Irrigation on the Navajo Nation
Experiences and Recommendations

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Experiences on the Navajo Nation

- Tuba City Drip Demonstration
Experiences on the Navajo Nation

- Tuba City Drip Demonstration
- Hubbell Trading Post Demonstration
Experiences on the Navajo Nation

- Tuba City Drip Demonstration
- Hubbell Trading Post Demonstration
- Canyon De Chelly
Experiences on the Navajo Nation

- Tuba City Drip Demonstration
- Hubbell Trading Post Demonstration
- Canyon De Chelly
- Other locations
Where are we talking about?
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Tuba City

The Tuba City project was a USDA funded grant to demonstrate the advantages of using drip irrigation over the traditional surface irrigation.

Started in 1995, the project site was found rather quickly but the actual installation of the system would take some time.
The water from the existing system would not be suitable for the drip irrigation system.
Tuba City

➢ The water from the existing system would not be suitable for the drip irrigation system.

➢ So we needed to find an alternative water source
Tuba City

- One alternative was to drill a well
Tuba City

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  - However the location of the demonstration site was in an area called allotted lands
Tuba City

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  - However the location of the demonstration site was in an area called allotted lands
  - Allotted lands were just that, lands that were allotted to Navajo families.
One alternative was to drill a well

However the location of the demonstration site was in an area called allotted lands

Allotted lands were just that, lands that were allotted to Navajo families.

In order to get a permit to drill on the land, I would have to get the permission of all allotted lands that directly or indirectly bordered that demonstration site.
Tuba City

- One alternative was to drill a well

- So we went with option two and hooked up to existing municipal water and paid the water charge.
Tuba City
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Tuba City
The study did show that drip irrigation could be used effectively to grow gourds and corn.
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The study also showed that drip irrigation could save water.
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Unfortunately, after the two year study, the funding dried up and there was no “champion” to continue the demonstration.
This study began in 2005, funded by the Bureau of Reclamation.

The objective was to demonstrate the use of gravity fed drip irrigation

The project was done in cooperation with the Hubbell Trading Post and the National Park Service
Hubbell Trading Post site
Main Research site, located near Ganado, AZ
Hubbell Trading Post Layout

- Hubbell Residence (museum)
- Barn and feed storage
- Forage crop and corn fields
- Visitor Center / shop
- Working Trading Post
Drip plot layout

- 200 liter water drum
- Submain
- Drip Tape
- Measurements: 6.0m, 4.5m, 0.90m, 0.45m, 1.2m
Field Work – Spring 2005 - Hubbell
Harvest - 2005
Harvest - 2006
Unlike the project in Tuba City, the Hubbell drip project started a synergy within the area for use of drip irrigation.

Dinè College, in Tsaile, is a 1994 Tribal Land Grant University. Dinè’s Extension Director, Ms. Benita Litson, came to Hubbell and even had some of her students help with the setup in 2006.

She became our first Drip Champion!
Navajo Community College (now Diné College) was established in 1968.
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Diné College was the first college established by Native Americans for Native Americans.
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Diné College was the first college established by Native Americans for Native Americans.

Diné College remains the oldest and largest.
Bucket Drip at Dinè College
Drip in Canyon De Chelly
Drip in Canyon De Chelly
Drip in Canyon De Chelly
Drip in Canyon De Chelly
Drip in Canyon De Chelly
Drip on Leupp Family Farms
Drip on Leupp Family Farms
Wheatfields
Wheatfields
Wheatfields
Wheatfields
Challenges

- Consistent and/or reliable water source/quantity
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- Increased infrastructure for education for irrigation management
Challenges

- Consistent and/or reliable water source/quantity
- Increased infrastructure for education for irrigation management
- Increased infrastructure for available technology and equipment
Challenges

- Consistent and/or reliable water source/quantity
- Increased infrastructure for education for irrigation management
- Increased infrastructure for available technology and equipment
- Need champions – need the stakeholder leaders that show the way
THANK YOU