair Dr. Buddhi Lamsal and NAPA president Dr. Megha N. Parajulee, 15 presentations from grant recipients, plenary discussion sessions each day, and remarks from representative research advisors. Conference organized in Zoom platform was livestreamed in YouTube and Facebook and was well received by hundreds of viewers in each day. Grant recipients who presented their research findings during technical sessions represented Agricultural and Forestry University, Tribhuvan University, Kathmandu University, and Midwest Academy and Research Institute in Nepal.

The presenters in the first day session were Barsha Bastola, Iebu Devkota, Manish Gautam, Suruchi Sharma, Ritesh Jha, Bipin Neupane, and Shirisa Acharya. Similarly in the second day session, Rupak Karn, Arati Joshi, Barsha Sharma, Susmita Sigdel, Madan Subedi, Sabina Paudel, Shristi Upadhyaya, and Bisnu Pandey delivered their presentations. NAPA President Dr. Parajulee moderated the first-day session, while Dr. Aditya Khanal took notes of it. Dr. Nityananda Khanal, as a representative of advisors to the researchers, gave a vote of thanks to the participants and organizers. NAPA President Dr. Parajulee delivered closing remarks. Similarly, second day session was moderated by Dr. Buddhi Lamsal, while Dr. Ramjee Ghimire took notes of the relevant discussions and Q & A. Dr. Bishnu Bilash Adhikari gave remarks on behalf of the local advisors in Nepal. Then followed the remark by NAPA immediate past President Dr. Lila Karki and closing remarks by Dr. Buddhi Lamsal.



The mini-grant project studies attempted to understand or address issues pertaining to crops and dairy production, and marketing sectors. The study approach varied from socioeconomic surveys to experiments in controlled-environment & field. Two socio-economic studies investigated production and marketing systems of dairy and ginger, respectively. The experimental studies covered the aspects of germplasm/cultivar evaluation, crop establishment, nutrient management, plant growth regulation, weed management, and pest biology and manage-

ment on various field crops and horticultural crops including rice, maize, tomato, cauliflower, bottle gourd, cowpea and *Colocasia*. One study investigated nutritive value of soybean and soya-foods. Diversity of study area, methods and findings made the mini-grant sessions interesting and informative.

Dr. Megha N. Parajulee appreciated and congratulated RCBC Committee for effective implementation of RMG and organizing the excellent final review conference. He also congratulated presenters for excellent undertaking of research projects and wonderful deliberations in the conference. Delivering his concluding remarks, Dr. Lila Karki, NAPA's Immediate Past President, who is also credited for conceiving and starting the RMG, remembered and thanked all the generous donors whose contribution made this RMG possible.

RCBC Committee has started collecting and compiling brief write-ups from all the presenters, which will be published in the form of a proceedings. NAPA RCBC team led by Dr. Buddhi Lamsal and supported by Dr. Ramjee Ghimire, Dr. Manoj Karkee, Dr. Aditya Khanal, Dr. Lila Khatiwada and Dr. Surendra KC deserve a huge appreciation for successfully implementing these research projects and hosting the praiseworthy review conference. Readers may contact naparcbc2019@gmail.com or napa2072@gmail.com for any question they may have about these and upcoming NAPA-sponsored research projects.

NAPA Acknowledges the Research Mini-grant Donors and Sponsors

Established in 2018, Research Mini-Grant (RMG) is one of the NAPA flagship programs. NAPA Executive Committee in consultation with and as per the recommendation of Resource and Capacity Building Committee (RCBC) administers this fund. In its very first initiation in 2019, the RMG was devoted to support 15 research proposals from Nepal, which were selected through competitive blind review. Successful accomplishment of projects and deliberation of the final research results during the review conference held on July 11-12, 2020 bear the testimony that the RMG can be an effective vehicle to render our services to the motherland. The grant benefitted some emerging researchers in Nepal while opening opportunities for new models of collaboration between the Nepalese diaspora and research and educational institutions in Nepal.

RMG became possible because of many proactive and generous donors and sponsors who contributed to the mini-grant pool money for collaborative research in Nepal. The generous contributors of 2019 RMG that enabled us to serve the community back in the motherland and beyond are mentioned in the Table.

Aspired to increase the RMG pool fund and thereby supporting projects in wider topical and geographical areas in the future, NAPA appeals to all generous members and well-wishers to donate for this noble cause. Please contact NAPA at napa2072@gmail.com for RMG related questions including donation and sponsorship.

Table 1: Donors and sponsors of NAPA Mini-grant , 2019.

SN	Contributors	Amount (US\$)
1	Dr. Lila B. Karki & Dr. Uma Karki	400
2	Dr. Megha N. Parajulee & Mrs. Sharmila Parajulee	300
3	Dr. Prem B. Bhandari & Mrs. Usha Bhandari	300
4	Dr. Pradeep Wagle & Dr. Monika Ghimire	300
5	Dr. Budhi Prasad Lamsal & Mrs. Anju Nepal Lamsal	150
6	Dr. Khusi Ram Tiwari & Mrs. Ambika Tiwari	50
7	Dr. Nityananda Khanal	55
8	Dr. Ramesh C. Khanal	100
9	Dr. Tilak B. Shrestha	50
10	Ms. Kemika Bhandari	105
11	Mr. Kiran Ojha	86
12	Dr. Manoj Karkee	100
13	Dr. Aditya R. Khanal	50
14	Dr. Ram Acharya	100
15	Dr. Thakur B. Karki	50
16	Dr. Lekha Nath Paudel	50
17	Dr. Rajan Ghimire	100
18	Dr. Ananta Acharya	100
19	Dr. Ramjee Ghimire	50
20	Dr. Lila K. Khatiwada	75
21	Dr. Bharat Pokharel	100
22	Dr. Nilhari Neupane	86
23	Dr. Romy Das Karna	15
24	Dr. Prakash Malla	100
25	Dr. Bhawani Mishra	50
26	Dr. Toya Baral	50
27	Dr. Buddhi Gyawali	51
28	Mr. Bikash Poudel	10
29	Mr. Sanjok Poudel	20
30	Dr. Gandhi Bhattarai	100
	Total	3153

Awardees' Evaluation of NAPA Research Mini-grant

Ramjee Ghimire, Aditya R. Khanal, Pradeep Wagle, Megha N. Parajulee
Correspondence: ramghi@gmail.com

In 2019, the Resource and Capacity Building Committee (RCBC) of the Association of Nepalese Agricultural Professionals of Americas (NAPA) established a competitive Research Mini-Grant (RMG) program to support small-scale high-impact research initiatives in different disciplines of Agriculture and Allied Sciences. The first cycle of funding and execution of the RMGs has recently been concluded. This report provides an overview and the trajectory of the RMG implementation modality. Additionally, we include awardees' evaluation and feedback to the RMG process and advising.

In response to the first request for proposal (RFP) on March 2019, RCBC received 35 research proposals from 23 undergraduate, 7 master's and 3 doctoral students, and 2 university faculty from Nepal. Affiliated institutions of the applicants included Agriculture and Forestry University (n=17), Tribhuvan University (n=13), Kathmandu University (n=2), and Dang Campus (n=3). The proposals covered a range of research questions related to social, economic, and biological aspects on different disciplines of Agriculture and Allied Sciences. The review process led by RCBC recommended 15 proposals for funding based on two rounds of rigorous reviews.

NAPA provided awardees with grants ranging from NRs. 10,000 to 30,000 based on the nature of study, deliverables, and estimated costs. The following figure shows milestones of RMG program. The first half of the support was provided during the contract signing event on May 27, 2019. The second half was provided after submission and presentation of mid-term report and progress review in No-



vember 2019. NAPA organized the final review and conference presentations of RMG during July 11-12, 2020. All fifteen awardees presented excellently in this 2-day virtual review conference, well accepted by over 100 attendees and viewers.

One week after the final review conference, NAPA solicited awardees' feedback, specifically to the implementation modality of RMG and the experience related to NAPA advisor roles during research process. A short survey comprising six questions (a mix of close and open ended) created in Google Form was sent to all the researchers involved in the research projects. In addition to initial message requesting to fill out the survey, two reminders were sent in a span of a week to non-respondents. Survey questionnaire included information assuring the confidentiality of the response and anonymity of the responders. We received seventeen responses—including two researchers responding to multiple (more than one) research projects based on their involvement.

Evaluation of NAPA Research Mini-Grant

Responses to close-ended questions are summarized in Table 1. Fourteen (82%) of 17 responses reported that the NAPA advisors responded when they were contacted for advising. Similar number of respondents (14 out of 17) reported that their NAPA advisors initiated the contact. From the results of the responses to the third and the fourth questions in Table 1, an outlier (with value “contacted 100 times”) has been excluded from the analysis. On an average, awardees and their NAPA advisors had contacted each other eight times during the research, in which the former initiated the communication five times. The awardees indicated the NAPA advisor’s mentoring was effective overall (Table 1, response to 5th question) while some researchers provided suggestions for some improvement.

Table 1. Summary of survey results.

Question	N	Yes	No
Did your NAPA advisor respond to you when you sought his/her help?	17	14	3
Did your NAPA advisor initiate any contact with you to help you about your research?	17	14	3
	N	Mean	SD
How many times did you contact your NAPA advisor during your research?	16	8.3	6.0
If YES, how many times did your advisor initiate such contact?	11	4.8	3.7
Overall, how effective (on a scale of 1 to 5 with 1 = least effective, 5 = most effective) was your NAPA advisor’s advising?	17	4.2	1.3

Four open-ended questions were mainly aimed at seeking feedback and suggestions

related to advisors’ helpfulness and NAPA RMG’s advising modality. The responses are summarized below:

NAPA Advisor’s Helpfulness: Eight respondents reported that they received most help from NAPA advisors for report writing and review (n=8) followed by preparing presentation for final review (n=7), article/manuscript writing (n=4), and field research (n=4). Two respondents indicated advising being helpful for tracking and preparing mid-term progress and reports (n=2), and data analysis (n=2), respectively. The survey received remarks (at least one) indicating following helpfulness as quoted *“from the research topic selection to setting the objectives, being more accurate and precise and in maintaining the quality of the entire research”, “fund and its [sic.] coordination”, “Literature”, “...changing the treatments”, and “understanding soy food and its ingredients analysis as well as bioactivity analysis.”* One the other hand, a negative review from one respondent showed not so good advising experience from allocated advisor, quoting *“[the advisor] only replied my first e-mail and did not hear from [the advisor] further.”*

Based on the response regarding least help areas, we found that the advisee obtained least advice from NAPA advisors on field work or monitoring (n=3), data analysis (n=2), research design (n=1), and reviewing the report (n=1). However, for the rest and overall, advisees appreciated the advising from their advisors, as following verbatims show:

- *“He helped us out whenever needed. I do not remember any least helped moment.”*
- *“He was available when we need [ed]. There was a poor interaction between us and sir. It took time to get familiar. We*

Evaluation of NAPA Research Mini-Grant

used to have problems, but we used to hesitate for asking help. It was during initial stage of research like performing layout and different practices. More ... interaction could [sic.] be helpful to receive [sic.] advisor's advice and for us to ask."

- *"I do not get any least point from him as anytime I sought the help; he was always there for me."*
- *"Sorry, I do not know. Helping is the most important thing, either it is more helpful or least helpful. He helped us and that is important. I cannot find which was least helpful."*
- *"There are no such things in which I felt his absence except his physical presence. If he could advise us by physically visualizing our field, it would be more effective."*

One respondent reported his/her frustration of not receiving any help from the NAPA advisor as:

- *"I did not receive any help or suggestions from [the advisor] at all. I mailed [the advisor] during early stage of my research and since then [the advisor] did not initiate any contact with me. In fact the last mail I sent to [the advisor] is still not replied. So I would say I got no help from the NAPA advisor at all."*

Suggestions for Improving Advising: As shown in the following verbatims, regular and/or increase in communication between advisors and researchers (n=7) is reported to be most critical factor for effective advising.

- *"A weekly or regular communication" (n=2).*
- *"Few more online meetings than this time."*
- *"I think advisors must have to be in contact with students throughout the ... re-*

search which I got from my advisor and I hope, in the near future every NAPA mini-grant aspirant [sic.], will get such communications from the advisor. We as .. student [s] always need some motivation and fruitful communications with the advisors."

- *"Increasing frequency of communication from early days."*
- *"More number of contacts could be made to make us learn too."*
- *"More often interaction between researchers and advisor[s]. It will make us easy to ask for help."*
- *"NAPA should monitor NAPA advisors as well and ask them to contact the researcher[s]. Since I was never contacted [by][sic.] the advisor from NAPA, for me being in touch and getting suggestion merely would be beneficial."*

Four respondents noted having satisfied with the advising; two each noted the importance of coordination between NAPA and local advisors, and other agencies; and the necessity for field visit and visit to awardee's institution. The following verbatims are self-explanatory.

- *"No suggestions. My advisor helped me in all sorts of way."*
- *"From my personal experience, it was more than effective."*
- *"Giving feedback on the advising from NAPA advisor, I have no further recommendations"*
- *"As my adviser gave his best which simplified our research journey."*
- *"My advisor responded very nicely. He gave good suggestions and guided throughout. No complaints."*
- *"Good coordination between local and NAPA Advisors."*

Evaluation of NAPA Research Mini-Grant

- *“Could have helped with more coordination on every aspect of research.”*
- *“Making appropriate arrangement to visit grantee institution.”*
- *“The advisor must be once brought to the field.”*
- *“Moreover, it could have been better if we were asked to make the short videos of our work so that you could have noticed more mistakes and you could offer [sic.] us better suggestions.”*

Suggestions for Effective RMG Implementation:

The following are the verbatims received from the respondents. It shows that RMG awardees, majority of whom were undergraduate students, need training on research design, data management and data analysis. Respondents also suggested that advisors should visit research plots/fields and provide continuous advising to researchers. Additional suggestions can be found in the verbatims. Please note verbatims having similar connotations are marked with similar colors.

- *“Encouraging the students to do more research in their field. Motivate to use the benefit of new technology during the research. **Helping the students to access them with the materials they need to carry out research.**”*
- *“If possible meeting in person and visiting the research field at least once.”*
- *“As the research proposals are submitted in group and the **co-researchers get less recognition during communication with NAPA members.** So, it would be more effective and encouraging if everyone in the group get equal recognition. In my perception, it would be better if the research which are financially assisted from NAPA would be **published on its own journal.**”*

- *“**Guiding the students during the research period by allocating a committed advisor for each researcher.** Getting the feedback of researchers and helping to solve them as soon as possible. **Organize certain training sessions for research activity, data entry, analysis etc. from which the students can perform quality research.**”*
- *“What if, NAPA Nepal (branch)? ... **make a visit to each grant recipient's research area.** What I found lacking was **the communication within recipients.** NAPA could have managed that.”*
- *“Co-ordination with other research organizations and members working in the same experiment. **Field inspection.** Some of them had failed to conduct research but still managed to present result. **Conduct meetings and seminars with students from Nepal.**”*
- *“**Conducting some training and workshop for the researchers. Facilitating the interaction between researchers and advisor.** NAPA can have direct contact with undergraduate students too.”*
- *“**Direct transfer of first installment to the account of the researcher would be helpful.** Students faced problem in going to the capital city for that.”*
- *“**Firstly, you could also have a better communication whether** he is giving his best supervision or not. Secondly, we should also be asked for **some video clips of the work** and third, the researchers should have provided the better land for carrying out research.”*
- *“I am indebted to NAPA for providing me such a huge opportunity as a NAPA Research Mini-Grant awardee. Thank you NAPA for being grateful to us. From my opinion, 1) First - NAPA must conduct **statistical training for the awardee students**”*

Evaluation of NAPA Research Mini-Grant

which will definitely be a boost for the awardee student to do the research analysis. 2) Second- NAPA Research Mini-Grant awardee must get a chance to know more about the NAPA team and their work not limited to research work only. 3) Third- Students must get at least 15 minutes to present their final research work so that, it will be better to present things, at least that cannot be excluded.”

- “I found it effective as it is.”
- “It helps to carry out **baseline study** to understand the problems and could be useful for **scalfing] up [the] research [findings]. Further it also help[s] increase the collaboration.**”
- “**Making good coordination between student and advisors.** Assessing the impact of research in an area where it was conducted. More frequent reporting of research activity.”
- “**More grant could be provided. Timely information could be sought. Help in the related topics could be provided if researchers asked.**”
- “**Rigorous communication and mentoring. Teaching data analysis and interpretation part. Help in publication.**”
- “The NAPA should make a **mid-term field visit to every field.**”

Conclusions

From the above findings, we can draw the following conclusions and recommendations to improve NAPA RMG moving forward. Over-

all, awardees appreciated NAPA providing RMG to conduct research. Majority of the awardees also expressed appreciation for the advising they received from the NAPA advisors.

- NAPA RCBC should regularly reach out to awardees as well as to both local and NAPA advisors and monitor the research activities throughout the research cycle and even beyond.
- Most awardees, being undergraduate students, may not have knowledge for conducting systematic research. NAPA RCBC could provide awardees with a training on research methodology including research design, implementation, data analysis, result interpretation, and report/journal article writing.
- It seems that RMG awardees did not know much about research ethics. NAPA RCBC should provide orientation to them about research integrity and protection of human subject in research prior to commencing the research projects. Perhaps NAPA can include other interested students, researchers and faculty from Nepal in this orientation.
- We cannot emphasize enough the importance of regular communication between researchers and awardees, and this should be of utmost priority for both advisors and NAPA during the RMG implementation.
- NAPA RCBC could mobilize NAPA Nepal Liaison to monitor field research activities in Nepal.

Your Contribution to NAPA is Tax Deductible

Effective January 6, 2016, Internal Revenue Service of the United States government has determined NAPA as an entity exempt from federal income tax under Internal Revenue Code (IRC) Section 501(c)(3). Now any contributions made to NAPA will be tax deductible under IRC Section 170.

NAPA Holds its Annual General Meeting

NAPA held its fifth Annual General Meeting (AGM) virtually on May 24, 2020. Seventy-three people that included members and advisors attended the meeting. Meeting commenced with a welcome note by President Dr. Lila B. Karki. Dr. Karki thanked all attendees for their unabated participation and support to NAPA activities and initiatives. He then introduced AGM Chair Dr. Nanda P. Joshi and offered him the dais to preside over the meeting. AGM Chair Dr. Joshi welcomed participants and conducted the meeting.

Vice President Dr. Megha N. Parajulee welcomed participants and tabled the NAPA by-laws revision. Realizing that members needed more time to review the revised by-laws, the meeting decided to postpone the by-laws revision agenda for the next AGM.

Dr. Lila B. Karki provided an overview of NAPA's

portfolio of activities and accomplishments for the last two years. A Summary of Achievements is presented in pages 16 - 21.

Dr. Karki recognized several NAPA members with various awards for their contribution to NAPA programs and for their dedication to uphold NAPA's vision, mission, and goals.

Dr. Prakash B. Malla, Chief Election Commissioner announced the election results, congratulated the newly elected Executive Committee, and administered the oath.

Newly elected President Dr. Megha N. Parajulee thanked everyone for their support and believing on the new leadership and its team.

AGM chair adjourned the meeting.

Thank you to the outgoing Executive Committee for their visionary leadership, and dedicated services!



Dr. Lila B. Karki
President



Dr. Megha N. Parajulee
Vice President



Dr. Pradeep Wagle
General Secretary



Dr. Ananta Acharya
Joint Secretary



Dr. Nirmala Adhikari
Treasurer



Ms. Kemika Bhandari
Member



Dr. Romy Das Karna
Member



Dr. Lila Khatiwada
Member



Dr. Manoj Karkee
Member



Mr. Sanjok Poudel
Member



Mr. Bijesh Mishra
Member

Outgoing Executive Committee (2018 –2020)

NAPA Executive Committee 2020-2022



Megha N. Parajulee
President



Pradeep Wagle
Vice President



Ramjee Ghimire
General Secretary



Dev Paudel
Joint Secretary



Santosh Dhakal
Treasurer



Aditya Khanal
Member



Gita Koirala Bhandari
Member



Nityananda Khanal
Member



Shyam L. Kandel
Member



Sushil Thapa
Member



Uma Karki
Member

Executive Committee (2020 –2022)

Congratulations to the new Executive Committee, and best wishes for their successful tenure!

Thank You ALL: It is Time to Celebrate Our Success

With immense pleasure, I would like to express my great appreciation and thank ALL hardworking and dedicated members for your togetherness in a mission-oriented journey for the past four and a half years. Talking less, but taking more action approach of our team established and developed a vibrant professional organization, NAPA, and inspired hundreds of agricultural and allied professionals around the globe to get united for a common goal - *Global Food Security through Agricultural Transformation*. With its heightened identity, we have sustainably demonstrated that establishment of NAPA is a need of time for the prosperous Nepal and the World. For sure, to bring NAPA at this stage, hundreds of dedicated members have volunteered thousands and thousands of hours of their personal, family, and professional time, and the enthusiasm continues. Please refer to pages 16 to 21 for the detail accomplishments.

I salute entire NAPA family that constituted of but is

not limited to: ad-hoc working committee, NAPA executive committees (2016-2018 and 2018-2020), advisory council, and various super active committees (Agri-Connection, Membership Drive, Student Coordination, Editorial Boards of the Book, Principles and Practices of Food Security, Global Journal of Agricultural and Allied Sciences (GJAAS), and Policy and Research Brief, Community and Charitable Services, Webinar/Talk Session, Resource and Capacity Building, Sports Coordination, NAPA Day, Nepal Liaison, Women in Agricultural and Allied Professions, Conference Organizing, Scholarships, Information and Technology), and Connection Point at AFU. With much gratefulness, and appreciation, once again, I appeal to all of you for continuously supporting new executive committee led by Dr. Megha Nath Parajulee, because we are not there yet to take a pause.

Together, we can make a difference.

Lila B. Karki, PhD
Immediate Past President, NAPA

Summary of Achievements

The Second Executive Committee, 2018-2020, NAPA

Lila B. Karki, Megha N. Parajulee, and Pradeep Wagle

1. Current Strength:

NAPA membership is steadily increasing and has reached to 376 members (May 24, 2020). As one NAPA family, several members have been taking on various roles in different committees such as Executive Committee (11), Advisory Council (9), Webinar/Talk Session Committee (5), Agri-connection Editorial Committee (5), Membership Drive Committee (2), Student Coordination Committee (11), Scholarships Committee (6), Book Editorial Committee (6), Global Journal of Agriculture and Allied Sciences (GJAAS) Editorial Committee, (10), Research/Policy Brief Editorial Committee (3), Resource and Capacity Building Committee (6), By-laws Review Committee (3), Women in Agricultural and Allied Professionals (4), Community and Charitable Services Committee (3), Sports Coordination Committee (3), Information Technology Committee (4), Second Biennial Scientific Conference Committee 2020 (33), Nepal Liaison (1), and Contact Person for Agriculture and Forestry University, Nepal (1).

2. Programs, Activities and Accomplishments:

2.1 Research Collaboration: Research Mini-grants in 2019 – NRs. 3,60,865 (~USD 3,300)

- Awarded three project proposals for College of Live

Sciences, Dang in 2018 and 2019 each (\$150 each year for 3 proposals),

- Awarded 12 competitive proposals for AFU, Institute of Agriculture and Animal Sciences (IAAS), Tribhuvan University (TU), and Kathmandu University (KU) in 2019.
- A total of 32 proposals were received for the call from undergraduate (20), master's (7), and doctoral (3) students, and faculty (2) of those institutions.

Summary reports of research have been published in March 2020 (<http://napaamericas.org/downloads/ac-newsletter/agri-connection-vol-5-issue-1-april-2020.pdf>).

Academic Scholarships:

- Followed AFU modality: NRs. 6,000/year
- Total scholarship amount distributed \$2,510 (33 scholarships, 2018): NRs 288,650
- 10 Agricultural University/Colleges/Schools
- AFU/Affiliate Colleges: 22
- TU/IAAS: 4
- Agricultural Schools, Okhaldhunga: 5

Summary of Achievements 2018-2020, NAPA (contd)

Table 1. NAPA scholarship summary in academic year 2018.

No. of scholarship	Recipients Institutions in Nepal	Amount (\$)
2	Chautara High School & Gurukul Education Center Okhaldhunga	120
3	Prabuddha High School (10 +2; Isc.Ag.) Okhaldhunga	150
16	AFU, Chitwan	1365
6	AFU branch campuses in Sindhuli, Dhankuta, Kaski, and Kailali	500
2	Campus of Live Sciences, Dang	150
4	TU IAAS campuses (Sundar Bazzar and Paklihawa)	225
33	Total	2510

Table 2. List of scholarships and scholarship recipients at AFU, Rampur and its branch campuses in academic year 2018.

S.N.	Scholarship Name	Recipient Students		Amount (\$)	Distribution Criteria
		Number	Name		
1	Gopi Upreti Horticulture Excellence Award	2	Suruchi Tripathi Swastika Chauhan	125	Top two female students M.Sc. in Horticulture 3 rd Semester Rampur (based on 1 st Semester final score)
2	Bibek Memorial Scholarship	2	Subash Oliya Pratisha Shrestha	120	Top boy and a girl M.Sc. in Plant Breeding 3 rd Semester (based on 1 st Semester final score)
3	Pradeep-Monika Scholarship	2	Pappu Kumar Sah Sharwari Bhattarai	100	Top boy and Girl B.Sc. Ag. 2 nd Semester Kapilakot, Sindhuli (based on 1 st Semester quiz)
4	Balaram-Nanda kumari Paudel Scholarship	2	Sagar Kafle Anusuya Aaradhana Panthee	125	Top two undergraduate 2 nd Semester Student - Brahmin Family (Based on 1 st Semester quiz)
5	Kemika Bhandari Needy Student Scholarship	3	Soniya Bashyal Rubisha Banstola Aakash Gupta	200	Two girls and a boy graduate from public high school, given to 3 rd Semester Students
6	Megha-Sharmila Scholarship	2	Riya Pradhan Suraj K.C.	100	Top boy and girl, B.Sc.Ag. Admission merit list, Pakhribas, Dhankuta
7	Mr.Sadhuram & Mrs.Lila Paudel Scholarship	2	Kiran Parajuli Rakshya Aryal	120	Outstanding students (undergraduate 5 th Semester result) (Based on 3 rd Semester result)
8	Sujeet-Shrijana Sah Scholarship	3	Bidhan Bagale Sangita karki Ankit Sah	180	Top rank student from Dhanusa district and top ranking a boy and a girl from Gorkha (B.Sc. Ag. admission merit list 2074/075)
9	Bharat Mani & Sarala Risal Outstanding Scholarship	2	Pallavi Shrestha Nabin Poudel	120	Merit list topper girl and a boy (B. Sc. Ag. 3 rd Semester) (based on 1 st Semester final result)
10	Surendra Osti Poor & Intelligent Student Scholarship	1	Daxina Chand	60	Top girl in B.Sc.Ag. admission merit list, Tikapur, Kailali
11	Binita Tiwari Academic Scholarship	1	Grishma Dubadi	60	Top girl undergraduate starting from 2 nd Semester, Puranchaur, Pokhara (based on admission merit list)
12	Padma-Dal Memorial Scholarship sponsored by Drs. Lila B. Karki and Uma Karki	5	Dev Thapamagar Manisha Sunwar Sangita Tamang Saraswati Ranamagar Juna Nepali	270	Needy students in secondary level agriculture vocational stream (Agriculture Track)
	Total	22		1580	

Summary of Achievements 2018-2020, NAPA (contd)

Table 3. NAPA scholarship summary in academic year 2019.

Recipients Institutions in Nepal	# of scholarship	Name of scholarship	Amount (\$)
AFU / Affiliate Colleges	2	Gopi Upreti Horticulture Excellence Scholarship	125/year for 4 years
		Binita Tiwari Academic Scholarship	60/year for 4 years
Agricultural Schools, Okhaldhunga	5	Padma-Dal Memorial Scholarship sponsored by Drs. Lila B. Karki and Uma Karki	\$300
Total	7		\$485

Table 4. Integrative scholarships Sponsored by Drs. Lila B. Karki and Uma Karki in 2019.

No. of scholarship	Recipient	Amount (\$)
2	Sandra Simone (goat farmer), Talladega County, Alabama, USA	50
	Thabani Jones, 11 th grader Homeschooling High School student, Talladega County, Alabama, USA	150
Total		200

2.3. Expert Services:

- **National Planning Commission, Nepal - 15th 5-year Agri-sector plan**
Input/Feedback provided
- **Distance teaching:**
Dr. Ananta Acharya, Joint secretary, NAPA - Bioinformatics at AFU
Dr. Prem Bhandari, former General Secretary – Statistics & Computer Applications - Shivajan Higher Secondary School, Shitalpati, Salyan - I. Sc. (Ag) program through CTEVT
- **Advisory service, graduate student at AFU**
Prem Bhandari, former General Secretary, One PhD student
- **TU/IAAS Postgraduate curriculum**
Expert roster provided
Vice President Dr. Megha N. Parajulee attended the program in Nepal as an Expert Representative on NAPA’s behalf in the first phase

Student organizations and Individuals

3.3. Webinars/Talk Sessions:

Student Co-ordination Committee (SCC) Webinars/ Talk Sessions: 4
Professional Webinars/Talk Sessions: 9

3.4. Participation and presentation in several national and international programs/platforms:

3.4.1. Non-Resident Nepali (NRN) Global Knowledge Convention: Oct 12-14, 2018, Kathmandu, Nepal

Dr. Pradeep Wagle, NAPA General Secretary, and Dr. Drona P. Rasali, NAPA Life Member and Editor-in-Chief of NAPA Book Project delivered oral presentations. On behalf of NAPA Executive Committee, Dr. Wagle made an oral presentation about “Global Food Security through Agricultural Transformation: How Agricultural Expatriates Can Help?” The presentation highlighted NAPA’s missions/goals and current activities and future programs.

Similarly, Dr. Rasali delivered an oral presentation entitled ‘Securing sustainable, sufficient, safe and healthy food: Principles and practices of food security in Nepal.’ His presentation featured NAPA’s book project and its progress thus far. Dr. Rasali also coordinated the Agriculture and Food Security symposium at the NRN Global Knowledge Convention.

NAPA life member Dr. Durga D. Poudel delivered a video talk on ‘Agriculture and natural resources development and management strategy.’

3. Extension/Outreach/Networking & Professional Development:

3.1. Online Outreach:

- Established and maintained an informative website (>43,000 visits in 4 years)
- Announcements (research grants, scholarships, higher study opportunities, and employment)
- >6,000 Facebook followers/friends (professionals, agri-business entrepreneurs, students, and producers)

3.2. Hosted several zoom meetings with:
Universities

Summary of Achievements 2018-2020, NAPA (contd)

3.4.2. Brain Gain Initiative Meeting in Chicago, USA: September 29, 2019

On behalf of NAPA Executive Committee, NAPA General Secretary Dr. Pradeep Wagle delivered an oral presentation about "NAPA's Role on Agricultural Transformation in Nepal" at the meeting chaired by the Honorable Foreign Minister of Nepal. Several NAPA members, including Drs. Prem Bhandari, Lila Khatiwada, Gopi Upreti, Satis Devkota, Buddhi Gyawali, Durga D. Poudel, and Krishna Lal Poudel participated in the program.

3.4.3. Joint Convention of NASEA – ANMA, North Carolina, USA, September, 2019

On behalf of NAPA, Mrs. Ambika Tiwari, Former NAPA Treasurer and Life Member delivered an oral presentation about "Food Security Challenges and Opportunities: How NAPA Can Contribute to Agricultural Transformation in Nepal?"

3.4.4. Agricultural Post-graduate Curriculum Development in Nepal, October 2019

Vice President Dr. Megha N. Parajulee representing NAPA, as an expert, contributed to post-graduate curriculum development for Tribhuvan University, Institute of Agriculture and Animal Sciences in Nepal. Dr. Parajulee participated the three major workshops in three colleges (Paklihawa, Lamjung, and Kathmandu) and various in-house and out-door meetings while developing the curricula.

3.4.5. Networking/Outreach in the USA:

NAPA President Dr. Lila B. Karki did outreach various universities and student organizations including but not limited to:

Louisiana State University, August 2019.

Agriculture and Applied Economics Association (AAEA) Conference, Atlanta, Georgia, July 2019.

Tennessee State University, Nashville, Tennessee, USA, January 2020.

Southern Agricultural Economics Association (SAEA) conference, in Louisville, Kentucky, February 2020.

Southern Rural Sociological Conference in Louisville, Kentucky, February 2020.

4. Publications and Communications:

4.1. Agri-connection (Quarterly Online Newsletter):

Ninth issue was or being published From May 2018 to May 2020; six issues were published during the first term 2016-2018 after NAPA's inception in 2016. Please visit the link below to access the publications (<http://napaamericas.org/newsletter.php>).

4.2. Research/Policy Brief:

Four issues have been published. Please visit the link below to access the publications (<http://napaamericas.org/research-and-policy-briefs.php>).

4.3. Global Journal of Agricultural and Allied Sciences (GJAAS):

Online ISSN: 2575-1670

Print ISSN: 2775-1662

Doi: <https://doi.org/10.35251/...>

GJAAS Inaugural Issue (Online version) was Published in 2019. Publication of Second Volume is in progress. You may access the published articles by clicking the link below. <https://gjaas.org/index.php/GJAAS>

4.4. NAPA Book about Food Security published in 2020:

The book is published and available for the buyers through various outlets (Online, On-site, Upon request). Summaries of book chapters were published in Agri-connection Volume 4, Issue 4 (<http://napaamericas.org/downloads/ac-newsletter/agri-connection-vol-4-issue-4-dec2019.pdf>). Book's front matters including Table of Contents, list of contributors and Introductory chapter, and back matters are available online through NAPA website (<http://www.napaamericas.org/downloads/book food security/Contents food security book.pdf>). Here is the link to pricing information and places to purchase in Nepal (<http://napaamericas.org/foodsecuritybook.php>). The buyers may directly contact NAPA by emailing at napa2072@gmail.com for book purchase or any questions and concerns.

NAPA PRESENTS

AUGUST 1ST

AT 10am-11am EST

BOOK LAUNCH & PRESENTATION



PRINCIPLES AND PRACTICES OF FOOD SECURITY

SUSTAINABLE, SUFFICIENT, AND SAFE FOOD FOR HEALTHY LIVING IN NEPAL



scan for ZOOM meeting

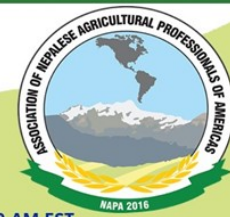
zoom 856 6175 6391

LIVE www.facebook.com/napa2072

www.napaamericas.org

USA Time: August 1, 2020 (Saturday) 10:00 AM EST

Nepal Time: August 1, 2020 (Saturday) 7:45 PM



Summary of Achievements 2018-2020, NAPA (contd)

NAPA 2nd Biennial Scientific Conference 2020:

5.1. Switch from physical to virtual mode:

NAPA 2nd Biennial Scientific Conference planned for May 22 – 24, 2020 had to be postponed due to COVID-19 Pandemic, and has been rescheduled for a virtual format in September 2020. A total of 158 abstracts have been received from USA (77), Nepal (64), Nigeria (11), Australia (3), Benin Reuplic (1), Canada (1) and Morocco (1). However, the conference scientific committee accepted 151 abstracts for presentations; 84 Oral and 67 Poster. Of which, 56 were submitted by professionals and 95 by students categories.

5.2. Student Essay Writing Contest 2020:

A total of 14 essays have been received from contestant students; Nepal (10) and USA (4), comprising 1 female and 13 males. The contestant students are pursuing their bachelor (11), Masters (2) and PhD (1) degrees. The first, second, and third place winners will receive cash prizes and appreciation certificates.

5.3. Agri-Poems for Conference:

A total of 7 poems have been received. Of the total, 5, 1, and 1 respectively from Nepal Canada and USA , of which 5 poems are competitive and all of them were submitted from Nepal.

5.4. Keynote speakers identified for the physical Conference:

Dr. Lawrence Crane, Vice President, National Crop Insurance Services, Inc., Kansas, USA and

Dr. Channapatna S. Prakash, Dean - College of Arts and Sciences (CAS), and Professor of Agriculture Biotechnology at Tuskegee University, Alabama, USA.

5.5. Working partners for communication and marketing the 2020 conference:

Agricultural & Applied Economics Association

(AAEA): Online newsletter

Association of 1890 Research Directors (ARD):
Online newsletter

eNepalese.com: Online newsletter

5.6. Conference Donation pledges for \$5,701.55

\$1,983.55 has been received of the pledged amount

External Donations:

Multidisciplinary Digital Publishing Institute (MDPI) sponsored student oral presentation prize (first, second, & third), \$500.00

USDA-ARS, Southeast Area Office, MS promised a support of \$1,000.00

Dr. Steve Turner – Prof. Mississippi State University & President of Southern Rural Development Center - \$200.00

5.7. NAPA Federal Grant Submission Progress:

NAPA has fulfilled all requirements for submitting federal grants in 2020 and onwards:

The System for Award Management (SAM) - completed

The Data Universal Numbering System (DUNS) - completed

Letter of Intent (LOI) was approved for submitting a full proposal for the following grant

NAPA conference grant USDA-AFRI: \$50,000.00

Unfortunately, submission of full proposal was postponed due to COVID-19 pandemic.

6. Financial Summary (as of May 24, 2020):

- Account Balance: \$28,882.78
- Carryover from the previous EC: \$15,778.24

The detail is presented in table below:

Table1: Bank Transaction Detail

Year	Cash outflow		Cash Inflow		Grand Total
	Check	Zelle	Paypal and Zelle	Deposit Slip	
2018	\$ -	\$ (2,001.54)	\$ 2,417.92	\$ 15,778.24	\$ 16,194.62
2019	\$ (2,217.13)	\$ (2,560.31)	\$ 14,438.10	\$ 300.00	\$ 9,960.66
2020	\$ (100.00)	\$ (4,721.11)	\$ 7,298.61	\$ 250.00	\$ 2,727.50
Grand Total	\$ (2,317.13)	\$ (9,282.96)	\$ 24,154.63	\$ 16,328.24	\$ 28,882.78
Tot inc & Exp		\$ (11,600.09)		\$ 40,482.87	\$ 28,882.78

Summary of Achievements 2018-2020, NAPA (contd)

7. Charity Activities: Pictures speak themselves!

NAPA members coordinated blood donation drives and donated blood in occasion and places in the US.



NAPA & AFU Convene Virtual Biotechnology Workshop

Association of Nepalese Agricultural Professionals of Americas (NAPA) and the Center for Biotechnology, Agriculture and Forestry University (AFU), Nepal jointly hosted a virtual seminar on *Applied Bioinformatics in Agriculture and Medicine* with a *hands-on workshop on the genomics and evolution of SARS-CoV-2* from July 19 to 23, 2020. The event was attended by more than 350 participants comprising of undergraduate students, graduate students, faculties, researchers, and professionals from several parts of the world. The director of Center for Biotechnology Dr. Ishwari P. Kadariya welcomed the participants and NAPA President Dr. Megha N. Parajulee and Vice Chancellor of AFU Dr. Sharada Thapaliya delivered keynote speeches. Six experts presented on various aspects of the theme.

NAPA's past Joint Secretary Dr. Ananta Acharya, Scientist at Corteva AgriSciences, delivered a speech on the *Advances in genomics and bioinformatics* that gave an introduction to the past and current trends in genomics. Dr. Sangeet Lamichhaney, Assistant Professor at Kent State University, presented a talk on *Bioinformatic applications in animal science and evolutionary studies* that highlighted how genomics could be utilized in animal science and ornithology as well as future collaborations that can be done in Nepal. Dr. Radhika Bartaula, Post-doctoral Associate at the United States Department of Agriculture – Agricultural Research Service, talked about the *Application of bioinformatics in plant science* and how plant science researchers in Nepal could leverage genomic information to their advantage. Mr. Sishir Subedi, Bioinformatician at the Houston Methodist Hospital, presented on the *Application of bioinformatics in medicine* and showed the several aspects of bioinformatics and how it could be used in drug discovery and to enhance medical applications.

Second day of the seminar had two talks. First talk was on *Coronavirus genomics and evolution* delivered by Mr. Sishir Subedi and Dr. Ananta Acharya who talked about the evolution of Coronavirus and the details of the Coronavirus strain that was sequenced from Nepal. Next talk given by Dr. Saroj Parajuli and Dr. Dev Paudel was titled *Rice genomics and diversity in the Nepalese context*, where the presenters talked about the 3K rice genome project and showed next generation sequencing results

done on 44 Nepalese rice accessions and their phylogeny.

Final three days of the seminar involved hands-on workshop session where the participants learned about basics of molecular biology, introduction to Linux command line, resources in bioinformatics, filetypes in genomics, genome visualization, sequence alignment, variant calling, and constructing phylogenetic trees. The three-day hands-on workshop was instructed by Dr. Ananta Acharya, Mr. Sishir Subedi, Dr. Dev Paudel, and Dr. Saroj Parajuli. Participants were able to get access to Google Cloud where all the analyses were done. Funds for the Google Cloud and Zoom meeting support were provided by AFU and NAPA, respectively. The participants showed a positive feedback of the program and Dr. Ananta Acharya, who has been teaching bioinformatics at AFU for the last two years, emphasized on the need of technology transfer for capacity building developments in Nepal. Dr. Sharada Thapaliya thanked all the presenters and vouched to support future efforts on this matter. Dr. Himlal Luitel, Assistant Professor at AFU, and Dr. Ishwari P. Kadariya highlighted the need to start a Masters in Bioinformatics program at AFU. Dr. Dev Paudel and Dr. Ananta Acharya supported the cause and expressed their sincere support to initiate the program. The program was recorded and interested life science faculty and students all over the globe can watch the program by visiting the NAPA website:

<http://www.napaamericas.org/bioinformatics.php>

APPLIED BIOINFORMATICS IN AGRICULTURE & MEDICINE
(With hands-on workshop on genomics and evolution of SARS-CoV-2)

Program Details:
Seminar: July 19 (8:00 AM- 10:00 AM, NST)
July 20 (8:00 AM- 10:00 AM, NST)
Workshop: July 21-23
(8:00 AM – 10:00 AM NST, daily)

Organized by:
Center for Biotechnology Agriculture and Forestry University
Association of Nepalese Agricultural Professionals in Americas (NAPA)

Keynote Speakers:
Sharada Thapaliya, PhD
Vice Chancellor
Agriculture and Forestry University
Megha N. Parajulee, PhD
Professor, Texas A&M University
President, NAPA

Invited Speakers:
Ananta Acharya, PhD
Scientist, Corteva Agrisciences
Radhika Bartaula, PhD
Post-doctoral Associate, USDA-ARS
Sangeet Lamichhaney, PhD
Assistant Professor, Kent State University
Saroj Parajuli, PhD
Post-doctoral Associate, University of Florida
Dev Paudel, PhD
Post-doctoral Associate, University of Florida
Sishir Subedi, MS
Bioinformatician - Houston Methodist Hospital

For registration visit: www.afu.edu.np

Article 1

Agricultural and Animal Products Do Not Transmit SARS-CoV-2

Dr. Santosh Dhakal and Dr. Shristi Ghimire
 W. Harry Feinstone Department of Molecular Microbiology and Immunology
 The Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, USA
 Correspondence: santoshdhakal88@gmail.com

We are in the midst of a pandemic, caused by a novel coronavirus, Severe Acute Respiratory Syndrome Coronavirus- 2 (SARS-CoV-2). This virus is transmitted from an infected person to another individual in close proximity through respiratory droplets (Figure 1) (1). Clinical symptoms related to the coronavirus disease 2019 (COVID-19) may appear within 2 to 14 days after infection and symptoms mostly include fever, cough, shortness of breath, fatigue, and muscle pain (1). As of mid-June, COVID-19 has caused over 7.8 million illnesses and over 430,000 deaths globally (2).

Coronaviruses are broadly classified into four genera: alpha, beta, gamma, and delta coronaviruses. In humans, coronaviruses are generally known to cause mild and self-limiting respiratory infections (3). However, Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV) in 2002/03; Middle East Respiratory Syndrome Coronavirus (MERS-CoV) in 2012/13 and the ongoing SARS-CoV-2; all represent the severe form of coronavirus infection in humans (3).

There are different coronaviruses which can separately infect animals and birds, without transmission to humans. One notable example is Porcine Epidemic Diarrhea Virus (PEDV) which causes acute diarrhea, vomiting, dehydration and high mortality in neonatal piglets (4). The emergence of highly virulent PEDV strain in the United States

(US) in 2013, resulted in the death of around 7 million piglets within a year leading to a huge economic loss in the US swine industry (4).

Most of the coronaviruses infecting humans originate from bat reservoirs (3). The spillover of bat-origin coronavirus to humans frequently involves an intermediate animal host. Adaptation of a novel coronavirus in human host and effective human to human transmission is necessary before an epidemic or pandemic could occur. Palm civets and dromedary camels respectively served as the intermediate hosts for SARS-CoV and MERS-CoV outbreaks (3). Studies suggest that MERS-CoV infection was existing in camels at least 30 years before the epidemic occurred in humans in the year 2012 (3). Though pangolin is considered to be the intermediate host for the spillover of SARS-CoV-2 from bats to humans, more evidences are necessary to ascertain this fact (5).

During this pandemic, the world has also been suffering with circulation of misinformation, incomplete information or twisted information that often resulted in panic and inhumane behaviors. In late February, a pet dog was reported to test 'weak positive' for SARS-CoV-2 in Hong Kong. This event led to the abandonment of tens of thousands of pets and violence towards animals (6). As per the CDC, a small number of pet cats and dogs are tested positive for SARS-CoV-2 in several countries, including the US. These animals became sick after they came in contact with individuals with COVID-19 (1). Lions and tigers also tested positive for SARS-CoV-2 in New York zoo, probably after acquiring the virus from infected zoo employee (1). None of these events, however, indicate that these or other animals possess risk for the transmission of SARS-CoV-2 to humans (Figure 1). The information available so far indicate that the chance of SARS-CoV-2 spread by animals we come in contact with is low or nonexistent.

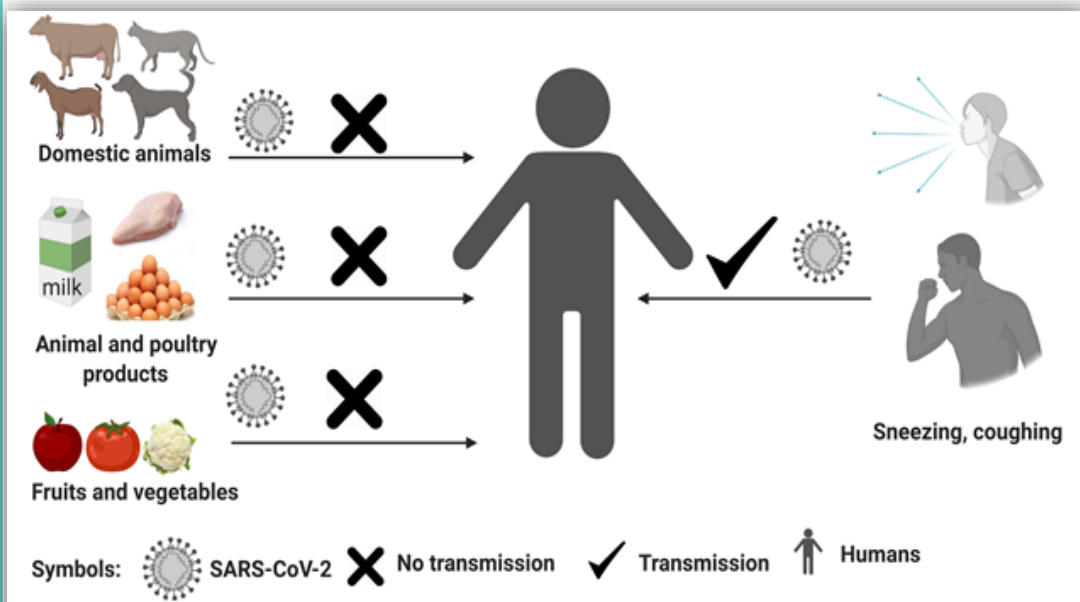


Figure 1: Transmission of SARS-CoV-2

Transmission of SARS-CoV-2 (contd.)

The consumption of meat, eggs, milks and other animal products declined in Nepal and other countries with the circulation of misinformation that people can get coronavirus infection through consumption of these products (7, 8). In Nepal, there were reports that people even destroyed vegetables and fruits imported from other parts of the country with the false assumption that these agricultural products can be a potential source of novel coronavirus transmission. The truth, however, is that SARS-CoV-2 transmission from animal and agricultural products to humans has not been reported yet from any part of the world (Figure 1). Therefore, public awareness generation is necessary to avoid mistreatment of animals, avoidance of animal product consumption, and disposal of fruits and vegetables.

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Appeal for donation/sponsor for Research Mini-Grant Pool Funds

We are encouraged to have so many generous donors and sponsors contributing to **Research Mini-grant (RMG) Pool Funds** that made it possible to support 15 research projects predominantly to undergraduate students in Nepal. The project awardees presented their research finding in the virtual Mini-grant Research Conference hosted by NAPA recently. NAPA respectfully requests all generous donors to spare a few dollars by sacrificing small expenses (such as coffee/tea/drinks/movie/dining out etc.) for the next few months in order to generate a Mini-grant pool money for collaborative research in Nepal. More importantly, we seek RMG sponsors to support collaborative research for developing capacity of undergraduate/graduate students, local faculty, and post graduate professionals

(\$300 and up). Therefore, you have been invited to make a difference in research-based agricultural education in Nepal by sponsoring at least one mini-grant for an impactful scientific investigation. However, anyone willing to contribute to RMG for collaborative research may donate any amount to the RMG pool funds and the amount will be disbursed to support selected small-scale projects. Such pool-funded projects will be solicited, evaluated, selected, supported, and managed by Executive Committee in consultation and as per the recommendation by ***Resource and Capacity Building Committee (RCBC)*** depending on the amount of funds in the RMG pool fund. Your generosity is NAPA's inspiration to serve the community back in the motherland and beyond.

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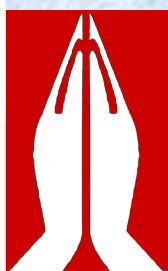
NAPA Membership Update

Member Categories	Members	Members in good standing
Founding Life	5	5
Regular Life & Senior Life	85	85
Family/Joint Life	3	3
Associate Life (Australia)	2	2
Associate Life (Nepal)	56	56
Associate International (Australia)	2	2
General/Regular Professional	57	19
Student	171	110
Family/Joint Regular	14	14
Total	395	296

Life Members

Welcome New NAPA Members on Board!

- Dr. Tanka Kandel, Oklahoma
- Dr. Gandhi R. Bhattarai, Connecticut
- Dr. Dilip Bhandari, Arkansas
- Dr. Chakra Budhathoki, Maryland
- Dr. Sharad Parasar Marahatta, Hawaii
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- Ms. Barsha Bastola, Texas
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- Gautam Kumar Joshi, Florida State University

Celebrating the Success: Members' Achievements

Dr. Lila B. Karki receives two prestigious awards

Enormous congratulations to Dr. Lila B. Karki, NAPA Immediate Past President for receiving two exemplary awards from International the Honor Society of Agriculture, Gamma Sigma Delta: i) **OUTSTANDING CHAPTER AWARD** and 2) **NEW ACTIVITIES AWARD**. Dr. Karki served the Honor Society of Agriculture, Gamma Sigma Delta, Tuskegee University Chapter as the President from July 2019 to June 2020. His dynamic leadership and outstanding accomplishment made Tuskegee University on the top to receive these awards out of 65 active chapters across America and abroad.



Congratulations, Dr. Karki and his Tuskegee University team!

Dr. Karki elected 1890 Extension Director of AAEA

NAPA immediate past president Dr. Lila B. Karki has been elected **Extension 1890 Director** for 2020-2021 Extension Section Leadership of the Agricultural & Applied Economics Association (AAEA). The Agricultural & Applied Economics Association (AAEA) is a not-for-profit association serving the professional interests of members working in agricultural and broadly related fields of agriculture and applied economics. As of May 2020, there are 3068 dues-paying members, according to President Dawn Thilmany McFadden (August 10, 2020). The AAEA has 25 sections, one of them is Extension Economics, and has been joined by 207 members. The sections are subgroups of the association to assist members with similar interests to connect and network efficiently. 1890 is a consortium of 19 Land Grant Historically Black Colleges and Universities. The Second **Morrill Act**, which provided for annual appropriations to each state to support its **land grant** college and university, was passed by Congress in 1890. Thus, the **1890 Morrill Act** led to the establishment of these **land grant** institutions for African Americans, but everyone has been warmly welcomed to pursue his or her higher education.

NAPA is proud of having its founding president been elected in the leadership team of such a great professional association. NAPA family congratulates and extends best wishes for his outstanding tenure!

Dr. Karki elected PRESIDENT-ELECT of GSD International

Dr. Lila B. Karki, NAPA Immediate Past President has been elected President-Elect at the Biennial Conclave of the International Honor Society of Agriculture, Gamma Sigma Delta (ΓΣΔ) held in June 17, 2020. Dr. Karki was the president of Tuskegee University Chapter at that time. Henceforth, he will be working closely with its 65 national and international GSD chapters.

The GSD International is one of the oldest and largest professional societies for agricultural and allied sciences professionals. It was established 107 years ago (January 13, 1913) at Ohio State University. The broad objective of the society is to encourage advancement and improvement in all branches of agricultural sciences and agricultural industry. It is dedicated to recognize accomplishments of students, staff, alumni, or industry leaders in agricultural or related sciences furthering in agricultural education, research, and engagement. The purposes of GSD are to promote and to recognize achievements of individuals who excel. The translation of Gamma Sigma Delta is *“The binding together of earth, the mother of all, and the practice of agriculture, and the arts of relating thereto for the welfare of mankind.”*

We are proud to celebrate Dr. Karki’s outstanding leadership track records. NAPA family congratulates and extends best wishes for his remarkable tenure!

Celebrating the Success: Members' Achievements

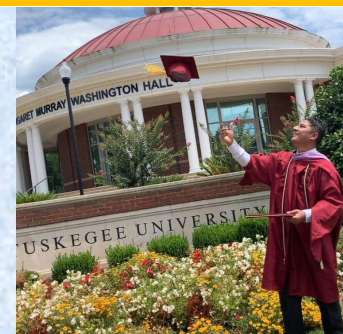


Bidur Paneru awarded with “Outstanding Graduate Student 2019-2020” at Tuskegee University.

**Congratulations
Mr. Paneru!**

Shailes Bhattarai awarded with “Outstanding Graduate Thesis 2019-2020” at Tuskegee University.

**Congratulations
Mr. Bhattarai!**



Members' Publications

Journal Articles

- Bajgain, R.**, Xiao, X., Basara, J. B., Doughty, R., Wu, X., **Wagle, P.**, Zhou, Y. Gowda, P. & Steiner, J. (2020). Differential responses of native and managed prairie pastures to environmental variability and management practices. *Agricultural and Forest Meteorology*, 294, 108137 <https://doi.org/10.1016/j.agrformet.2020.108137>
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- Makaju, S.**, Wu, Y., Anderson, M., Kakani, V., Smith, M., Todd, J., & Adhikari, L. (2020). Genetic variation within and among lowland Switchgrass cultivars as revealed with AFLP polymorphisms. *Global Journal of Agricultural and Allied Sciences*, 2(1), 11-17. <https://doi.org/10.35251/gjaas.2020.002>
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Book Chapter

- Ghimire, R.**, & **Joshi N.** (2021). Complementarity Between the Home Gardening and Livestock Production Systems in Nepal. In D. H. G. Dissanayake, & K. Maredia. (Eds.), *Home Gardens for Improved Food Security and Livelihoods*. London: Routledge. <https://doi.org/10.4324/9781315471778>

Note: NAPA members' names are in bold letters

Featured NAPA Member of the Quarter (Mar - Jun 2020)



Manoj Karkee, Ph.D.

Associate Professor
Biological Systems Engineering
Center for Precision and Auto-
mated Agricultural Systems
Washington State University,
USA

Education:

Ph.D., Agricultural Engineering and Human Computer Interaction, Iowa State University, USA

M.Sc., Remote Sensing and GIS, Asian Institute of Technology, Thailand

Diploma/B.Sc., Civil Engineering/Computer Engineering, Tribhuvan University, Nepal (1994)

Professional background:

Dr. Karkee leads a strong research program in the area of sensing, machine vision and agricultural robotics at the WSU Center for Precision and Automated Agricultural Systems. He has published widely in such journals as 'Computers and Electronics in Agriculture', 'Transactions of the ASABE' and 'Journal of Field Robotics', and has been an invited speaker at numerous national and international conferences and universities. Dr. Karkee is currently serving as an elected chair for International Federation of Automatic Control (IFAC) Technical Committee 8.1, Control in Agriculture, as an associate editor for 'Transactions of the ASABE', as a guest editor for 'Sensors', and Editorial Committee Mem-

ber of Information Processing in Agriculture. Dr. Karkee was awarded '2020 Railbird Engineering Concept of the Year' by American Society of Agricultural and Biological Engineers, was recognized as '2019 Pioneer in Artificial Intelligence and IoT' by *Connected World* magazine, and was featured as the 'Western Innovator' by *Capital Press*.

Involvement with NAPA:

- Life member of NAPA and served NAPA over the last two years in various capacities.
- Elected as the NAPA executive member in 2018 for a two-year term.
- Serving as the chair of the *Scientific Committee* for 2nd Biennial International Scientific Conference, now rescheduled for September 25-28, 2020 in virtual mode due to COVID-19.
- Serving as the member of the *Resources and Capacity Development* committee.
- Contributes often to scientific and other publications of NAPA including *GJAAS* and *Agri-Connection* through his scholarly and literary writings as well as to various NAPA initiatives such as research mini-grant programs.

NAPA is very much delighted to recognize Dr. Manoj Karkee as a featured member of the quarter for his outstanding contribution and unwavering dedication while serving the community in various capacity. Congratulations Dr. Karkee!

About Featured NAPA Member

Every issue of Agri-connection has been featuring one of the outstanding NAPA members in different areas of agriculture and allied sciences. In consultation with NAPA Executive Officers, Agri-Connection Editorial Committee identifies a member who is highly active in various NAPA roles and can be seen as a rising star in NAPA Community.

Donation Appeal for Scholarships and Endowment Funds

With the donation received from sponsors, NAPA has established:

- ♦ *A Scholarship Fund for awarding meritorious students in Nepal*
(<http://napaamericas.org/napa-scholarships-sponsors.php>)
- ♦ *An Endowment Fund for awarding emergency relief and charitable support*
(<http://napaamericas.org/endowment-fund-announcement.php>).

NAPA extends gratitude to its bountiful donors and appeals to the potential donors for their generosity.

Article 2

COVID-19 Pandemic and Its Impact on Poor Communities of Nepal

Dr. Romy Das Karna

Correspondence: romeedasn@gmail.com

The COVID-19 is far more than just a health crisis- it has left an unprecedented impact on societies and economies throughout the world. The global economy is experiencing the highest economic crisis since the great depression of the 1930s and, more than half a billion people are expected to be pushed into destitution largely because of this pandemic by the end of this year (1). While the effects of the COVID-19 have yet to be fully documented, it is clear that the pandemic is disproportionately impacting marginalized populations throughout the world, and Nepal is no exception. The hard-hit has been felt by poor communities through two predicaments - infection with the virus itself, and through the economic lock-down imposed by the government as a measure to contain the spread.

As of July 29, Nepal has 19, 273 confirmed cumulative positive cases of COVID-19. So far, 49 people have died of the disease (2). According to the Ministry of Population and Health, the outbreak currently appears to have stemmed from people who returned from abroad. Government health officials still believe that this global pandemic has not yet spread at the community level in the country. While it is too early to derive any conclusion regarding the death rate due to COVID-19 in the country, numerous cases of death exacerbated by its secondary impact - poverty, hunger, and violence have already been surfaced out.

Poor communities are already at risk of being severely exposed to diseases and are expected to have a high mortality rate due to inadequate resources, lack of hygiene practices, and a vulnerable workplace. Besides, the lock-down has added unintended consequences for them. Many rural and urban poor found themselves without the means to eat and feed their family overnight when the government announced a nation-wide lock-down on March 24, 2020 to limit transmission after the 2nd case of COVID-19 was confirmed. The majority of Nepal's population works in the informal sector without paid leave, and they fall outside of the social safety net- making them financially insecure (3). Mostly, daily-wage workers, street vendors, and construction workers were deprived of their livelihood. It is estimated that more than a million informal sector workers have lost their jobs temporarily or permanently in the country causing an enormous setback in economic activities (4). The lock-down also limited the farmers' access to markets causing supply chain disruptions resulting in food loss and waste. Though the government brought relief packages for those impacted the most, the momentum and scale of distribu-

tion proved ineffective at the local level. Besides, the food items distributed by local government, and discount on prices as announced by the government appeared largely inadequate considering the prolonged period of lock-down that poor people had to go through.

Since the onset of this crisis, a huge number of migrant workers have made their way back home in Nepal particularly from Gulf countries and India where they found themselves out of work after the respective government enforced the economic lock-down and restricted the population movement. Thousands of Nepalese workers were stranded at the southern and western Indian border when they were denied entry to the country. Since then the daily report of people including those elders and children dying due to hunger at the border or on the way to Nepal became the headlines, unfortunately, and the list still goes on (5). In the far-western province only, as many as 175 people which included 93 males and 82 females died by suicide during the nationwide lock-down (6). Mainly farmers, the poor homemakers, and daily wage earners were found to resort to suicide deaths as exacerbated by the crisis.

Though preliminary data indicates that COVID-19 infestation is lower in women (13%) than men (87%)¹ (1), the hit of lock-down has been severe on the women. Traditionally, women do heavy unpaid care duties and domestic work. Those who work outside of these traditional duties, the majority of them are in the informal sector (3). The women headed households who were already living in poverty, from disadvantaged caste groups, or in rural, isolated locations had to face extreme consequences. As the economic lock-down prolonged, the cases of domestic violence also surged across the country. Women Rehabilitation Center (WOREC) reported 231 cases of gender-related violence between March 24 and May 9, 2020 (7). The most striking concern has been the lack of access to maternity and infant child care services in the country during the lock-down period. A recent report shows that the country witnessed the unfortunate death of 56 new mothers in two months (March 29-May27, 2020) whereas thousands were deprived of access to prenatal services (8).

Though children are not the face of this pandemic, economic hardship experienced by vulnerable families is directly passed on to their health and well-being. Moreover, the countrywide school closure has exacerbated the learning crisis, depriving children of educational and instructional opportunities. As the public schools around

¹ <https://twitter.com/mohpnep/status/1285532211597332481/photo/1>

COVID-19 Impact on Poor (contd)

the country have been converted to local quarantine and isolation centers, children's safe return to school is still questionable in many parts of the country.

The pandemic has uncovered a systemic weakness in the Nepalese informal sector economy, magnified the fissure between rich and poor in the society, and unveiled the crisis in the health sector. Consequently, the lessons learned should be well documented and used to create structures and effective rapid response mechanisms for this pandemic. While vaccines against this disease are still far from reality, economic and social activities must continue while adopting the safety protocols provided by the World Health Organization. The immediate challenge remains for the government to safely rehabilitate reverse migrants in society and integrate them into the domestic economy by creating sources of employment and entrepreneurship in various sectors. Nepal has made tremendous progress in poverty alleviation in the last decade and, is striving for graduating from the least developing country to developing country by 2022 (9). Without a strong and safe economic recovery plan, the COVID-19 pandemic could turn the country's poverty clock way back.

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Article 3

स्थानीय तहमा कृषि स्रोत केन्द्र निर्माण: अवधारणा र अभ्यास*

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कृषिकर्म बहुसंख्यक नागरिकका लागि जीविकोपार्जनको प्रमुख आधार हो । सफल कृषि कर्मका लागि प्राविधिक ज्ञान, उत्पादनका साधनहरु (जग्गा, मल, सिंचाई, बीउ, विषादी आदि) आवश्यक पर्दछ । तिनै मध्ये किसानसम्म कृषि प्रविधि प्रसारका लागि नेपालमा कृषि तथा पशु विकास मन्त्रालय, कृषि विभाग अन्तरगत कृषि ज्ञान केन्द्र स्थापना गरी विभिन्न कार्यक्रमहरु गर्दै आइरहेको छ । यसरी कृषिका प्राविधिक विशेषज्ञको सेवा किसानको पहुँचमा पुग्न अत्यन्त राम्रो पक्ष हो र कृषि प्रसार सेवाको विकेन्द्रीकरणको उदाहरण हो । तर कृषि ज्ञान केन्द्र एउटा प्राविधिक फाँट हो र यसका लागि स्रोतसाधन उपलब्ध गराए मात्र यसले साँचो अर्थमा कृषि प्रविधिहरुको विकास, प्रविधिको स्थानीय स्तरमा परीक्षण गर्दै किसानका लागि आफ्नै आँखाले कृषि प्रविधि देख्न पाइने अवसरको सिर्जना गरी समुदायस्तरमा कृषि प्रविधिको अनुसरण गर्ने वातावरण सिर्जना हुन्छ । पछिल्लो समयमा कृषिका प्राविधिकहरु स्थानीय निकायमा पदस्थापन भएता पनि के कसरी नयाँ र प्रभावकारी काम गर्न सकिन्छ भनेर अघि बढ्न बाँकी नै देखिन्छ । हालको कृषि प्रसारको ढाँचामा अधिकांश कृषि प्राविधिकहरुले सैद्धान्तिक ज्ञान बढी र प्रयोगात्मक सिकाइहरु कम बाँड्न सकिने अवस्था छ तथापि कृषि प्राविधिकहरुले आफ्नो अध्ययन, अनुसन्धान, तालीम, भ्रमण आदिबाट सिकेका अनगिन्ती कुराहरु आफ्ना किसानहरुलाई देखाउने, सुनाउने र प्रयोगात्मक ढँगले बाँड्ने हुटहुटी अधिक रहन्छ ।

स्थानीय तह जस्तै नगरपालिका वा गाउँपालिका स्तरमा कृषि प्रविधिको स्थानीय परीक्षण, किसानका लागि प्रविधि प्रदर्शनी गरी नमूना कृषि कस्तो हुनुपर्दछ र कसरी कृषिले किसानको पोषण तथा खाद्य सुरक्षाको साथसाथै बजारमुखी कृषि गर्दै हाम्रो जीवनस्तर नै उकास्ने सम्मको लक्ष्य पाउन सकिन्छ भन्नका लागि हरेक स्थानीय तहमा कम्तिमा एक एक वटा कृषि स्रोत केन्द्रको निर्माण अनिवार्य हुन्छ । यसका अलावा संघीय नेपालमा कृषि क्षेत्रको जिम्मेवारी स्थानीय तहहरुको हुने भएकाले पनि आफूलाई आएको यो अवसरलाई व्यवस्थित तरिकाले कृषि स्रोत केन्द्रको निर्माण गरी परिचालन गर्नु पर्ने देखिन्छ ।

के हो कृषि स्रोत केन्द्रको अवधारणा ?

कृषि स्रोत केन्द्र सैद्धान्तिक ज्ञान र प्रयोगात्मक स्थलको साझा थलो हो जसले किसानलाई सहभागितात्मक विधिबाट आफ्ना घरबारीमा लगाइने बालिनालीको खेती गर्ने तरिका, नयाँ तथा स्थानीय जातहरुको उत्पादकत्व तथा अन्य जानकारी, रोग कीरा नियन्त्रण, मलपानी व्यवस्थापन, बजार व्यवस्थापन, पोष्टहार्भेष्ट प्रविधि तथा किसानहरुलाई परेको समस्याहरुको बारेमा प्रत्यक्ष जानकारी र ज्ञान दिन्छ । आफ्ना कार्यक्षेत्रको हावापानी, किसानहरुको पूँजी वा लगानी अनुसार व्यवसायिकताको स्तर, खेतीपातीको उद्देश्य (पारिवारिक पोषण वा बजारमा बिक्री), आदि हेरी कृषि स्रोत केन्द्रमा सैद्धान्तिक जानकारी र प्रदर्शनी प्लटहरु बनाउनु पर्छ ।

साना किसानहरुका सुहाउँदो पारिवारिक कृषिका लागि घरबगैँचा वा करेसाबारी सम्बन्धी जानकारी र प्रदर्शनी प्लटहरु, स्थानीय बीउबीजनहरुको संरक्षणका प्लटहरु, करेसाबारीमा बर्षभरि नै तरकारीबाली र फलफूल हुनेगरी बनाइएको बाली पात्रोका साथै पारिवारिक पोषणको महत्वको बारेका श्रव्यदृष्य सामाग्रीहरु पनि कृषि स्रोत केन्द्रमा उपलब्ध हुनु पर्छ । साना किसानका लागि पारिवारिक पोषण नै पहिलो प्राथमिकतामा रहन्छ । यसमा स्वास्थ्य संस्थाका महिला स्वयंसेविकाहरुसँग सहकार्य गरी प्रविधि तथा अवधारणाको पनि प्रचारप्रसार गर्न सकिन्छ ।

अर्धव्यवसायिक किसानहरुका लागि भने पारिवारिक पोषणका साथै केही अंश बजारका लागि पनि बेच्ने उद्देश्य हुने भएकाले किसानहरुका लागि अझै थप जानकारी आवश्यक रहन्छ । यसका लागि खेती गर्नका लागि उपलब्ध बालीको स्थानीय तथा उन्नत वा वर्णशंकर जातहरु, यसका लागि मलखाद वा सिंचाईको व्यवस्थापनको तरिका, रोग कीरा नियन्त्रणका लागि रासायनिक विषादी वा प्रांगारिक विधिहरुको बारेमा सैद्धान्तिक तथा व्यवहारिक जानकारी उपलब्ध गराउनुपर्छ । यसका अलावा यस्ता बाली स्रोत केन्द्रकै जग्गामा लगाएको पनि हुनुपर्दछ जसले गर्दा किसानहरुमा आत्मविश्वास बढ्न जान्छ र प्रविधिको तत्कालै अनुसरण हुन जान्छ ।

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कृषि स्रोत केन्द्र निर्माण (Cont.)

यस सम्बन्धमा खास कुरा भनेको किसानले सैद्धान्तिक तथा व्यवहारिक ज्ञान स्रोत केन्द्रबाट पाउनु भन्ने नै हुनुपर्छ । सम्भव भएसम्म स्थानीय हावापानीमा सुहाउने बीउबीजन तथा रासायनिक मल तथा विषादी पनि स्रोत केन्द्रमा उपलब्ध हुनुपर्छ ता कि किसानले नक्कली बीउबीजन तथा रासायनिक मलको कारणले पाएका दुःख पनि घटाउन सकिन्छ ।

व्यवसायिक किसानका हकमा भने स्रोत केन्द्रमा व्यवसायिक कार्ययोजनाको निर्माण, खेती प्रविधिको विस्तृत जानकारी सहितको पुस्तिकाहरु, श्रव्यदृश्य सामग्रीहरु तथा बजारमुखी उत्पादन तथा बजारीकरणसम्बन्धी थप जानकारी उपलब्ध हुनुपर्छ । बजारका लागि मात्र उत्पादन गर्ने व्यवसायिक किसानका लागि स्रोत केन्द्रमा बालीको उत्पादनका अलावा, बालीको सुरक्षित टिपाई, टिपाइपछिको चिस्यान, कृषि उपजको बजारका लागि तयारीका चरणहरु जस्तै रोगकीरा लागेका, कुहेका हटाएर साइज, आकार र रंगको आधारमा ग्रेडिङ्ग आदि सहित प्लाष्टिक क्रेटमा प्याकिङ्ग, चिस्यानको व्यवस्थापन र सुरक्षित तरिकाको ढुवानीको पनि समग्र बजार व्यवस्थापनका बारेमा जानकारी उपलब्ध गराउनु पर्दछ । व्यवसायिक किसानको लागि हरेक स्थानीय तहहरुमा चिस्यान केन्द्रको पनि अनिवार्य व्यवस्था गर्नुपर्दछ । यस्ता चिस्यान केन्द्रको व्यवस्था हुन सकेमा किसानहरुले टिपेका ताजा कृषि उपजहरु लामो समयसम्म भण्डारण गर्न आवश्यक परेको बेलामा भण्डारण गर्नुका साथै बजारको माग अनुसारको आपूर्तिको व्यवस्थापन गरी मूल्यमा आउन सक्ने गिरावटबाट पनि बचाउन सकिन्छ । स्थानीय तहहरुले आफ्नो कार्यक्षेत्रमा हुन सक्ने कृषिको सम्भावनालाई मध्यनजर गर्दै कृषि स्रोत केन्द्रका विभिन्न अवयवहरुलाई व्यवस्थापन गर्न सकिन्छ ।

कृषि स्रोत केन्द्रको स्वामित्व, स्थापना र सञ्चालन

कृषि स्रोत केन्द्र स्थानीय तहको स्वामित्वमा तथा किसान समूह तथा सहकारीको समन्वयमा कृषि क्षेत्रका प्राविधिक, स्थानीय विज्ञ सम्मिलित एक समिति निर्माण गरी सञ्चालन गर्न सकिन्छ । स्थानीय तहको मातहतमा रहेको करिब १० कठ्ठा देखि १ बिगाहासम्मको जमीनमा कृषि स्रोत केन्द्रको स्थापना गर्न सकिन्छ । कृषि स्रोत केन्द्र सबै किसानहरुको साझा सिक्ने थलोको रूपमा विकास गर्नका लागि भएकाले किसानको आवश्यकतालाई मध्यनजर गर्दै र किसानहरुसँगको छलफलबाट नै यसका विभिन्न अवयवहरु निर्धारण गर्न सकिन्छ । सामान्यतया कृषि स्रोत केन्द्रमा भौतिक पूर्वाधार र खेतबारीको

व्यवस्था मुख्य पक्ष हुन्छ (चित्र हेर्नुस) । भौतिक पूर्वाधारमा केन्द्रको कार्यालय, तालिम तथा सिकाई कक्षहरु, श्रव्यदृश्य कक्ष, औजार भण्डारण कोठा, बीउबीजन भण्डारण कोठा, बजारका लागि कृषि उपज तयारी कोठा आदि बनाउनु आवश्यक हुन्छ र ताजा कृषि उपजहरुको भण्डारणका लागि शीत भण्डारको पनि अनिवार्य व्यवस्था गर्नुपर्ने हुन्छ । खेतबारीको हकमा भने स्थानीय हावापानी र किसानको अवस्थसँग मेल खाने गरी र पानीको अनिवार्य व्यवस्था रहने गरी पाखो बारी र खेतको लागि उपयुक्त जमीन आवश्यक पर्छ । खेतीबालीको सन्दर्भमा करेसाबारी प्लट, फलफूल बगैँचा प्लट, अन्नबाली प्लट, दलहन तथा कोसेबाली प्लट, तरकारीबाली प्लट, अन्नबाली प्लट, तेलहन बालीको प्लट, मसलाबाली प्लट, स्थानीय जातका बालीहरुको प्लट तथा किसानको सहभागितामा तयार गरिने प्रविधि परीक्षण प्लटहरु तथा शून्य शक्ति शीत भण्डार आदि बैज्ञानिक ढंगले नक्सांकन गरी व्यवस्था गर्नुपर्छ । अहिलेको अवस्थामा किसानहरु प्लाष्टिक घरभित्रको खेतीमा पनि चासो राख्ने भएकाले पनि प्लाष्टिक घर पनि बनाउनु पर्छ । यसका अलावा खेतबारीका लागि आवश्यक पर्ने सिंचाईको व्यवस्था, खेतबारीका लागि आवश्यक पर्ने सुधारिएको कम्पोष्ट मलखाडलको व्यवस्था आदि पनि गर्नुपर्ने हुन्छ । यी माथिका सामान्य उदाहरणका अलावा किसानसँगको छलफलपछि र आवश्यकता अनुसार विभिन्न प्लटहरु थप सकिन्छ । मेशिनरी र औजारका लागि एउटा हाते ट्र्याक्टर वा पावर टिलरको व्यवस्था अनिवार्य हुन्छ भने कुटो, कोदालो, कोदाली, फोरुवा पनि आवश्यक हुन्छ ।

स्थानीय तहको कृषि हेर्ने अधिकारीको अगुवाईमा किसानहरुले तालिम लिने र प्रयोगात्मक कक्षाहरु गर्ने क्रममा नै यस्ता स्रोत केन्द्रको खेतबारी तर्फको काम गर्न सकिन्छ भने भौतिक पूर्वाधारको कामकालागि भने छुट्टै योजना बनाएर काम गर्नुपर्ने हुन्छ । हरेक मौसम अनुसार किसानहरुको आवश्यकता अनुसारको बीउबीजनको उपलब्धता मात्र हैन स्रोत केन्द्रलाई करेसाबारीका लागि र व्यवसायिक किसानका लागि पनि आवश्यक पर्ने तरकारीका गुणस्तरीय बेर्ना, बीउ र फलफूलका बोटविरुवाको स्रोतको रूपमा पनि विकास गरी यसको सञ्चालन खर्च निकाल्न सकिन्छ । किसानका लागि विपदका समयमा आइपर्ने खाद्य असुरक्षाको नियतीलाई सामना गर्नका लागि कृषि स्रोत केन्द्रलाई अन्नबालीको सुख्खा भण्डारणको लागि र तरकारी तथा फलफूलबालीको शीत भण्डारणमा अगाडि बढाई काम गर्न सकिन्छ । यसका अलावा स्थानीय हावापानी, किसानको आवश्यकता, सरोकारवालाहरुसँगको छलफलबाट कृषि स्रोत केन्द्रमा विभिन्न कार्यहरु गर्न सकिने अवस्था रहन्छ ।

कृषि स्रोत केन्द्र निर्माण (Cont.)

निशकर्ष

कृषि विकासमा दीगो रूपमा र स्थानीय तहमा फड्को मार्ने हो भने किसान समूहका नेतृत्वहरु, कृषि सहकारी र बजार व्यवस्थापनका नेतृत्वहरु, स्थानीय राजनीतिक नेतृत्वहरु सबै मिली अगाडि बढ्नुको विकल्प रहँदैन । यसर्थ स्थानीय किसानहरुको पोषण तथा खाद्य सुरक्षा एवं जीविकोपार्जनको

आवश्यकतालाई मध्यनजर गर्दै स्थानीय तहको अगुवाईमा स्रोत केन्द्रको अवधारणा बनाई अगाडि बढ्नु पर्ने टड्कारो आवश्यकता भैसकेको छ । हालको स्थानीय तहहरुको जिम्मामा आएको खाद्य तथा पोषण सुरक्षाको अभूतपूर्व जिम्मेवारी पूरा गर्नका लागि ठोस पहल स्वरुप कृषि स्रोत केन्द्रको स्थापना र दीगो परिचालन एउटा महत्वपूर्ण कदम हुन पुग्छ ।

नमुना कृषि स्रोत केन्द्र												
हरित बार	ठूलो बाटो	करेसाबारी प्रदर्शनी प्लट			सानो बाटो	हरित बार	ठूलो बाटो	कृषि स्रोत केन्द्र भवन		ठूलो बाटो	हरित बार	
		प्लट १		प्लट २				कार्यालय कोठा १	प्राविधिकको कोठा २			
		प्लट ३	सानो बाटो	प्लट ४				तालिम तथा श्रव्यदृश्य कक्ष	प्राविधिकको कोठा ३			
		प्लट ५		प्लट ६				प्राविधिकको कोठा ४	श्रोतकेन्द्र स्तरीय कृषि पुस्तकालाय			
	प्लट ७		प्लट ८	सवारी पार्किङ क्षेत्र								
	हरित बार	ठूलो बाटो	सानो बाटो			सानो बाटो	हरित बार	ठूलो बाटो	भण्डारण कोठा	भान्छाकोठा	ठूलो बाटो	हरित बार
					फूल बगैचा				बीउ बीजन भण्डारण कोठा तथा सामुदायीक बीउ बैंक कक्ष			
			पानीको श्रोत						मल भण्डार कक्ष			
			तरकारी वाली प्रविधि प्रदर्शनी प्लट						शित भण्डार कक्ष			
		प्लट १	सानो बाटो	प्लट २	औजार भण्डारण तथा मेशिनरी भवन	ठूलो बाटो	हरित बार					
प्लट ३		प्लट ४		ताजा कृषि उपजको बजार तयारी तथा विक्री कक्ष								
प्लट ५		प्लट ६		ठूलो बाटो								
प्लट ७		प्लट ८		हरित गृह वा प्लाष्टिक टनेल								
कम्पोष्ट खाडल			शून्य शक्ति शित भण्डार	ठूलो बाटो	ठूलो बाटो	ठूलो बाटो	ठूलो बाटो					
मसला वाली प्रदर्शनी प्लट			सानो बाटो			फलफूल वाली प्रदर्शनी प्लट						
प्लट १	सानो बाटो	प्लट २	प्लट १	प्लट २	ठूलो बाटो	हरित बार						
प्लट ३		प्लट ४	प्लट ३	प्लट ४								
हरित बार	ठूलो बाटो	दलहन वाली प्रदर्शनी प्लट			सानो बाटो	हरित बार	ठूलो बाटो	प्लट ५	प्लट ६	ठूलो बाटो	हरित बार	
		प्लट १	सानो बाटो	प्लट २				अन्नवाली प्रदर्शनी प्लट				
		प्लट ३		प्लट ४				प्लट १	प्लट २			
		पानीको श्रोत						प्लट ५	प्लट ३			प्लट ४
	तेलहन वाली प्रदर्शनी प्लट				स्थानीय जात, हेला गरिएका वाली तथा अन्य वाली प्रदर्शनी प्लट	ठूलो बाटो	हरित बार					
	प्लट १	सानो बाटो	प्लट २	प्लट १	प्लट २							
	प्लट ३		प्लट ४	प्लट ३	प्लट ४							
	पानीको श्रोत		प्लट ५	प्लट ५	प्लट ६							
	माछापालन पोखरी १		माछापालन पोखरी २	प्लट ७	प्लट ८	ठूलो बाटो	हरित बार					
	माछापालन पोखरी ३			शारीरिक व्यायाम तथा विहानी कसरत क्षेत्र								
ठूलो बाटो			ठूलो बाटो		ठूलो बाटो							
कर्मचारी आवास भवनहरु												
हरित बार		हरित बार				हरित बार		हरित बार				

चित्र: डिजाईन तथा अवधारणा, शोभा वस्ती

An Appeal To Join/Renew NAPA Membership

NAPA would like to request potential members to join NAPA — **a common professional platform for all of us**. Meanwhile, we would like to request all members who are not currently in a good standing to renew their memberships. Members' contributions thus far to bring NAPA to the current level is greatly appreciated. We request our dedicated members and well-wishers to promote NAPA to the next level by recruiting eligible friends/colleagues/students in your network. New NAPA members must write the recruiter's name in the "referred by" row in the membership form. The highest three recruiters will be recognized at our Biennial Scientific Conference.

A few reasons to join/renew NAPA membership:

NAPA is a member-driven voluntary organization. Members can benefit from the association to advance their career growth, develop organizational practices and leadership skills at all stages. Some of the membership benefits include:

- Peer-to-peer networking and research collaboration opportunities
- Professional development and advancement
- Serving on various committees
- Opportunity to publish scientific works in NAPA's various outlets (Journal, Book, Research/Policy Brief, and Agri-Connection)
- Opportunity to sponsor scholarships and research mini-grants in preferred agricultural institutions and disciplines in Nepal through NAPA
- Eligibility for organizational awards, scholarships, and endowment funds
- Opportunity to share scientific works, experiences, and expertise via association's Talk Sessions (Webinars) and Online Teaching/Learning Programs
- Joining global expert repository to contribute to Nepalese Agriculture and beyond
- Keeping up-to-date on association's programs and activities
- Volunteering and charitable opportunities
- Discounted rates for registration and hotel reservation during scientific conferences organized by the association



The life membership fees have been adjusted from \$500.00 to \$200.00 (\$300.00 for eligible couples) to encourage eligible members to become life member of the organization. Please check for more details on Joining NAPA at <http://napaamericas.org/join-napa.php>. We look forward to welcoming you for a great cause. Please let us know if you have any questions and willingness to volunteer in various committees.



Thank you.

On behalf of NAPA Executive Committee,
 Dr. Pradeep Wagle
 Vice President
 Chair, Membership Drive Committee
 Email: napa2072@gmail.com



साहित्यिक कुना

कृषि कविता

कृषि प्रणालीको रुपान्तरण

स्मृतिका तरङ्गमा कावा खादै, तैरिँदा भावनामा
 बालादिनमा पुगेँछु दृश्यपालमा, पुराना जमानामा
 माहुरीको भुनुभुनु ध्वनी झैँ, नेपथ्यमा रमिता
 उनिन आए वाक्य-विन्यासहरु, गुनगुनीयो कविता
 चराचुरुङ्गले बोलाउदा, बिहानी चिरविर गरी
 पूर्व मिमिरिले चियाउदा, नजर क्षितिज पारि
 सुरु हुन्थ्यो धन्दा किसानको, मेलापात तयारी
 खेत खर्क गोठ खरबारी, तोसमूनी सालघारी
 कान्ला डिलडाल चाहारी, घाँस सोतर ओसारी
 बस्तुभाउलाई पहल आहारा, सारा भकारा भरी
 ओच्छ्याएर पतिङ्गर सोतर, पारी ओभाना थरी
 गोठेमल रासरास थुपारी, टन्न मलखात भरी
 बनाइन्थे हराभरा गुल्जार, मलेर पाखा बारी
 हुन्थे मनोरम आवादले, बिरौटा पिपलटारी
 रुखा कन्चट पाखा पखेरा, शून्य उजाड बगर
 उर्बर पार्ने धन्य हुन् तिनी, पौरख र जाँगर
 थिएन नि आधुनिक विज्ञान, थियो पुख्यौली ज्ञान
 थिएन जटिल यन्त्रसाधन, थियो कर्म-समर्पण

थियो एकिकृत कृषि-प्रणाली, नमूना सन्तुलित
 घुम्ती-बहुबाली विविधता, परिवेश अनुकूलित
 न ओजन तहको चिन्ता, न धर्ती प्रदूषित
 सन्तोषम् परमम् सुखम्, आकाङ्क्षा थे सीमित
 तत्वचक्र थियो प्राङ्गारिक, अन्तरकृया जैविक
 न त थियो खाँचो बिषादिको, न मलखाद् रासायनिक
 बिना प्रणालीगत् चिन्तन आयो, बिकासको चित्रण
 बिना लेखाजोखा बिप्लेषण, परिवेश पर्यावरण
 परम्पराको अवममूल्यन गरी भो, आधुनिकीकरण
 आयातित भो नौला मलखाद, बीज् बिष रसायन
 हरित क्रान्ति ढाँचा बनाउँ, परिस्थितिकीय दर्पण
 दिगो नमूना कृषिप्रणालीको, उन्नत रुपान्तरण
 जोगाउँ जैविक विविधता जल, माटोको संरक्षण
 बिज्ञान र परम्परागत ज्ञान, साधनको संयोजन
 गुणस्तरीय उत्पादन गोदाम, बजार व्यवस्थापन
 आयातको प्रतिस्थापन अनि, निर्यातको प्रवर्धन
 ब्यावशायिक स्वाबलम्बन, शान्ति अमन्वयन
 पौष्टिक भोजन स्वस्थ जन सफा, कन्चन् वातावरण!

नित्यानन्द खनाल