



# Discussion on Seed System and Disaster

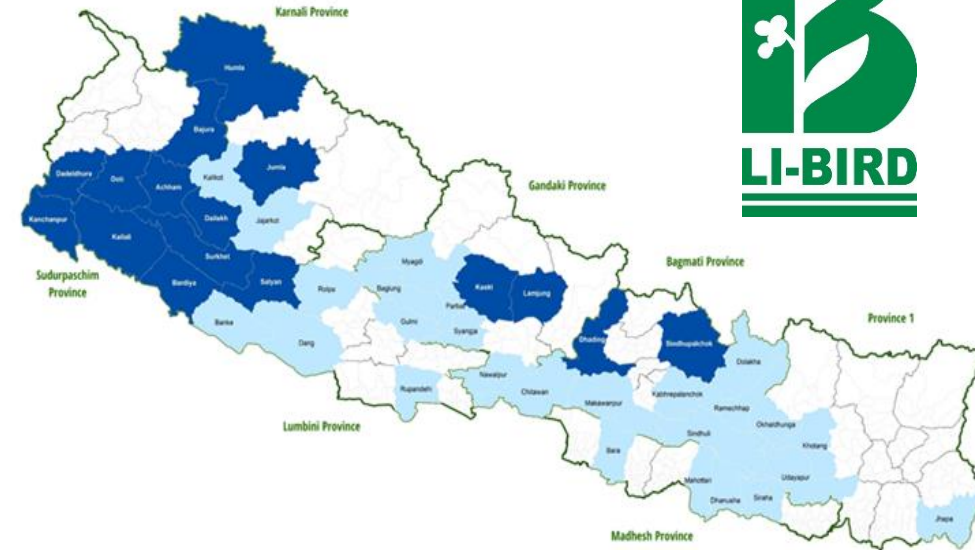
18<sup>th</sup> Aug 2023

Niranjan Pudasaini, LI-BIRD

# Local Initiatives for Biodiversity, Research and Development (LI-BIRD) at Glance



- Est. in 1995, Pokhara, Kaski, Nepal as a NGO
- Recognized as a research based organization working on the sector of agro-biodiversity management
- Expertise on Participatory Plant Breeding, Climate Change Adaptation and Community Based biodiversity Management
- Targets smallholder farmers, women and youths



- # active projects = 14
- # working districts = 16 (53 municipalities)
- Beneficiary outreach (FY 2021/2022) = 137,534 HHs
- Human resource = 108 full-time staff (36% women)
- Current annual portfolio = USD 2.4 million

**Vision:** LI-BIRD envisions a society where people are resilient, healthy, food secure, and live with dignity

# Programme Themes

**Goal:** Contribute to strengthening resilient livelihood systems through improving ecosystem services, improving food, nutrition and income security of smallholder farmers

Strategic Programmes

<p><b>Agricultural Innovations for Food and Nutrition Security</b></p> <p>Invest in knowledge, innovations and solutions for <b>improving food and nutrition security</b> of smallholder farmers</p>	<p><b>Inclusive Economic Growth for Income and Employment</b></p> <p>Transform subsistence agriculture as business opportunities to <b>generate income and local employment</b></p>	<p><b>Community Resilience to Climate Change And Disaster Risks</b></p> <p>Build <b>adaptive capacities</b> of vulnerable communities for resilient livelihoods</p>	<p><b>Biodiversity and Ecosystem Services for Sustainable Livelihoods</b></p> <p>Sustainable management of <b>natural resources for livelihood</b> outcomes</p>
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Cross-cutting Themes

- Social Research & Policy Discourse
- Gender Equality and Social Inclusion
- Knowledge Management and Capacity Building
- Emergency/Humanitarian Response

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**Strategic Programmes**

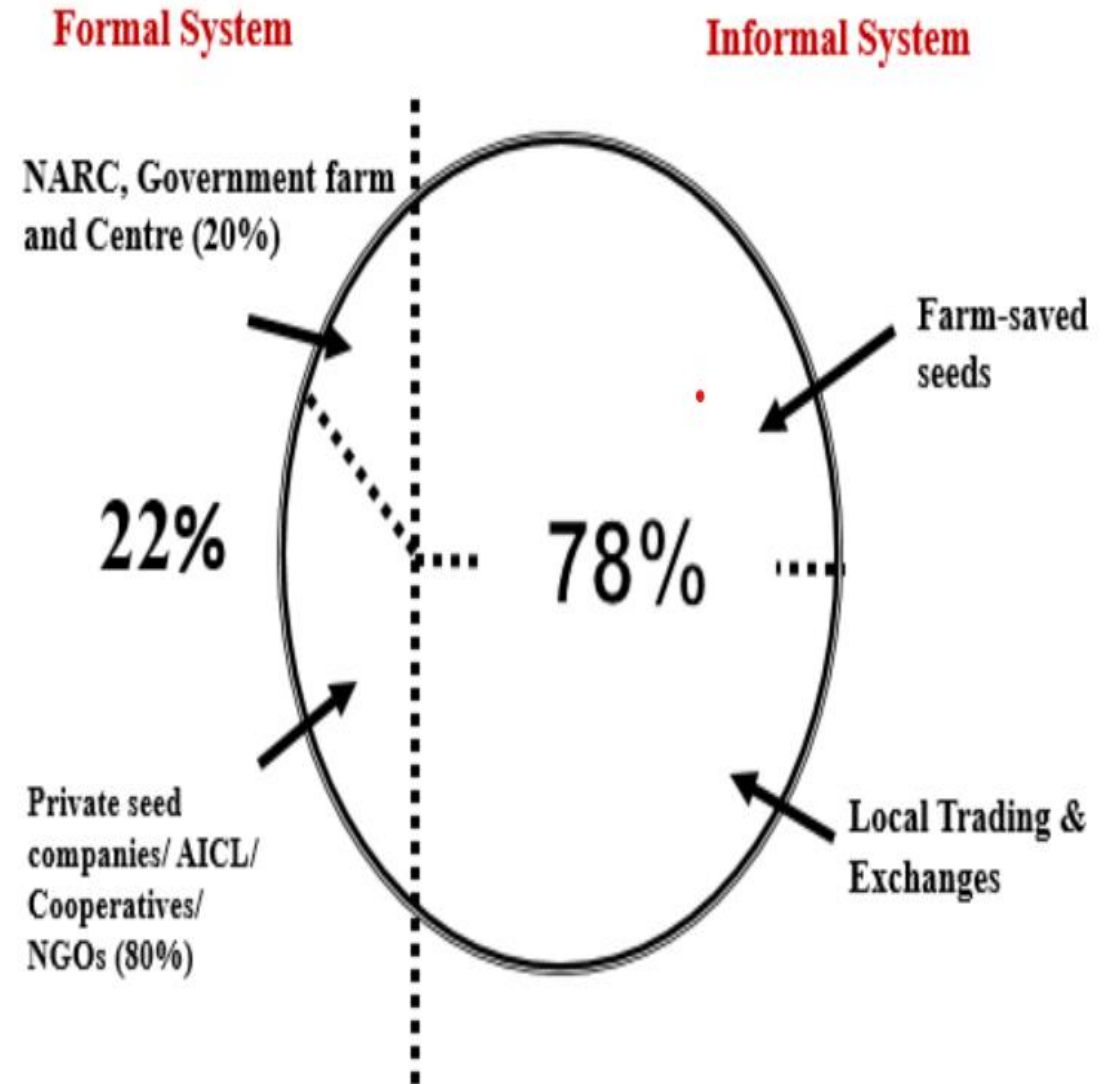
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# Context of Nepalese Seed System

- Nepalese farming system greatly relies on traditional crop landraces
- For **traditional crops**, a recent study showed that about **95% of farm households** meet their seed requirement from informal sources (Gurung et al. 2020).
- Formal seed system contributes less than **22% to national seed demand** (SQCC, 2020)
- Formal seed sector is very much confined to some major crops
- Local seed system is being deteriorated due to the dramatic socio-economic transformation
- Almost negligible investment and priorities is given to the development of local/informal seed system



# In this context how can we strengthen seed system?

## Improvise Local Seed System

Research, documentation and knowledge sharing

Introduce tools and technologies to improve seed quality and safe storage

Capacitate and educate farmers on science

Promote exchange of seeds and associated knowledge by creating platforms/networks

Manage through institution

## Broaden the Formal Seed System

Increase reach to local farmers/users via public/private agencies

Utilize/promote local crop varieties in crop development process, seed business and marketing

Educate and capacitate farmers and service providers

Diversify the portfolio of crops including traditional crops

Better connect with local government, local vendors and local users

## Promote Integrated Seed System

Link Informal and Formal Seed System to complement each other

**Promote Farmer's Seed Enterprises**  
**1. Community Based Seed Production**  
**2. Community Seed Banking**

# Missing links between disaster and seed system



## Monsoon affects 64 districts with 34 casualties

© July 8, 2023 08:40 am

KATHMANDU, July 8: Property worth over Rs 60 million was damaged by the recent monsoon floods and landslides in eastern Nepal.



## Mustang floods sweep away 10 houses, police posts and bridges

© August 14, 2023 09:34 am

Seed's prospective is very weak in current disaster reporting, response, and preparedness plans



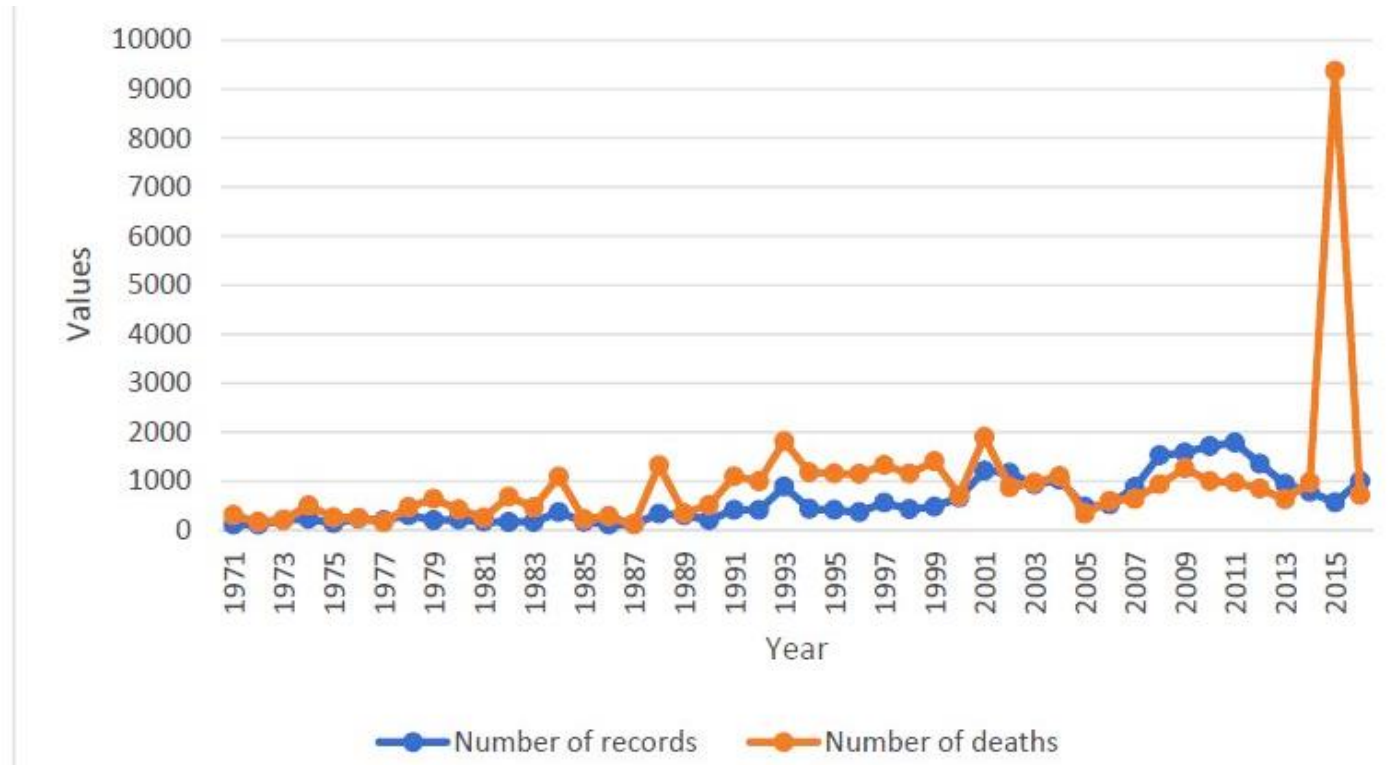
## Floods, landslides displace over 6,000 in Province 1

© June 30, 2022 15:30 pm

BIRATNAGAR, June 30: The incessant rain for the past two days has wreaked havoc in Province 1. Floods and river erosion have created panic in the plain region of Province-1

# Natural Disaster's Trend

- The trend of disaster events is gradually increasing from the 1971 to 2000 but after 2000 the trend of disaster is drastically increasing to 2016.
- DRR Portal reveals that the highest reoccurring hazard were **fire (13,811)** followed by **landslide (2,058)**, thunderbolt (1,682), **heavy rainfall (1,292)**, flood (1,122) and **windstorm (607)** between 2015 and 2021.





Informal System and smallholder farmers (>90%) suffers more from disasters....





October Flood in Sudurpaschim on 2021

Disaster hampers seeds system by influencing

- Seed Access
- Seed Availability
- Seed Quality
- Seed Affordability

# Seeds can contribute to all three tiers of disaster management

Relief

Recovery

Resilience



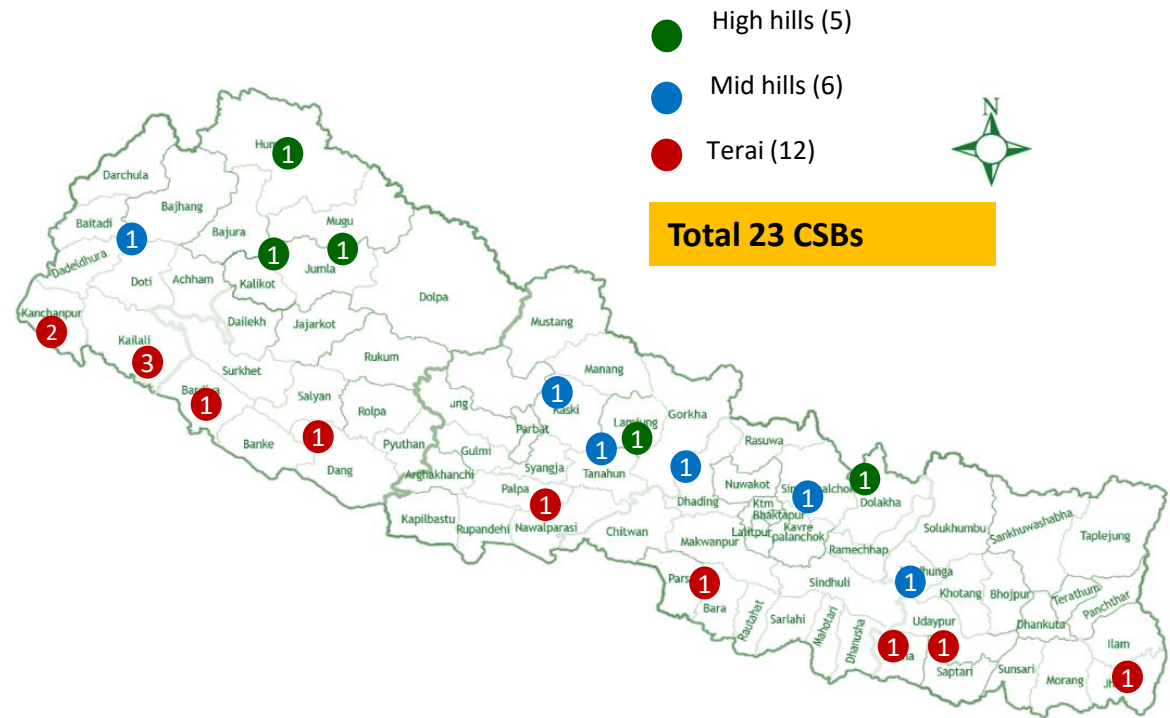
# LI-BIRD's Experience Disaster Response Projects

- **Quick Response:** 12 district's 14763 HHs were supported with food, small agro-tools and seasonal seeds.
- **Earthquake Response Project (2015-2016) funded by SDC, DF and DKH**
  - 7 earth quake affected districts reaching out 16, 089 HHs
  - Focused on Relief and Recovery of affected families by increasing access to seeds, agricultural tools and technologies.
- **Economic and Social Resilience Of Earthquake-affected Community (2018-2020) funded by Mercy Relief, Singapore**
  - Sindhupalchowk district (1050 HHs)
  - Focused on building resilience by increasing on-farm income
  - Collective market system and empower community organizations
- **Flood Recovery Project (2022-2023) funded by SIDA**
  - Kailali, Kanchanpur and Doti
  - Focused on disaster preparedness and response
  - Joint action and coping fund establishment



# Community Seed Bank (CSB) for Strengthening Local Seed System and Resilience

- A participatory approach
- Farmer's empowerment for community based conservation of PGRFA
- Strengthening local seed systems (seed security)
- Performs as a resource center
- Promoting farmer's rights on PGR and sharing benefits



# Five Core Functions of CSBs in Nepal



# Community Seed Banks Proved Effective in Improving Access to Quality Seeds and Responding Crisis



**23**  
Number of active Community Seed Banks (CSB)



**75**  
Number of crop species conserved



**1,407**  
Number of local varieties conserved



**428 Mt.**  
Annual volume of seed production (2020)



**8,876**  
Number of farmers directly  
accessing seed from CSBs  
(2021)



- In 2020 during COVID lockdown, 163.4 tons seed accessed by 3,055 farmers from 16 CSBs
- In 2015 earthquake, 3 CSBs (Purkot, Nawalpur and Dang), immediately supplied 9.8 tons rice seeds to 1,807 HHs in affected areas