Quarterly Newsletter

AGRI-CONNECTION

March 2022 | Volume 7, Issue 1

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PROSPERITY THROUGH AGRICULTURAL TRANSFORMATION

Agri-Connection, Volume 7, Issue 1, March 2022
Dear members and NAPA global friends,

Welcome to the 23rd issue of NAPA Quarterly Newsletter, Agri-Connection. This is my last Presidential Message in this column before we conclude the tenure of the Third Executive Committee later this month. We purposefully delayed our last issue to incorporate as much NAPA 2022 information as possible before we gather in Atlanta, Georgia for the Third Biennial International Scientific Conference of NAPA, May 27-29, 2022. After two successful international conferences, we are excited for the upcoming conference to celebrate and highlight many success stories of NAPA during this executive term across all areas of our organizational mission. The conference theme, "Advancing Agriculture in a Changing World," is expected to capture current challenges facing the agricultural landscape, including the ongoing pandemic, climate change, biotechnological changes, and others. The ongoing pandemic may be concerning to some quarters, as travel and other logistics may be negatively impacted. However, NAPA is committed to ensuring a robust hybrid program that includes sophisticated web-based conferencing, as well as onsite meetings with all public safety measures in place. As expected, the Conference Organizing Committee and all sub-committees are quite busy in conference preparation. We hope to release the final program a few days prior to the start of the conference, but it is evident from regular announcements of various program activities that the final comprehensive program will be one that will make all our members, conference delegates and guests proud.

Scientific Program Committee has just finalized its program that consists of 130 abstracts from 10 countries. Highlights of the scientific program include competitive student oral and poster presentations, non-student professional presentations, student essay competition, and Agri-Poem competition. One more highlight of conference will be the final research report symposium of the 16 Research Mini-Grant awardees. The scientific program is complemented with several workshops and symposia to address current issues that challenge agricultural advancement, food security, and poverty alleviation. We have assembled a panel of distinguished scientists, policy experts, planners, and government executives to discuss the forward moving Agriculture Policy in Nepal. An inclusive panel has also been installed to discuss strategies to enhance agricultural entrepreneurship that links Nepalese agriculture to the world arena. A special symposium has been organized to guide our students and young scientists in navigating various career choices in academia, industry, and government institutions. We are also greatly pleased to have the Director of the Sustainable Intensification Innovation Lab at Kansas State University and Crop Science Society of America Past President to serve as our keynote speaker. We are grateful to the Conference Organizing Committee and all volunteers who have worked tirelessly across various conference committees to make NAPA 2022 a truly historic display of science, disciplinary integration, networking, competition, awards and honors, entrepreneurship, service, and professionalism. I urge all of you to register and plan to attend this unique conference where all possible agricultural and allied disciplines converge for a truly cross-cutting scientific discourse.

In closing, I would like to remind everyone that my presidential motto throughout this EC term has been to encourage all NAPA members to connect, advocate, engage, and contribute to move NAPA forward. As I close my tenure as President of this amazing institution, I thank ALL of you for this opportunity to serve you. I dedicate all the achievements, advancements, and progress made by NAPA and its impact on humanity through its core mission to all the unsung heroes, farmers, agricultural practitioners, and members who work behind the scene to move NAPA’s vision forward. I congratulate the A-C editorial team for eight excellent issues of this newsletter to showcase NAPA’s activities to the world during this executive term. I also express my sincere thanks and a tremendous debt of gratitude to my executive team and advisors for their great support and trust in my leadership.

See you at the conference. Be safe!
The next decade will be pivotal for sustainable agricultural development. Population growth is straining agricultural systems stressed by climate change. Further, pests and diseases of crops and livestock threaten the resilience of agriculture. These challenges require concerted action at different levels. As a professional organization, NAPA realizes the global need and is organizing the 3rd Biennial International Scientific Conference with the theme of “Advancing Agriculture in the Changing World”, from May 27 to 29, 2022, in Atlanta, Georgia. The conference aims to share the current advances in agriculture, leverage innovation and resources to address issues and trends in agriculture, foster interdisciplinary research, and entice policymakers and scholars. Scientists, students, farmers, and policymakers from different parts of the world will attend this hybrid (virtual + face-to-face) meeting and work together in developing various long-term and short-term strategies that improve food, feed, and fiber production in the face of climate change. We hope to see you there!

This issue highlights the NAPA conference – 2022, summarizes NAPA’s initiatives and achievements in organizational development, networking, research funding, and philanthropy, and includes important articles on soil erosion and financing for enterprise development in Nepal. The KidsZone is contributed by artistic and enthusiastic kids. We also have featured a story of a grower in Nepal who learns that growing crops in Nepal is more rewarding than working in a foreign country.

Since this is the last issue within the tenure of current Executive Committee (EC), we present our sincere gratitude to all EC members, writers, contributors, and readers for the opportunity and continued support.

Happy New Year 2079 BS!!
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In less than six years (started in 2016), Agri-connection, a professional quarterly NAPA online newsletter, has established itself as an excellent resource for educators and researchers by encompassing teaching, research, and outreach. The dedicated professional editors have done a marvelous job in keeping each issue more exciting with rich content and meaningful information for the professionals in agriculture and allied fields. Each issue has been uniquely informative, with timely research articles on current issues and new technologies to address them. It is impressive to see poems describing agriculture. Since the newsletter also includes articles in the Nepali language, farmers in Nepal also can benefit from this newsletter. I congratulate the whole team of editors and contributors to AC for their untiring effort and dedication. In my view, “Agri-Connection (AC), as an online newsletter, has added a very important feather in NAPA’s cap.”
Registration and Hotel Reservation are Now Open

## Conference Committees

### Conference Organizing Committee
- **Chair:** Dr. Nanda P. Joshi
- **Co-Chairs:**
  - Dr. Megha N. Parajulee
  - Dr. Lila B. Karki
- **Secretary:** Dr. Sushil Paudyal
- **Members:**
  - Dr. Pradeep Wagle
  - Dr. Ramjee P. Ghimire
  - Dr. Santosh Dhakal
  - Dr. Uma Karki
  - Dr. Sushil Thapa
  - Dr. Shyam Kandel
  - Ms. Gita Koirala
  - Dr. Nitya N. Khanal
  - Dr. Aditya R. Khanal
  - Dr. Prem B. Bhandari

### Research Mini Grant Symposium
- **Chair:** Dr. Nitya N. Khanal, Chair
- **Co-Chairs:**
  - Dr. Buddhi Gyawali
  - Dr. Rajan Ghimire
  - Dr. Manoj Karkee
- **Secretary:** Dr. Aditya R. Khanal
- **Members:**
  - Dr. Sharad Marahatta
  - Dr. Sonisa Sharma

### IT Committee
- **Chair:** Dr. Dev Paudel, Chair
- **Co-Chair:** Dr. Ananta Acharya
- **Members:**
  - Dr. Pramod Pokharel
  - Ms. Asmita Nagila
  - Mr. Bishwoyog Bhattarai

### Local Organizing Committee
- **Chair:** Dr. Chandra K. Dhakal
- **Members:**
  - Dr. Prakash Malla
  - Dr. Mukti Ghimire
  - Mr. Madhav Parajuli
  - Mr. Ananda Tiwari
  - Mr. Bhuwan Shrestha
  - Mr. Gautam K. Joshi
  - Mr. Deepak Khanal
  - Dr. Santoshi Chaudhary
  - Dr. Khim B. Ale
  - Mr. Nabin Bhandari
  - Mr. Sailesh Bhattarai
  - Mr. Maha P. Gelal
  - Mr. Bikash Ghimire
  - Dr. Sadhikshya Lamsal

### Scientific Committee
- **Chair:** Dr. Rajan Ghimire
- **Co-Chairs:**
  - Dr. Manoj Karkee
  - Dr. Raju Adhikari
  - Dr. Bishwo Adhikari
  - Dr. Bal Krishna Joshi
  - Dr. Santosh Dhakal
  - Dr. Kalpana Khanal
  - Dr. Niraj P. Joshi
  - Dr. Krishna Puri
  - Dr. Bharat Shrestha
  - Dr. Sita Thapa
  - Dr. Shital Paudel
  - Dr. Nitya N. Khanal

### Student Essay Contest
- **Chair:** Dr. Bharat Pokharel, Chair
- **Members:**
  - Dr. Gandhi Bhattarai
  - Dr. Lila Khatriwada
  - Dr. Mukti Ghimire
  - Dr. Omkar Joshi
  - Dr. Prakriti Bista
  - Mr. Shaligram Aryal
  - Dr. Shyam Adhikari

### Agri-poem Recital
- **Chair:** Dr. Manoj Karkee
- **Co-Chair:** Dr. Bharat Shrestha
- **Co-Chair:** Mr. Dhananjaya Dhakal
- **Co-Chair:** Mr. Pradeep Wagle
- **Co-Chair:** Mr. Sailesh Bhattarai
- **Members:**
  - Mr. Dr. Dhananjaya Dhakal, Co-Chair
  - Mr. Buddhhi Gyawali
  - Mr. Govinda Baral
  - Mr. Padma Nath Atreyya

### Fundraising
- **Chair:** Dr. Pradeep Wagle
- **Members:**
  - Dr. Purna Kandel

### Communication and Media
- **Chair:** Dr. Pramod Pokharel
- **Members:**
  - Mr. Bipin Neupane
  - Ms. Sadhikshya Paudel

### Logistic Management
- **Chair:** Ms. Ambika Tiwari
- **Members:**
  - Dr. Megha N. Parajulee
  - Dr. Pradeep Wagle

### Cultural Program
- **Chair:** Dr. Manoj Karkee
- **Members:**
  - Dr. Pradeep Wagle
  - Mr. Sailesh Bhattarai

### Sports and Physical Fitness
- **Chair:** Ms. Kemika Bhandari
- **Members:**
  - Dr. Mukti Ghimire
Conference Highlights

NAPA 3rd Biennial International Scientific Conference
“Advancing agriculture in a changing world”

May 27-29, 2022 (Memorial Day Weekend)
SONESTA Hotel and Resorts
1325 Virginia Ave., Atlanta, GA 30344, USA

Conference Highlights
- Keynote speech
- Scientific oral and poster presentations
- Competitive student presentations (oral & poster)
- Student essay writing competition
- Agri-poem contest
- Ag policy panel discussion
- Ag-entrepreneurs panel discussion
- Financial literacy/education session
- Seniors’ roundtable discussion
- Professional development sessions with representatives from industry and academia
- Research mini-grant symposium
- Roundtable (joint and student members)
- Pre/post-conference tours
- Cultural night
- Sports, social, and networking events
- Volunteer appreciation
- Annual general meeting and announcement of new leadership

For details: https://napaamericas.org/conference-2022.php

Total abstracts received = 130
  Student oral: 26
  Student poster: 27
  Research Mini-Grant oral: 15
  Professional oral: 46
  Professional poster: 16

Total essays received = 12
Total agri-poems received = 50
Panel Discussions

Discussion on Financial Planning, Savings, Risk, and Insurance

A moderated special session encouraging interaction and panel discussion on special topics is being organized. This session intends to facilitate fundamental understanding of money management, risk, insurance, savings, and financial planning. Each speaker provides insights and discusses the specific key topics and interface of these interesting areas. With eye opening topics of financial aid, strategy for college to concepts of risk and investment, retirement and social security, and financial safety nets, this session aims to bring attention to the audience from different age groups.

Key speakers for the panel discussion include Mr. Dol Dhakal, Dr. Ramesh Khanal, Mr. Bal Krishna Regmi, Ms. Ambika Tiwari. Tentative topics to be covered are:

- Financial planning, How money works?, Market risk diversification basics, will/trust planning and legacy transfer.
- College Planning and financials: How to get financial aid, grant money, savings for study.
- Retirement planning and concepts: social security, insurance, annuity, common financial instruments and your strategic choice.
- Self/Family protection, financial planning, and indexed instruments option for downside protection from market volatility.

Dr. Aditya R. Khanal will moderate this discussion. Dr. Khanal has research and academic experience and interest in the areas of finance, risk management, and business strategies.

Agricultural Policy Interaction

Nepal has long been working to expedite agricultural growth and increase the contribution of the agricultural sector to the country's overall development. To bring this vision to fruition, Nepal has been implementing several periodic plans along with several agricultural sector specific policies and strategies such as Agricultural Perspective Plan (APP) and Agricultural Development Strategy (ADS). Several positive changes such as an increase in commercial agriculture are noted as a result of these policies and plans, however, much is to be done to realize the anticipated impact of these policies. In the last 15 years or so, Nepal experienced a major political change and promulgated a new constitution devolving power to provincial and local governments.

Being a WTO and OIE member country and having had working relationships with several other regional and international organizations and countries, any developments or changes happening across the globe have direct impact on Nepal, including its agricultural development. This said, Nepal should constantly review its existing policies, plans, and strategies, and proactively revise/devise its future plans, policies, and strategies to expedite agricultural growth.

To help Nepal with this endeavor, the Association of Nepalese Agricultural Professionals of Americas (NAPA) is organizing a panel discussion with agricultural experts, who are conversant with Nepal’s agricultural policies and development efforts, during its upcoming 3rd Biennial International Conference. The conclusions and recommendations synthesized from this panel discussion are expected to contribute to the development of Nepal’s long-term agricultural policies and strategies. A report outlining major points suggested by panelists and lessons-learned and the way forward will be the major deliverables.
Panel Discussions

“Nepal’s Agricultural Development Policies and Strategies”

Dr. Bimala Rai Paudel
Member of Parliament
and former NPC
Member, Nepal

Dr. Bishnu R. Upreti
CEO
Policy Research
Institute, Nepal

Dr. Dil Bahadur Gurung
Member
National Planning
Commission, Nepal

Prof. Gopi Upreti
Advisor
NAPA

Dr. Govinda P. Sharma
Secretary
MoALD, Nepal

Ms. Purna K. Subedi
Member of Parliament,
Chair of Ag., Coop. &
Nat. Res. Comm., Nepal

Dr. Ramjee Ghimire
General Secretary
NAPA
Coordinator

Dr. Prakash Malla
Advisor
NAPA
Moderator

NAPA Golf Tournament

Date: May 27, 2022, Friday
Time: 1:00 – 4:00 PM
Venue: College Park Golf Course, Atlanta, GA
Address: 3711 Fairway Dr. College Park, GA 30337

Dress Code:
Casual or Khaki Pant (Short)
NAPA Golf T-shirt (available to purchase at the venue)
Sports/Golf Shoes
Cap
Event Brief

- The Scientific Committee led by Dr. Rajan Ghimire is working on 130 abstracts received from different parts of the world.
- NAPA RMG Research Symposium led by Dr. Nityananda Khanal, RCBC Chair, is planned to showcase the findings of the sixteen research projects sponsored through NAPA Research Mini-Grant program.
- Agri-poem Committee led by Dr. Manoj Karkee has received 46 competitive poems. A panel of experienced judges will be shortlisting the initial submissions for recital during the event in Atlanta.
- The Student Essay Committee led by Dr. Bharat Pokharel has received 12 essays from the universities in Nepal and the USA.
- The Communication and Media Committee led by Dr. Pramod Pokhrel is developing user-friendly and informative mass media materials such as audiovisuals, press releases, and event brochures/flyers capturing the recent and complete information about the upcoming conference.

Following are the links to the video messages.

Message from the NAPA President: https://youtu.be/CrZISjvXvDA
Message from the Conference Committee Chair: https://youtu.be/kUSuf6wxdPk
Message from the Conference Secretary: https://youtu.be/ysJtM8kZxJU

- The IT Committee led by Dr. Dev Paudel is working to arrange the necessary digital tools and technology to successfully host the upcoming conference in hybrid mode.
- Dr. Manoj Karkee coordinates cultural event. Several fun-filled cultural events such as solo and group songs from renowned Nepali folk singers are planned.
- Ms. Kemika Bhandari, a Founding Life Member of NAPA, coordinates Sports. Golf, and Walk and Runs are also planned.
- Conference Logistics Committee led by Ms. Ambika Adhikari Tiwari and supported by NAPA executive committee has decided to offer a complimentary conference bag. A polo shirt and NAPA books are available on sale.
- Fundraising: A total of $4,250 has been raised for the conference as of May 07, 2022. Please see the sponsorship flyers on page 12.
- Program highlights are available on page 8.
Invited Speakers

Sustainable Agricultural Intensification under Changing Climate

P.V. Vara Prasad, PhD
Director, Sustainable Intensification Innovation Lab
University Distinguished Professor; and R.O. Kruse Endowed Professor
Kansas State University
Past President, Crop Science Society of America

Dr. Prasad’s research focuses on understanding responses of food grains crop to changing environments (temperature, water and climate change factors) and developing best management strategies for efficient use of inputs. He has research, education, outreach and capacity building programs in many countries in Africa (e.g., Senegal, Ghana, Mali, Burkina Faso, Niger, Ethiopia) and Asia (e.g., India, Bangladesh, Cambodia, Philippines) focusing on soil, water, nutrient and crop management practices, abiotic stress tolerance, and sustainable agricultural intensification for improving productivity, profitability and resilience of agri-food systems.


“Navigating your career in industry: An agricultural R&D perspective”

Jason Rauscher
R&D Academic Relations Manager, Corteva Agriscience

Jason is currently responsible for managing the Corteva Symposia Series, which supports a network of graduate student organized symposia at over 30 universities and research centers around the world each year. His responsibilities also include management of the New Frontiers in Applied Science conference series, and support for the Corteva R&D Internship Program for undergraduate and graduate students.

Association of Nepalese Agricultural Professionals of Americas (NAPA)

NAPA is grateful to

USDA-ARS, Southern Horticultural Research Poplarville, Mississippi

for generous donation of
$1,000 (One Thousand USD) to
NAPA Conference Fund

Conference Fundraising Committee, NAPA

Association of Nepalese Agricultural Professionals of Americas (NAPA)

NAPA is grateful to

LI-COR

for sponsoring student poster presentation awards of
$500 (Five Hundred USD) to
NAPA Conference Fund

Conference Fundraising Committee, NAPA

Association of Nepalese Agricultural Professionals of Americas (NAPA)

NAPA is grateful to

Life members Mr. Ramesh Pandit & Mrs. Sarita Pandit from Iowa

for sponsoring Agri-poem awards of
$500 (Five Hundred USD) to
NAPA Conference Fund

Conference Fundraising Committee, NAPA

Association of Nepalese Agricultural Professionals of Americas (NAPA)

NAPA is grateful to

Life member Mr. Balkrishna Regmi & Mrs. Kusum Aryal Regmi from Maryland

$500 (Five Hundred USD) to
NAPA Conference Fund

Conference Fundraising Committee, NAPA

Association of Nepalese Agricultural Professionals of Americas (NAPA)

NAPA is grateful to

Liam Corporation Canada
Adaptive Trading Company Canada

for generous donation of
$1,000 (One Thousand USD) to
NAPA Conference Fund

Conference Fundraising Committee, NAPA

Association of Nepalese Agricultural Professionals of Americas (NAPA)

NAPA is grateful to

Mr. Sarju Ranjit, ICON Agent
Edmonton REALTOR
www.SarjuRanjit.ca
eXp Realty, Canada

$250 (Two Hundred and Fifty USD) to
NAPA Conference Fund

Conference Fundraising Committee, NAPA

NAPA 2022
3rd BIENNIAL INTERNATIONAL SCIENTIFIC CONFERENCE
MAY 27-29, 2022
ATLANTA, GA, USA
Dear NAPA Members and Beyond,

You are cordially invited to help us heighten the vision and mission of the Association of Nepalese Agricultural Professionals of Americas (NAPA, http://napaamericas.org/). The NAPA is a rapidly growing non-profit professional society of about 500 dedicated professionals in the field of agriculture and allied disciplines. It has scheduled the 3rd Biennial International Scientific Conference during Memorial Day Weekend (May 27-29, 2022) in Atlanta, Georgia on the theme ‘Advancing Agriculture in a Changing World.’ This is a unique scientific platform for students, academicians, and professionals in the field of Agricultural and Allied Sciences around the world to share their research findings and experiences through paper and/or poster presentations, workshops/symposia, roundtable discussions, and agri-poem recitation in a hybrid format. We are pleased to share that we have received over >130 abstracts for scientific presentations from over 10 countries.

The conference registration fee is nominal to allow an opportunity for maximum participation of students and early career professionals. The primary source of funding is the generous support from our sponsors and/or members. Please see the sponsorship level below. Also, we appreciate and welcome any amount of donations to recognize and reward great minds at this historic conference.

Sponsorship levels: ≥$1,000: Platinum; $500-$999: Diamond; $300-$499: Gold; $100-$299: Silver; $50-$99: Bronze; <$50: Green (Please note: “NAPA donations are tax deductible”).

Donations can be paid in different ways:

- Free electronic wire transfer using Zelle from several major banks in the USA to napa2072@gmail.com. Please write the purpose of payment – (e.g., donation for NAPA Biennial Conference).

- PayPal or Credit/Debit Cards: Click the donate button on the NAPA website (https://www.napaamericas.org/donate.php) and pay using PayPal or Credit/Debit Cards. Please write the purpose of payment in the ‘additional information’ box.

- Mail a Check or Wire Transfer: Please contact NAPA at napa2072@gmail.com.

NAPA donations are tax deductible. We thank you in advance for your generous donation.

Please find the information about our past conferences:

You are cordially invited to help us heighten the vision and mission of the Association of Nepalese Agricultural Professionals of Americas (NAPA, http://napaamericas.org/). The NAPA is a rapidly growing non-profit professional society of about 500 dedicated professionals in the field of agriculture and allied disciplines. It has scheduled the 3rd Biennial International Scientific Conference during Memorial Day Weekend (May 27-29, 2022) in Atlanta, Georgia on the theme ‘Advancing Agriculture in a Changing World.’ This is a unique scientific platform for students, academicians, and professionals in the field of Agricultural and Allied Sciences around the world to share their research findings and experiences through paper and/or poster presentations, workshops/symposia, roundtable discussions, and agripoem recitation in a hybrid format. We are pleased to share that we have received over >130 abstracts for scientific presentations from over 10 countries.

Your generous donation for the conference will be recognized at the conference, acknowledged in the conference Proceedings, and published on NAPA website. A booth can also be provided at the conference to display your materials.

You have the opportunity to sponsor at one of the following tier levels:

- $5,000: Platinum
- $4,000-$4,999: Diamond
- $3,000-$3,999: Gold
- $2,000-$2,999: Silver
- $1,000-$1,999: Bronze
- $500-$999: Green

Donations can be paid in different ways:

- Free electronic wire transfer using Zelle from several major banks in the USA to napa2072@gmail.com. Please write the purpose of payment – (e.g., donation for NAPA Biennial Conference).
- PayPal or Credit/Debit Cards: Click the donate button on the NAPA website (https://www.napaamericas.org/donate.php) and pay using PayPal or Credit/Debit Cards. Please write the purpose of payment in the “additional information” box.
- Mail a Check or Wire Transfer: Please contact NAPA at napa2072@gmail.com.

NAPA donations are tax deductible. We thank you in advance for your generous donation.
COVID-2019 Protocol

NAPA 3rd Biennial International Scientific Conference 2022 is planned as a hybrid meeting with participation in-person in Atlanta, GA and online everywhere.

Safety of our in-person attendees is our topmost priority. NAPA will strictly adhere to the Center for Diseases Control (CDC), federal, and State guidelines and give utmost priority to the health and safety of our attendees at every step of the conference. All participants must abide by the following standards to attend the in-person conference.

NAPA will continue to assess the situation and fully comply with CDC guidance, federal, state, and local requirements regarding safety, including the use of masks and practice of social distancing that are in effect at the time of the meeting.

If expected conditions and instructions/advisory change (for example, warrant a reduced in-person event or fully online event), we will inform our in-person registrants/attendees as soon as possible.

As of now, we have the following COVID-19 protocol:

- Proof of COVID-19 vaccination, COVID-19 booster shot(s), and masks are strongly encouraged as extra protection, but not mandated.
- Speakers with proper distance will not be required to wear a mask while presenting. However, practicing social distancing for participants are encouraged as possible.
- Sanitization/cleaning of common touchpoints (e.g., mikes), and provision of hand sanitizer/wipes at the conference rooms and entrances.
- Post of signage throughout the venue to remind the group of COVID-19 protocol.
- Work closely with the hotel authority to stay informed of the current State, County, and local regulations.
- Please do not travel for in-person meeting if you are not feeling well or if you think you have been exposed to COVID-19.

For further questions, please contact NAPA at conferencenapa@gmail.com or napa2072@gmail.com.

COVID-2019 Symptoms

- Fever
- Cough
- Fatigue
- Loss of taste or smell
- Difficulty breathing
NAPA Election 2022: Announcement
(Released on: 2/17/2022)

The Election Commission of the Association of Nepalese Agricultural Professionals of Americas (NAPA) would like to inform everyone that the 2022 election for the NAPA Executive Committee will be conducted through online voting as well as onsite secret ballots. The online voting will begin on May 18, 2022 (8:00 AM Eastern Time) and end on May 24, 2022 (11:59 PM Eastern Time). The onsite voting will begin at 12:00 PM – 2:00 PM Eastern Time on May 28 (Saturday). The onsite voting will be held at the site of the biennial convention, Sonesta Hotels and Resorts, Atlanta Airport, 1325 Virginia Avenue, Atlanta, GA 30344).

The election will be conducted strictly according to the current bylaws of NAPA, which can be found on the NAPA website (http://napaamericas.org). The Election Commission has decided that April 20, 2022 (11:59 PM Eastern Time) will be the cutoff date to become a member and be eligible for contesting or voting in the election.

Hence, the commission urges all interested individuals to check their membership status and verify that the above requirement is fulfilled. If you are NOT currently a member of NAPA, the committee urges you to apply for membership and become a voting member by paying the necessary dues to NAPA prior to April 20, 2022 deadline. Contact information for the NAPA treasurer or other executives can be found on the above-mentioned website.

Attached please find the election timeline for your information and planning.

Election Commission
Prof. Gopi Upreti, Chief Commissioner
Dhananjaya Dhakal, Commissioner
Kemika Bhandari, Commissioner

Congratulations Editor-in-Chief Dr. Sushil Thapa!
The 2022 Election Commission of the Association of Nepalese Agricultural Professionals of Americas (NAPA) has finalized the following timetable for conducting the election of the 2022 Executive Committee (EC) according to the bylaws of the Association. This timetable will be strictly followed. If it does not specify a time it means before 11:59 PM Eastern Time on that date.

Table 1. Timetable for for NAPA election - 2022.

<table>
<thead>
<tr>
<th>SN</th>
<th>Date</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>February 17, 2022</td>
<td>First Notice sent regarding Election for the Executive Committee – highlights the eligibility to vote and membership requirements</td>
</tr>
<tr>
<td>2</td>
<td>March 23, 2022</td>
<td>Nomination Opens - Call for nomination for all EC positions will be announced on or before this date</td>
</tr>
<tr>
<td>3</td>
<td>April 20, 2022</td>
<td>Last date to be member or renew membership - Only dues paying members in good standing by this date shall be eligible to contest or vote in the election.</td>
</tr>
<tr>
<td>4</td>
<td>April 25, 2022</td>
<td>Last date for submitting nomination for all positions to the Election Commission</td>
</tr>
<tr>
<td>5</td>
<td>April 27, 2022</td>
<td>Publication of eligible voters which will be posted on NAPA website (<a href="http://napaamericas.org">http://napaamericas.org</a>)</td>
</tr>
<tr>
<td>6</td>
<td>April 30, 2022</td>
<td>Last day to claim on voters list (Eligibility of voting members)</td>
</tr>
<tr>
<td>7</td>
<td>May 2, 2022</td>
<td>Publication of corrected/revised eligible voters list which will be posted on NAPA website (<a href="http://napaamericas.org">http://napaamericas.org</a>)</td>
</tr>
<tr>
<td>8</td>
<td>May 4, 2022</td>
<td>A list of candidates will be posted on NAPA website (<a href="http://napaamericas.org">http://napaamericas.org</a>)</td>
</tr>
<tr>
<td>9</td>
<td>May 8, 2022</td>
<td>Last date to submit any concern about the nominated candidates to the Election Commission</td>
</tr>
<tr>
<td>10</td>
<td>May 12, 2022</td>
<td>Last day to withdraw nomination by candidates.</td>
</tr>
<tr>
<td>11</td>
<td>May 15, 2022</td>
<td>Publication of final list of candidates will be posted on NAPA website (<a href="http://napaamericas.org">http://napaamericas.org</a>)</td>
</tr>
<tr>
<td>12</td>
<td>May 18-24, 2022</td>
<td>Online voting begins May 18, at 8:00 AM and ends on May 24, at 11:59 PM, Eastern Time</td>
</tr>
<tr>
<td>13</td>
<td>May 28, 2022</td>
<td>Onsite voting at the site of biennial convention by secret ballots (Sonesta Hotels and Resorts, Atlanta-Airport, 1325 Virginia Avenue, Atlanta, GA 30344). May 28 Voting - 12:00 PM – 2:00 PM</td>
</tr>
<tr>
<td>14</td>
<td>May 29, 2022</td>
<td>Election Result Announcement at the AGM Meeting</td>
</tr>
</tbody>
</table>

**Election Commission**

Prof. Gopi Upreti, Chief Commissioner  
Dhananjaya Dhakal, Commissioner  
Kemika Bhandari, Commissioner
NAPA Election Commission invites nominations from its members to serve on the Executive Committee (EC) for a two-year term beginning May 30, 2022.

**The nominations are called for the following positions:**

President (1), Vice President (1), General Secretary (1), Joint Secretary (1), Treasurer (1), Executive Members (6) Interested NAPA members shall self-nominate, and one member can self-nominate for only one position mentioned above. To simplify the nomination process, no 3rd party nomination will be accepted. Nominations must be submitted to the Election Commission no later than April 25, 2022 for consideration. Nominations must be submitted by following the guidelines and procedures as described below.

**Nomination Guidelines and Procedures:**

While submitting a self-nomination, the following guidelines and procedures must be observed:

- Must be a NAPA member in good standing.
- In the case of the President, the interested member must have served at least one term in the EC.
- One individual member is eligible to submit a nomination for only one position.
- The position being self-nominated must be clearly specified.
- The nominee must provide the following information:
  a. Name:
  b. Current mailing address:
  c. Valid e-mail address:
  d. Valid phone number:
  e. Member in good standings as of April 20, 2022: Yes or No
  f. Current Officer: Yes or No
- Each nominee shall provide a statement describing why he or she is eligible for the position according to the nomination guidelines described above and the NAPA bylaws.
- Each nominee shall provide a statement of intent describing in no more than 500 words (maximum limit) why he or she uniquely qualifies to serve in the position and their vision for NAPA.
- Nomination must be submitted no later than April 25, 2022.
- Nomination must be submitted online at [https://www.napaamericas.org/election2022.php](https://www.napaamericas.org/election2022.php)
- For timetable and other information about the nomination process and election, please visit the NAPA website at [https://www.napaamericas.org/election2022.php](https://www.napaamericas.org/election2022.php)

Respectfully,
NAPA Election Commission 2022
Prof. Gopi Upreti, Chief Commissioner
Dhananjaya Dhakal, Commissioner
Kemika Bhandari, Commissioner
NAPA Endowment Fund Update

Pledge and progress
Since the formal establishment of the NAPA Endowment Fund in January 2021, with the goal of achieving NAPA’s economic and programmatic sustainability, as of March 31, 2021, the 51 generous sponsors have pledged a total amount of $100,852.00 in the Endowment Fund as shown below (green bar).

The fund was started with a seed money of $800.00 and we had a surplus of $5,942.00 from the conference organized virtually in 2020. Therefore, the current fund is $107,597.00. Of which, $20,500 is invested on Vanguard. (https://investor.vanguard.com/corporate-portal/).

For further information and feedback, please contact at napaendowmentfund2021@gmail.com.

Appeal to Support NAPA Initiatives

- **Research Mini-Grant**: [https://www.napaamericas.org/donate.php](https://www.napaamericas.org/donate.php)
- **Scholarship Fund**: [http://napaamericas.org/napa-scholarships-sponsors.php](http://napaamericas.org/napa-scholarships-sponsors.php)

For past issues of Agri-Connection pleas visit: [http://napaamericas.org/agri-connection.php](http://napaamericas.org/agri-connection.php)
NAPA community is growing steadily with an increasing number of members from a wide range of agricultural disciplines and geographical regions. Foreseeing its further expansion over time, it is imperative to have a system of regular funding sources to ensure continued NAPA activities. Such financial safety can be achieved via a carefully managed Endowment Fund. Endowed fund principal is not to spend; instead, the earnings from the endowment investments help the programs you choose to implement. In other words, each gift designated for endowment provides NAPA with a permanent financial support/source. Considering this fact, NAPA established Endowment Fund (https://www.napaamericas.org/endowment.php) in 2017, and the current Executive Committee formed an Endowment Fund Advisory Board that has oversight of this fund. Any NAPA members and interested generous individuals may contribute to this fund. Several NAPA members have already pledged for this endowment fund.

On behalf of the NAPA, the Endowment Fund Advisory Board (EFAB) extends its sincere appreciation to all the generous sponsors for your timely deposit of first-year installment to the EFAB bank account. Your dedicated contribution and commitment will make NAPA’s growth and program sustainable in the near future.

Thank you for your valuable contribution to the organization!

We are grateful to our new donor!

NAPA has recently published a book entitled:


Please save your copy today!

Contact NAPA if you need further information.
napa2072@gmail.com
Dear Sir/Madam:

The Endowment Fund Advisory Board (EFAB) of the Association of Nepalese Agricultural Professionals of Americas (NAPA) sincerely requests you to consider a donation to its Endowment Fund. Your donations to the endowment fund would help NAPA achieve its overarching goal, “Global Food Security through Agricultural Transformation.” NAPA is a non-profit, non-governmental, non-religious, and non-political professional organization dedicated to serving humanity through scientific research, teaching, outreach, and charitable initiatives in agricultural and allied disciplines. Since its inception in 2016, NAPA has implemented outstanding programs such as international scientific conferences, scholarships, research mini-grants, webinars, seminars and workshops, peer-reviewed journal, Global Journal of Agriculture and Allied Sciences (GJAAS), a seminal book on food security, research and policy briefs, and Agri-Connection – an online quarterly newsletter.

To facilitate and expand its endowment fund, originally initiated in 2017, envisioning the economic and programmatic sustainability of this emerging organization, the NAPA Executive Committee has established an Endowment Fund Advisory Board in January 2021. The EFAB envisages utilizing the endowment revenue to sponsor NAPA's flagship programs, prioritizing donor-specified activities while allowing the principal to grow through its productive investment strategies. You can contribute to this noble cause by establishing the fund in your name or your beloved ones’. As a contributor, you can also express your activity of interest to NAPA, consistent with NAPA's mission and vision. It is an incredible opportunity for you to contribute to this cause through an upfront donation or any amount on a monthly or annual basis for any number of years, based on your interest and willingness. Donations to NAPA endowment funds are tax-deductible. Our Endowment Fund Donation Recognitions/Tiers are:

- **Platinum Sponsor** ≥$10,000
- **Diamond Sponsor** ≥$7,000
- **Gold Sponsor** ≥$5,000
- **Silver Sponsor** ≥$3,000
- **Bronze Sponsor** ≥$1,000
- **Green Sponsor** ≥$500
- **Valued Sponsor or Supporter** <$500 (allocated to common/pool fund)

The endowment fund's beauty is that a sponsor may customize the donation as a single or multiple installment(s) over the years. The tiered recognition level may scale up anytime your support reaches the designated tier, as mentioned above. The EFAB assures you that every donation to this fund will be maintained, managed, and utilized transparently.

As a EFAB chair, I, Lila B. Karki would like to thank all generous donors and EFAB Board members for their exceptional solidarity during my tenure (January 01, 2021 - May 29, 2022). I also welcome Dr. Megha N. Parajulee as a new chair of EFAB effective May 30, 2022.

Thank you everyone!

Endowment Fund Advisory Board

Within a short period of time, the Endowment Fund Advisory Board has already received a pledge commitment of US $107,597.00 as of March 31, 2022.
The Webinar Committee (WC) hosted two important webinars during this quarter. The 28th Webinar Session was held with Dr. Yadu Pokhrel, Associate Professor at the Department of Civil Engineering, Michigan State University, Michigan, USA. Dr. Pokhrel discussed the contemporary issues on food-energy-water (FEW) systems, highlighted the past and current research efforts, and underscored potential directions for the future.

Key messages from Dr. Pokhrel

- Floods, droughts, global warming, depletion of groundwater, and water pollution are some of the major issues on current agricultural development.
- Production and utilization of bioenergy (biofuel) can be a potential climate change mitigation strategy.
- Optimize on-farm solar energy for pumping groundwater and strengthen FEW systems in the face of climate change.
- Scientists from different disciplines, stakeholders, and policy makers need to work together.
- Outreach and local capacity building is essential for research and development.

The 29th Webinar Session was held with Dr. Kalpana Khanal, Senior Research Fellow and Center Coordinator at Center for Economic and Infrastructure Development Policy, Policy Research Institute, Kathmandu, Nepal. Dr. Khanal discussed the opportunities and challenges of least developed country (LDC) with special reference to graduation for Nepal, and shared examples from other countries.

Key messages from Dr. Khanal

- LDC graduation is a moment of celebration and it provides positive message to investors regarding Nepal’s development efforts.
- LDC graduation has no negative impact on foreign direct investment (FDI), remittance and technology access.
- Higher income status could create a positive outlook on attracting FDI.
- Nepal can still take advantage of LDC until 2026.
- Nepal can take a market advantage available in two giant neighbors, India and China (geographical dividend), affordable labor cost, young population

Appeal to Support NAPA Initiatives

- Research Mini-Grant: https://www.napaamericas.org/donate.php
- Scholarship Fund: http://napaamericas.org/napa-scholarships-sponsors.php
**Photograph I:**
Bioenergy sorghum, grown in the Texas High Plains. The crop grows as high as 18-20 feet tall and the biomass is used to produce cellulosic ethanol.

*Source: Sushil Thapa*

**Photograph II:**
Nursery beds prepared by a grower Bharat Rai in Khotang, Nepal. Mr. Rai earns NRs. 1.5 million annually by selling seedlings and vegetables.

*Source: Sanjay K. Pandit*

**Photograph III:**
Calan gate system for individualized diet supplement intake for animals in extensive grazing systems.

*Source: Sanjok Poudel*
Profile summary:

Ms. Kemika Bhandari has contributed to NAPA’s growth ever since its inception in 2016. She is one of the Founding Life Members of NAPA and has been actively engaged in promoting NAPA and its activities among agricultural professionals in the U.S. and beyond. She was the Board of Director/Executive Member of NAPA from 2018-2020, and has been a Sports Coordinator from 2016 – till present. In recognition of excellent and unabated contribution to NAPA, NAPA awarded her with an Outstanding NAPA Volunteer in 2018.

In addition to NAPA, Ms. Bhandari has been involved in several social organizations and community activities. Her roles include an Ambassador for the Himani Trust Maryland Bureau, MD (at present); Life member and Board of Trustee - Baltimore All Nepalese Association (BANA), Baltimore Maryland (2007 – till now); Vice-President and Founding Member, Nepal Sports and Culture International (NSCI), USA; Life Member and State Coordinator (former), Blood Donors of America, USA. She is also a Founding Life Member and Board of Trustee: Nepali American Cultural Center (NACC), Baltimore, MD.

Ms. Bhandari holds a B.S. in Agriculture from Institute of Agriculture and Animal Science (IAAS), Chitwan Nepal. Currently, she is self-employed. In the past, she served as a Medical Interpreter at Johns Hopkins University, Medicine International Community Relations, Baltimore, MD from 2011 to 2021. As a Technical Research Officer, she served in the Nepal Agriculture Research Council (NARC), Nepal in early 2000s. Her hobbies are sports, culture, and community service; involvement in golf; and horse-riding polo and elephant polo.
## NAPA Committees

### Executive Committee (2020-2022)
- **President**: Dr. Megha N. Parajulee
- **Vice President**: Dr. Pradeep Wagle
- **General Secretary**: Dr. Ramjee Ghimire
- **Joint Secretary**: Dr. Dev Paudel
- **Treasurer**: Dr. Santosh Dhakal

### Executive Members
- **Dr. Aditya Khanal**
- **Ms. Gita Koirala Bhandari**
- **Dr. Nityananda Khanal**
- **Dr. Shyam L. Kandel**
- **Dr. Sushil Thapa**
- **Dr. Uma Karki**

### Advisory Council
- **Dr. Dainik B. Karki Nepali**
- **Dr. Drona Rasali**
- **Prof. Gopi Upreti**
- **Dr. Lila B. Karki**
- **Dr. Nanda P. Joshi**
- **Dr. Narayan Khadka**
  (Legal Advisor)
- **Dr. Peetambar Dahal**
- **Dr. Prakash Malla**

### Nepal Liaison
- **Mr. Kiran Ojha**

### Endowment Fund Advisory Board (EFAB)
- **Chair**: Dr. Lila B. Karki
- **Director**: Dr. Megha N. Parajulee
- **Director/Member Secretary**: Dr. Prem B. Bhandari
- **Outreach and Investment Coordinators**: Dr. Basu D. Bhandari, Dr. Aditya R. Khanal

### Student Coordination Committee (SCC)
- **Chair**: Ms. Shubhechchha Sharma
- **Co-Chair**: Mr. Bikash Ghimire
- **Members**:
  - Ms. Asmita Devkota
  - Mr. Nabin Sedhain
  - Mr. Pawan Devkota
  - Mr. Rishi Khatri
  - Mr. Sudhir Yadav
  - Ms. Sudikshya Paudel
  - Mr. Sujan Bhattarai
  - Mr. Yogendra Raj Upadhyaya
- **Advisor**: Dr. Santosh Dhakal

### Career and Outreach Committee (COC)
- **Chair**: Dr. Pramod Pokhrel
- **Members**:
  - Ms. Asmita Nagila
  - Mr. Bishwoyog Bhattarai
  - Mr. Deependra Dhakal
  - Mr. Dinesh Phuyal
  - Ms. Isha Poudel

### Membership Drive (MD)
- **Chair**: Dr. Pradeep Wagle
- **Advisor**: Dr. Santosh Dhakal

### Information Technology (IT)
- **Chair**: Dr. Dev Paudel

### Global Journal of Agricultural & Allied Sciences (GJAAS)
- **Editor-in-Chief**: Dr. Megha N. Parajulee
- **Managing Editors**: Dr. Bharat Pokharel, Dr. Pradeep Wagle
- **Editors**:
  - Dr. Chakra Budhathoki
  - Dr. Jagadish Timsina
  - Dr. Kalidas Subedi
  - Dr. Krishna P. Paudel
  - Dr. Prem B. Bhandari
  - Dr. Uma Karki

### Nepalese Women in Agricultural and Allied Professions (WAAP)
- **Chair**: Ms. Gita Koirala Bhandari
- **Members**:
  - Ms. Ambika Tiwari
  - Dr. Kripa Dhakal

### Resource and Capacity Building Committee (RCBC)
- **Chair**: Dr. Nityananda Khanal
- **Members**:
  - Dr. Aditya Khanal
  - Dr. Bharat M. Shrestha
  - Dr. Buddhi Gyawali
  - Dr. Manoj Karkee
  - Dr. Pramod Pokhrel
  - Dr. Rajan Ghimire
  - Dr. Sharad P. Marahatta
  - Dr. Sonisa Sharma

### Webinar Committee (WC)
- **Chair**: Dr. Khusi Ram Tiwari
- **Members**:
  - Dr. Dilip Panthee
  - Mr. Maha P. Gelal
**NAPA Membership Updates**

<table>
<thead>
<tr>
<th>Member Category</th>
<th>Members</th>
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<tr>
<td>Founding Life</td>
<td>5</td>
</tr>
<tr>
<td>Regular Life+Senior life</td>
<td>114</td>
</tr>
<tr>
<td>General/Regular</td>
<td>15</td>
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<tr>
<td>Student</td>
<td>97</td>
</tr>
<tr>
<td>Associate Life Nepal</td>
<td>62</td>
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<tr>
<td>Associate Life Members International</td>
<td>5</td>
</tr>
<tr>
<td>Joint Life</td>
<td>5</td>
</tr>
</tbody>
</table>

**Student members**
- Ms. Kabita Paudel, Kentucky State University
- Mr. Suraj K C, Kentucky State University
- Mr. Krishna Neupane, Tennessee State University
- Ms. Jyoti Neupane, Clemson University
- Mr. Purushottam Gyawali, University of California-Davis
- Ms. Sakshi Paudel, North Dakota State University
- Dr. Sadikshya Lamsal (BVSC & AH), Tuskegee University
- Mr. Saaruj Khadka, University of Missouri
- Mr. Dipak Khanal, University of Arkansas Pine Bluff
- Mr. Saroj Burlakoti, Utah State University
- Ms. Manita Ale, University of Nebraska-Lincoln
- Mr. Anjan Nepal, Kentucky State University
- Ms. Sandhya Neupane, Tennessee State University
- Ms. Asmita Gautam, Tennessee State University
- Ms. Yuna Gaire, Tennessee State University
- Mr. Nischal Wagle, UTRGV, Texas
- Mr. Bijaya Ghimire, North Dakota State University
- Mr. Manoj Paudel, Kentucky State University
- Ms. Anju Poudel, , Tennessee State University
- Ms. Ekta Ojha, North Dakota State University
- Mr. Bhanu Dangi, North Dakota State University

**Life members**
- Dr. Bhim Chaulagain, North Carolina
- Mr. Bijesh Mishra, Oklahoma
- Dr. Bhawani Mishra, Missouri
- Dr. Anil Adhikari, Missouri
- Dr. Pratibha Acharya, Missouri
- Dr. Dasharath Lohar, North Carolina
- Mr. Tilak Mahato, Arizona
- Dr. Bikash Poudel, North Dakota
- Mr. Madhav Parajuli, Tennessee
- Dr. Kripa Dhakal, Tennessee
- Ms. Anju Pandey, North Carolina
- Dr. Devi R. Kandel, Texas
- Dr. Sita Thapa, Michigan

**General/regular members**
- Mr. Rudra Gurung, Maryland
- Dr. Dipak Kathayat, New York
- Dr. Naba Raj Amgain, Florida
- Dr. Purna Kandel, Canada
- Dr. Shankar Gaire, Louisiana
- Dr. Yadu Pokhrel, Michigan

**Joint Life Members**
- Ms. Shakuntala Khanal Dhakal, Texas

**Associate life members**
- Mr. Mahesh Dutta Chaulagain, Nepal
NAPA associate member Dr. Agni Prasad Nepal successfully completed his PhD in Environment Science from Kathmandu University. This dissertation title is “Sustainable Small-scale Agriculture for Rural Livelihoods in the Mid-hills of Nepal.”

Congratulations Dr. Nepal.

Where to deposit your contribution to NAPA?

**Business Name:** Association of Nepalese Agricultural Professionals of Americas

**QuickPay® with Zelle® payment:** napaendowmentfund2021@gmail.com

**Memo:** Write ‘NAPA endowment fund.’

**For details:** Please contact NAPA at napaendowmentfund2021@gmail.com or NAPA treasurer Dr. Santosh Dhakal at santoshdhakal88@gmail.com

NAPA student member Mr. Madhav Parajuli won the first place (oral presentation) in a graduate student competition at the 20th biennial research symposium organized by the Association of 1890 Research Directors (ARD), April 2-5, 2022, Atlanta, GA. He is currently a Ph.D. student working with Dr. Fulya Baysal-Gurel at Tennessee State University.

Congratulations Mr. Parajuli.
We would like to request potential members to join NAPA - a common professional platform for all of us. Meanwhile, we request all members who are not currently in 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 recruiter(s) 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 fee is $200.00 ($300.00 for eligible couples). Please check for more details on Joining NAPA at http://napaamericas.org/join-napa.php and membership type and fees at http://napaamericas.org/membership.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

Please join or renew your membership. Become a life member if possible!
Birds are warm-blooded animals and a unique group of vertebrates. They come in many sizes, shapes, beak styles, feathers, and wings. Birds' most important feature is their feathers. Feathers are used to fly, swim, and produce heat. Penguins use their wings for diving underwater and catching fish. On the other hand, hummingbirds hardly ever touch the ground. Another fact about hummingbirds is they can be as small as 2 inches long. Ostriches are very big birds; therefore, they cannot fly. Instead, they escape predators by running at speeds of up to 45 miles per hour (73 kilometers per hour)! Birds also have different beaks depending on their types. A flamingo has a long beak for filter-feeding to get their microscopic meals. Birds of prey such as eagles and vultures have sharp beaks for their carnivorous meals. Hummingbirds have beaks to take pollen from flowers.

Did you know that birds have a rich history? Birds have lived on the earth for more than 105 million years. The largest flight bird had a wingspan of almost 24 feet. Vultures and eagles have been the biggest birds that have flown. There were also big flightless birds that could put up fights with saber-tooth tigers!

Birds are important to agriculture because they have been hunted for a long time. Plus, chicken is the most popular meat from an animal to this day. Chickens also give eggs to eat. Other types of bird meat are also popular, such as duck, turkey, and geese. Besides, hummingbirds pollinate flowers.

Thank you for reading this article. I hope you learned a lot about birds, from features to agriculture to history to adaptations.

References

- Scholastic. 2011. Wild Age Discover the Prehistoric World.

Please Encourage Your Kids to Participate

Dear NAPA members and AC readers,

Please inform and encourage your kids to contribute for KidsZone. Creations such as arts, drawings, and any forms of writings (short essay, poem, story, memories, etc.) related to agriculture and allied sciences are accepted. KidsZone also includes features on kids, animals, plants, life at school, and issues of particular interest to kids.

Please include the following:
- Name:
- School (optional):
- Grade:
- State/District:
- (And a photograph)

Kids today, scientists tomorrow!
KidsZone

Amogh Khanal
Kindergarten, Tennessee

Pratyusha Pantha
Kindergarten, Louisiana
Introduction

Soil is an unconsolidated mineral and organic material on the immediate surface of the Earth that serves as a natural medium for the growth of plants and habitats of large number of organisms (Thies & Grossman, 2006). The soil differs from the parent material from which it is derived in many physical, chemical, biological, and morphological properties and characteristics. However, these compositions vary from one place to another (Wang et al., 2015).

Soil erosion is the natural process of carrying away of the topsoil. This natural process is caused by the dynamic activities of erosive agents: water, ice, snow, air, and animals. It is a gradual process that causes detachment of soil particles from soil aggregates, transportation, and deposition to off-site. Soil erosion is responsible for the losses of topsoil from agricultural land which leads to agricultural land degradation and eventually, threatens agricultural sustainability.

Approximately, 80% of agricultural lands, around the globe, suffer from moderate to severe erosion. The annual estimation of soil eroded from agricultural land is about 75 billion tons and a loss of US $400 billion per year is estimated in monetary value (Han et al., 2020). In Nepal, the nationwide mean annual soil loss is estimated to be 25 MT/ha/year with a total of 369 million tons (MT) per year of potential soil loss (Koirala et al., 2019). Understanding the status of soil erosion will help to minimize soil erosion and improve ecological restoration and sustainable development. The sustainable development of Nepal is possible by managing Asta-Ja (Eight Ja- a Nepali letter) among which soil/land (Jamin) is one of the vital elements (Poudel, 2009).

Soil erosion is generally caused by water and wind, called as water erosion and wind erosion respectively. Water erosion occurs when rain or snowmelt displaces the soil on the ground. The amount and intensity of water/water drops play a crucial role in the detachment and displacement of soil particles.

The more water flowing over the land, the more soil particles are moved or transported away. It has been estimated that nearly 45.5% area in Nepal is seriously affected by water erosion (Koirala et al., 2019). Common forms of water erosion are sheet erosion, rill erosion, gully erosion, and stream bank erosion. Wind erosion is a natural process that moves loose soil from one location to another. Soil types that are loose, dry, and finely granulated are less desirable for farmland, as these qualities create smooth surfaces and increase erodibility (Bisal & Hsieh, 1966).

Table 1: Soil erosion rate by geographic region of Nepal. (Source: Koirala et al., 2019)

<table>
<thead>
<tr>
<th>Geographic region</th>
<th>Area (km²)</th>
<th>Mean erosion rate (MT/ha/year)</th>
<th>Soil loss (MT/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terai</td>
<td>20,077</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Chure</td>
<td>18,923</td>
<td>6.9</td>
<td>13.0</td>
</tr>
<tr>
<td>Middle mountain</td>
<td>43,065</td>
<td>38.4</td>
<td>165.3</td>
</tr>
<tr>
<td>High mountain</td>
<td>29,826</td>
<td>32.5</td>
<td>96.8</td>
</tr>
<tr>
<td>High himal</td>
<td>33,543</td>
<td>28.1</td>
<td>94.4</td>
</tr>
</tbody>
</table>

Impacts of soil erosion

- Decrease in cultivable capacity: Soil erosion has a lucid effect on the environment and the economy. Soil erosion process detaches the fertile topsoil from the agricultural land and transports it into the off-site. This process decreases the cultivable capacity of agricultural land and eventually, loss in food production (Koirala et al., 2019). The removal of valuable topsoil, the most productive part of the soil profile, results in lower yields and higher production costs. Increasing dependency on fertilizers, pesticides, and energy for agricultural production results in an increased risk to human health and sustainability (Poudel et al., 2002).

- Reduction in food production: Soil fertility depletion in smallholder farms is the fundamental root cause for a decline in per capita food production (Tamene & Vlek, 2008). The degradation of land continues to contribute to declining soil fertility, especially in the smallholder farms if the farmers do not implement best agricultural practices (Joyce et al., 2016). However, there is less evidence regarding the implementation of soil fertility management practices by smallholder farmers, possibly due to the cost and skill required to adapt various management practices (Komarek et al., 2017).

- Loss of soil organic matter: Soil organic matter, present on the topsoil, is one of the most vulnerable components of soil. The loss of soil organic matter...
is very hard to replenish and may take years under adequate supplementation of manure and plant stovers (Kapkiyai et al., 1999). Likewise, organic matter content reduces the erodibility of soil. Soil with less organic matter (<3.5%) causes much erosion from the A-horizon. The loss of organic matter decreases aggregate stability and increases the detachability of soil particles, which promotes crust formation, which in turn increases run-off rates (Guerra, 1994).

- Loss of soil nutrients: The loss of soil and soil nutrients from land surfaces by erosion is prevalent all over the world and reduces the productivity of all natural ecosystems as well as agricultural, forest, and pasture ecosystems (Pimentel et al., 1995). Soil erosion and associated damage to all agricultural land result in the loss of productivity which is partly fulfilled by the addition of nitrogen and phosphate fertilizers. This loss of agricultural productivity due to soil erosion results in the creation of new agricultural land from forestland and pasture land and there is a need to enrich these new croplands with inputs of nitrogen and phosphate fertilizers (Pimentel & Burgess, 2013).

- Increase in cost of production: A land area continuously suffered from soil erosion for a long time can develop into a different form of land structure. Rills, a shallow channel in soil, can be easily removed by tilling the soil. When these rills get large enough with time they cannot easily be removed due to the formation of gullies. These land structures contribute to the increase in cost of production of agricultural products, thereby, affecting the sustainability of smallholder farmers (Ayele et al., 2015).

- Decrease in microbial biomass: Soil microbial organisms and microbial ecosystems are fundamental to the functioning of soil ecological processes, regulation of energy flow, and attenuating human-mediated disturbances and environmental changes (Wagg et al., 2014). Any changes in soil microbial and their ecosystem would have an important environmental impact by influencing carbon and nutrient cycling and greenhouse gas emission (Li et al., 2019). Soil erosion has shown excruciating impact on microbial biomass, composition, and their abundance by changing natural soil characteristics and affecting vegetation growth (Mabuhay et al., 2004). All of these changes may alter the turnover and availability of soil nutrients and soil functionality (Koirala et al., 2019).

- Increase in soil temperature: The increase in bulk density and decrease in soil organic matter content in eroded soils can cause an increase in soil thermal conductivity and decrease in soil heat capacity which results in greater daily and seasonal variation in soil temperature (Omer, 2018). Therefore, the increase in soil temperature also indirectly affects the soil microbial (Qiu et al., 2021).

**Strategies to reduce soil erosion**

The increase in population and decrease in cultivable land has created a great challenge to modern agriculture. The impact of soil erosion has worsened the situation. The control and prevention of soil erosion is a prerequisite for the balanced agricultural production. The methods based on the engineering, agricultural cultivation technology, biological methods, land planning and management, and law enforcement helps to develop an integral soil erosion control system. This requires a long term planning and coordination among the stakeholders. However, small holder farmers can adopt several soil erosion reduction strategies to reduce immediate impact of erosion in their farm land. Sowing grass to protect and stabilize natural drainage lines, using diversion drains to prevent runoff from upslope, establishing grass buffer strips between cropped areas and waterways, maintaining cover crops in agricultural land can be adopted to prevent soil erosion from water erosion. Likewise, infiltration can be increased to reduce erosion by: retaining crop residues after harvest, cultivating across the slope following harvest to increase surface roughness, sowing a green manure immediately after harvest and retaining as ground cover until next crop, and strip-tilling without removing all the cover crops.

**Conclusion**

The loss of soil particles, soil nutrient, organic matter, and soil microbes during soil erosion, can have a long-term detrimental effect on agriculture. Soil erosion, if not considered as a serious threat to agriculture and farming, can lead to a dearth of nutritionally rich food and pave a path to famine.

There have been some progressive steps towards soil conservation in developed countries but the underdeveloped and developing countries of the world, which are most likely to suffer from any forms of disaster, are phlegmatic towards the possibility of the perilous situation of soil erosion. Soil erosion cannot be completely prevented but adaptation to management practices of soil erosion can certainly avoid a disastrous situation in near future.

**References**


Globally, there are three criteria to define MSMEs (Micro, Small and Medium Enterprises), which include assets, employment, and an annual turnover (UNESCAP, 2020). These are considered as the basic parameters to categorize the enterprises. However, in Nepal, different criteria are considered for their differentiation. According to the Industrial Enterprises Act of 2020, Micro-enterprises are those which have fixed capital not exceeding NPR 2 million (USD 18,000) apart from land and buildings; run by the proprietor themself; work at the local level, and utilize local raw materials; have an annual turnover of up to NPR 10 million (USD 89,000); employ not more than nine workers and consume less than 20 kilowatts of electrical power when they run in full capacity. Similarly, small-scale enterprises have fixed capital not exceeding NPR 150 million (USD 1.3 million), and medium enterprises have fixed capital between NPR 150 million and NPR 500 million (USD 4.4 million).

There are several types of MSMEs in Nepal, such as Agro-Based and Forestry, Tourism, Service, Manufacturing, Infrastructure, Information, Communication, and Transmission (ICT), Energy and Minerals.

According to the report of the World Bank, access to finance is a key constraint to MSME growth. The development, growth, and sustainability of any MSMEs rely heavily on their capacity to access and manage finance (UNESCAP, 2020). There is immense importance of finance in any MSMEs as it acts as startup capital to help in the establishment of a new business, its expansion, and to adjust the existing financial structure of the business.

In Nepal, the major sources of finance for entrepreneurs are banks, cooperatives, finance companies, micro-finance institutions, personal loans, etc. Banks are listed as the major source of finance that are relatively accessible and among them, commercial banks lend a major portion of loans to small and medium enterprises. As per the report of the National Economic Census 2018 of Nepal, 35.6% of Micro-enterprises, 32.5% of Small enterprises, and 52.9% of Medium enterprises were the only access to finance. Overall, only 35.5% of MSMEs are in access to the financing facility. Similarly, 64.4%
of Micro, 67.5% of Small, and 47.1% of Medium enterprises are established with no access to credit. This shows the huge financial gap in the Nepalese Society. Several recent studies reveal that barriers to financial access and gaps in provision for MSMEs in Nepal are significant. Among the MSMEs, those located in rural areas face more severe credit constraints because of two main reasons:

- physical access to a bank branch
- difficulties meeting collateral requirements e.g., lack of usable or acceptable collateral

The successful implementation of the Micro-Enterprise Development Program for Poverty Alleviation (MEDPA) under the jurisdiction of the Ministry of Industry, Commerce, and Supply has institutionalized the Microenterprise development model in the government system. The MEDPA is working to establish units in all municipalities across 77 districts of Nepal, to promote and assist Micro-enterprises.

Conclusions and recommendations

MSME’s relativity and commitment to the overall economic growth and development of the country are high. Thus, MSME’s financing should closely be observed, scrutinized, and more importantly, met with a holistic approach by the policymakers of the government and also the regulators. Recommendations for further improvement in the access of finance to MSMEs are:

- To ease the collateral requirement, the local value of assets should be prioritized over road access.

Policy and framework

In Nepal, there is no dedicated national MSME development policy or framework. However, Nepal Rastra Bank (NRB) is responsible for financing the regulation of MSMEs. It is guided by several directives and laws, such as the Bank and Financial Institutions Act 2073 (BAFIA) of 2017, Directives 2078 for Microfinance Institutions, Unified Directive 2078 of Nepal Rastra Bank for commercial banks, and the Monetary Policy.

NRB has mandated all commercial banks to allocate at least 5 percent of their portfolio to deprived sector loans, which includes extending wholesale loans to MFIs. Priority sectors lending should be minimum of 25 percent of the total loan portfolio of banks. The sectors include agriculture (15 percent), energy and tourism (10 percent), micro-SMEs (15 percent)

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Financing for Micro, Small, and Medium ...  

- Formation of a national framework for MSME loan approvals based on cash flow and potential profits.
- Mandate and supervise all banks to dedicate at least 15 percent of their portfolios to MSMEs loans. Strict penalties for those banks which do not meet the target level.
- Explore commercialization pathways for smallholders.
- Increasing the size of microenterprise (ME) loans provided by MFIs.
- Loans/grants based on MSME portfolios.
- Develop a credit guarantee mechanism
- Helps to establish MEDPA units in every village council and municipality of Nepal to enhance MSME capacity.
- Robust Kishan credit card mechanism for farmers to flow credit to concerned farmers more efficiently and effectively.
- Ease FinTech services increasing financial literacy to rural areas entrepreneurs.
- Tablet/Smartphone banking
- Internet Banking

References
http://www.lotusholdings.com/
http://biruwa.net/
https://www.agribusinessnepal.com/

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विदेशमा भन्दा स्वदेशमा राम्रो आम्दानी

म मझुवागढी नगरपालिका-१, खोटाङ ननवाषी भरत राई ।
मेरो जन्म एक सामान्य पररवारमा भएको छु। सफल पाररवारिक जीवन बिताउन देखेको सपनालाई साकार पन्नोंलाई लागिे मेरो प्यारो नेपालको डााँडापाखा छाडेर मिठामिठा सपना देख्दै २०५० मा पनि तकक खाडी मुलुक वहाइन गए छौ।

बहराइनमा ६ वर्ष काम गर्न तर पनि खासै आधिक सम्पन्न नु मनस्कृप्त फेरि नेपाल नै फर्कर एउटा महिनालाई सत्याकार गर्न सुनौलो तथ्यसभ्यको लागिे दोसो पटक मलेसियाभ गए छौ। त्यहाँ त्यहाँ तरकारी खेती गर्न गर्न तीन वर्ष मलेसियादेशमा भएको छु। कृषि सम्बन्धी काम गर्ने भएको यस त्यहाँ एउता मनमूलि म आफ्रिका जीवन बिताउन देखेको सपनालाई साकार पन्नोंलाई लागिे मेरो प्यारो नेपालको डााँडापाखा छाडेर मिठामिठा सपना देख्दै २०५० मा पनि तकक खाडी मुलुक वहाइन गए छौ।

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तयाः जबकि त्यहाँ तरकारी खेती गर्न गर्न तीन वर्ष मलेसियादेशमा भएको छु। कृषि सम्बन्धी काम गर्ने भएको यस त्यहाँ एउता मनमूलि म आफ्रिका जीवन बिताउन देखेको सपनालाई साकार पन्नोंलाई लागिे मेरो प्यारो नेपालको डााँडापाखा छाडेर मिठामिठा सपना देख्दै २०५० मा पनि तकक खाडी मुलुक वहाइन गए छौ।

कृषि सम्बन्धी काम गर्ने भएको यस त्यहाँ एउता मनमूलि म आफ्रिका जीवन बिताउन देखेको सपनालाई साकार पन्नोंलाई लागिे मेरो प्यारो नेपालको डााँडापाखा छाडेर मिठामिठा सपना देख्दै २०५० मा पनि तकक खाडी मुलुक वहाइन गए छौ।

तरकारी खेती गर्न गर्न तीन वर्ष मलेसियादेशमा भएको छु। कृषि सम्बन्धी काम गर्ने भएको यस त्यहाँ एउता मनमूलि म आफ्रिका जीवन बिताउन देखेको सपनालाई साकार पन्नोंलाई लागिे मेरो प्यारो नेपालको डााँडापाखा छाडेर मिठामिठा सपना देख्दै २०५० मा पनि तकक खाडी मुलुक वहाइन गए छौ।

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We express our heartfelt condolences to our bereaved NAPA student member, Mr. Gautam Kumar Joshi for the loss of his beloved mother, Dhana Devi Joshi.

May her soul rest in peace!

Date of Birth
2015/10/18 BS

Date of Demise
2078/08/15 BS

We express our heartfelt condolence to our bereaved NAPA student member, Mr. Gautam Kumar Joshi for the loss of his beloved mother, Dhana Devi Joshi.

May her soul rest in peace!
कृषि कविता

आवहान

मकै रोपों, धान रोपों
खेतीपाती गरौं ।
रितिएका भकारी
अन्नपातले भरौं ।।

आलु रोपों, काउली रोपों
बजार आफ्ने गरौं ।
बिचोलिया ठजन आउला
सचेतना छरौं ।।

कागती, सुन्तल, अनार, ऑप
जे-जे फल्च रोपों ।
मौका आउछ फरिदेन
अवसरहु छोपौं ।।

गाई पालो, भैंसी पालो
माछा पालन गरौं ।
कृषक कहिल्यो गरिरब हुन
आल्मविश्वास भरौं ।।

स्थानीय उत्पादको
प्रबर्धन गरौं ।
स्वच्छ पानी, स्वस्थ जीवन
संदेश हामी छरौं ।।

कोही एकलो नहुने
सहकारी रोजों ।
खुसी-सन्तोष ठाडा छैनल्
आफे भित्र खोजों ।।

- सुशील थापा