

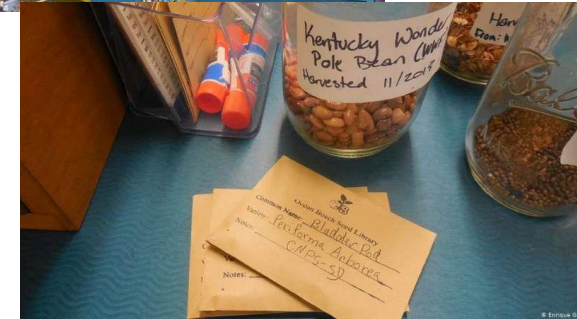
# SEED INITIATIVES



**Organized seed saving options**

# SEED LIBRARIES AND SEED CLUBS

- “A seed library is a place where community members can get seeds for free or for a nominal fee and is run for the public benefit.” <http://seedlibraries.weebly.com/>
  - Located in public libraries, community centers, or extension offices
  - Some of the reasons seed libraries exist:
    - To encourage people to garden and grow their own food
    - To develop a network of seed savers
    - To create locally adapted varieties
    - To preserve genetic diversity
- Find seed libraries (500) around the world and learn more about how to start your own!
  - <http://seedlibraries.weebly.com/>
  - <https://www.communityseednetwork.org/map>



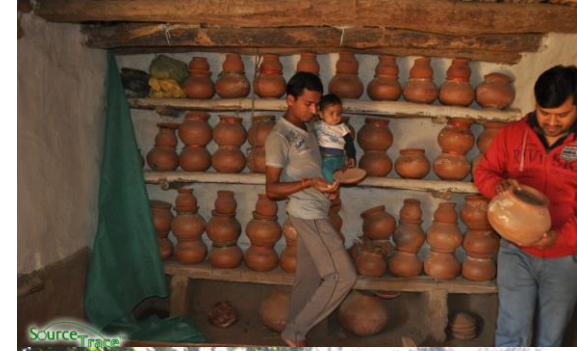
# COMMUNITY SEED GARDENS



- Community gardens are usually located in urban or suburban neighborhoods and members pay an annual fee for a small plot in the community garden.
  - Members raise vegetables for home consumption in their plot and are part of a community of gardeners.
  - Saving seeds from the crops grown in the small plots could be an additional program of a community garden.
  - Activities: providing seeds to the members each season, storing seeds in optimal conditions, hosting educational classes on seed saving, experimenting with new varieties, etc.

# SEED BANKS

- What is a **seed bank**?
  - Seed banks are places where “seeds are stored in order to preserve genetic diversity.”  
<http://www.sourcetrace.com/seed-banks-seeds-preserved/>
  - Seed banks handle withdrawals and deposits of genetic material
- What are different **applications** of seeds banks?
  - Community-level Seed Banks
  - Seeds Banks
  - Gene Banks





# COMMUNITY-LEVEL SEED BANKS

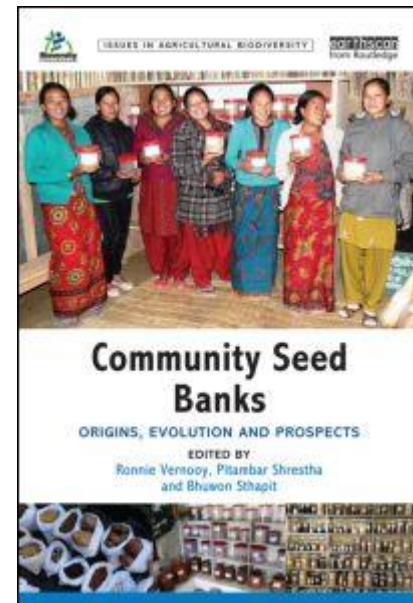
- “Community seed banks store and manage seeds in an aim to provide community members with seeds to use.” (FAO Community Seed Banks)
  - Farmers bring seeds
  - Quality seeds are selected
  - Seeds are stored in an agreed upon storage system
    - Pots in a shed or community building
    - Cans in an earthbag house
    - Bags in a silo
  - Farmers can get seeds when needed

<http://www.fao.org/3/a-i3987e.pdf>



# COMMUNITY-LEVEL SEED BANKS: WHY?

- Community seed banks can:
  - Serve as an emergency seed supply in case of shortage, crop failure, natural disaster, and pests and diseases
  - Promote and sustain local and improved varieties
  - Ensure farmer seed security (food security) and accessibility
  - Share knowledge and expertise among farmers
  - Represent a farmers' savings for future planting
  - Allow farmers to play a crucial role in developing, maintaining and promoting agro-biodiversity
  - Encourage women to continue traditions of making selections and saving seeds; being a part of raising awareness in the community



# SEED BANKS

- Seed Banks are places where “seeds are stored in order to preserve genetic diversity.” They handle deposits and withdrawals of seeds on a larger scale than one community.

<http://www.sourcetrace.com/seed-banks-seeds-preserved/>

- ECHO's Seed Banks
  - In 1981, ECHO started with 38 varieties stored in a dorm fridge
  - Today, 3 seed banks on 3 continents with combined 6000 inventory items
  - Seeds available to active development workers
  - Unique opportunity to distribute seeds to a wider audience



# GENE BANKS

- Svalbard Global Seed Vault in Norway (2008–present)
  - 76 depositors
  - 6007 species
  - 1078673 seed deposits
  - 92430 withdrawals

Carved into solid rock 100 meters inside the mountain, this seed storage facility is cooled to minus 18°C (0°F). It can accommodate up to 4.5 million seed accessions and to date holds close to 900,000 seed samples.



- USDA Seed Repository in Fort Collins, CO, USA
  - Duplicate master packets of ECHO accessions are stored here





# SEED BANKS: MAIN COMPONENTS

- Is there a need? What gap/s are we addressing?
- Objectives
- Resources (location, funding, land, etc.)
- Personnel
- Record Keeping
- Protocols
  - Numbering system
  - Seed production
  - Processing
  - Storage and pest control
  - Viability testing
  - Inventory management and upkeep
  - Deposits and withdrawals
- Feedback



# INVENTORY MANAGEMENT

# LEARNING OBJECTIVES

- Learners will discuss the importance of managing inventory in a seed bank
- Learners will brainstorm the areas of information that need to be managed in their inventory system
- Learners will discuss different inventory management tools and the advantages and disadvantages of each

# MANAGING INVENTORY IN A SEED BANK

- WHY?
  - Records where the seed came from and when
  - Tracks the life of a seed in a seed bank
  - Tracks the movement of seed in and out
  - Allows for reporting
  - Makes it easier to access and manipulate data



# INFORMATION TO RECORD AND MANAGE

- WHAT?
  - Seed cataloging: source, name, accession number, characteristics, viability, current quantity, location, storage, type, status
  - Seed production: location, dates, inputs, harvest data, processing, treatments
  - History: number of grams in and out, who received the seeds, germination rates over time
  - Notes

# SEED BANKS: RECORD KEEPING

- What information to record about **donated** seed lots?
  - Local name, species, variety, accession and lot number, date, source, contact information of source, year of harvest, germination rate and date of test, characteristics of the plant, disease resistance or susceptibility, expected length of time in storage, method of storage.
- What information to collect about newly **harvested** seed lots?

Seedbank Grow-Out Fall 2013					
	25'	25'	NORTH 25'	25'	25'
1	Pigeon Pea	ICPL 8151	Pigeon Pea	ICPL 8151	Pigeon Pea
2	Apios americana	Apios americana	Apios americana	Yard Long Purple Mar? Taiwan black?	Wing Bean - Flat
3	Pigeon Pea	ICPL 8151	Pigeon Pea	ICPL 8151	Pigeon Pea
4		7 year lima			
5	Roselle	Large Red Pod?	Roselle	Large Red Pod?	Roselle
6	Momordica	charantia	Momordica	Cochinchinensis	Momordica
7					
8	Tomato trial	Tomato trial	Tomato trial	Tomato trial	Tomato trial
9	Carrots	Ensalada pepper	Tomato trial	Tomato trial	Tomato trial
10	okra trial	okra trial	Okra trial	okra trial	
11	Pumpkin - Crookneck	Pumpkin - Crookneck	Pumpkin - Crookneck	Pumpkin - Crookneck	Borneo Okra
12	Lablab-Red	Lablab Red	Cranberry Bean	Yard Long - Green Pod Kaoshing	Borneo Okra
13	TZ Cowpea	TZ Cowpea	TZ Cowpea		
14	Cranberry Hibiscus		Cranberry Hibiscus		Cranberry Hibiscus
15					
16		Scarlet Runner	Scarlet Runner		P. actinifolius - Tohono O'odham Brown
			SOUTH		

# RECORD KEEPING: ACCESSION/NUMBERING

Assigning each new seed lot an accession number can help a seed bank keep better track of its inventory.

Numbering systems are chosen according to the needs of the seed bank.

# RECORD KEEPING: ACCESSION/NUMBERING

Here are a few examples:

- FAO Community seed banks (<http://www.fao.org/3/a-i3987e.pdf>)
  - 2 digits for year of harvest
  - 2 digits for the variety code
  - 2 digits for the farmer that produced the seed
  - 2 digits for the individual seed lot number
  - Example: 19221201
- ECHO
  - 2 digits for year of acquisition
  - 3 digits for numbering of accessions that year
  - 2 letter for location
  - 3 digits and letter for lot number
  - Example: ---->

ACCESSION RECORD				
Scientific Name	Cucurbita moschata			
Common Name	Pumpkin			
Variety	Seminoe			
Accession Number	12075	Lot Number	121a	
Family	Cucurbitaceae			
Traits and Label Information				
95 days. Large vines bear bell-shaped fruits averaging 7" in diameter. Resistant to vine borers. A good choice for hot, humid, disease-prone areas. Firm, deep-orange flesh. Keeps up to 1 year at room temperature.				
Source	Southern Expositor Seed Exchange		Supplier's Code	19243
Address	P.O. Box 460			
City	Madison	State/Province	VA	
Zip Code	23117	Country	USA	
Phone	540-896-9440	Fax	N/A	
E-mail	pep@seeds.org		Web Site	seeds.org
Germination %	95%	Germination Date	3/1/2012	
Date Received	6/5/2012	Weight of Seed (g)	72.70	
Master Packets Completed ( )	0			
Date this Form Completed	6/5/2012	By	Sara Morgan	
Depleted	Depletion Date			
received 6/5/12, 20 packets, 72.7 g				

**Accession Number:**  
Refers to all the seed in a genetic line.

**Lot Number:**  
Refers to a particular lot, or generation.

**12032FL-131E**



# RECORD KEEPING: ACCESSION/NUMBERING

If you were a seed, what would your accession number be?

Create a unique accession number for yourself.

# RECORD KEEPING: ACCESSION/NUMBERING

As we look at possibly creating a network of seed banks in Southeast Asia, would it be helpful to have an accession numbering system that is standard across the seed banks?

What might that look like?

# INVENTORY MANAGEMENT TOOLS

- HOW?
  - Paper forms and records
  - Excel
  - Basic database
  - Complex database

# INVENTORY MANAGEMENT TOOLS: ADVANTAGES AND DISADVANTAGES

- Paper forms and records
- Excel
- Basic database
- Complex database



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